

AMMOPHILA

Ammophila W. Kirby, 1798:199. Type species: *Sphex sabulosus* Linnaeus, 1758, designated by International Commission on Zoological Nomenclature, 1946:571 (Opinion 180).

Ammophylus Latreille, 1802b:332. Lapsus or emendation of *Ammophila* W. Kirby, 1798.

Miscus Jurine, 1807:130, no included species. Type species: *Miscus campestris* (Latreille, 1809) [= *Ammophila campestris* Latreille, 1809], designataed by Shuckard, 1837:79 (one of the two species first included in *Miscus* by Latreille, 1809:54).

Ammophilus Latreille in Cuvier, 1829:322. Lapsus or emendation of *Ammophila* W. Kirby, 1798.

Coloptera Latreille, 1845:387. Type species: *Coloptera barbara* Lepeletier de Saint Fargeau, 1845, by monotypy.

Argyramphila Gussakovskij, 1928a:7, as subgenus of *Ammohilla* Kby. [*sic*]. Type species: *Ammophila induta* Kohl, 1901, by original designation.

Apynemia Leclercq, 1961c:211, as subgenus of *Ammophila* W. Kirby. Type species: *Ammophila fallax* Kohl, 1884 [= *Ammophila hungarica* Mocsáry, 1883], by original designation.

Keys: Dreisbach, 1944:268 (Michigan); Alfieri, 1946 (Egypt); Leclercq, 1955h:80 (*Ammophila rubripes* and related species); de Beaumont, 1963b:7 (Palearctic species of *Ammophila nasuta* species group); Tsuneki, 1967j:9 (East Asia); Myartseva, 1971a (Turkmenistan); Alayo Dalmau, 1976:11 (Cuba); Guichard, 1988a:126 (Arabian Peninsula); Menke, 2004:772 (red-legged South American species); Danilov, 2014b:519 (Siberia).

Revisions: Kohl, 1906b (Palearctic Ammophilini); Roth, 1928 (North African Ammophilini); Dollfuss, 2013a (Palearctic Region and India), 2015a (Sub-Saharan Africa); Ch. Wang, Bashir, Q. Li, and Ma, 2018 (China), Menke, 2020 (North and Central America).

Stinging sequences, preying preceding nest construction, and nesting sites in *Podalonia* and *Ammophila*: Picard, 1925b

Species groups: *nigricans* species group (Menke, 1970:238), *procera* species group (Menke, 1964a:7), *urnaria* species group (Menke, 1966b:25), reviewed by Menke 2020.

Nest structure: Barth, 1910.

Structure of gastral segment I: Pulawski, 1965b:259.

Nest provisioning and parental investment: Field, 1992a, b (*Ammophila sabulosa*).

Sleeping aggregations: Vardy, 1995.

Review of known biology: Kazenas, 2001b:102.

1. *aberti* Haldeman

Ammophila urnaria Lepeletier de Saint Fargeau, 1845:381, ♀, junior primary homonym of *Ammophila urnaria* Dahlbom, 1843. Holotype or syntypes: ♀, Brazil: no specific locality (M. Spinola collection, Torino). Synonymized with *Ammophila aberti* by Menke, 1965c:1 and by Menke in Bohart and Menke, 1976:150 (as new synonymy). – Amarante, 2005a:14 (correction to his 2002 catalog); Pagliano, 2008:512 (holotype in M. Spinola collection, Torino).

NOTE: Synonymy with *aberti* is questionable because the latter does not occur in Brazil.

Ammophila aberti Haldeman, 1852:368, sex not stated. Holotype or syntypes: USA: Utah: Great Salt Lake Valley (lost: Fernald, 1931a:449). – Cresson, 1863:318 (in catalog of North American Hymenoptera); Patton, 1879d:353 (USA: northwestern Kansas); Snow, 1881:96 (in checklist of Hymenoptera of Kansas: Wallace County: no specific locality); Cresson, 1887:274 (in catalog of North American Hymenoptera); Dalla Torre, 1897:395 (in catalog of world Hymenoptera, as *alberti*); Ashmead, 1899d:354 (in checklist of North American Sphecidae, as *alberti*); Bridwell, 1899:209 (Kansas: no specific locality); Melander, 1903:160 (in key to North American Ammophilini), 163 (bibliographic references, geographic distribution); Snow, 1906:133 (Arizona); Salt, 1927:182 (styloized specimens, as *alberti*; Arizona: Palmerlee and Tucson); Murray in Muesebeck, Krombein, and Townes, 1951:975 (in catalog of North American Hymenoptera); Evans, 1959b:148 (description of larva), 1958e:451 (behavioral evolution), 1959d:454 (nesting behavior), 1963c:63 (nest closure); Powell, 1964b:244 (life cycle, male activities, mating, nest construction, prey: geometrid caterpillars, nest closure, parasites); Menke, 1965b:257 (Hicks, 1935b, correctly identified this species); G. Bohart, Nye, and Hawthorn, 1970:49 (Utah: Logan, onion pollinator); Hurd and Linsley, 1975:116 (Arizona: Cochise County: Douglas and Portal; New Mexico, Socorro County: Socorro; on flowers of *Larrea tridentata* (De Candolle) Coville, Zygophyllaceae); R. Bohart and Menke, 1976:150 (in checklist of world Sphecidae); Krombein, 1979b:1589 (in catalog of North American Hymenoptera); Zalom, Meyer, and Mason, 1979:239 (Arizona: Santa Rita Mountains; sympatric association with the bombyliids *Systropus angulatus ammophiloides* Townsend and *S. arizonicus* Banks); F. Parker, Tepedino, and Vincent, 1981:249 (nest provisioning); Rust, Hanks and Bechtel, 1983:406 (Nevada: Churchill County: Sand Mountain); Brockmann, 1985b:312 (nest closure summary); Parks, 1986:34 (California: Torrey Pines State Reserve); Steiner, 1986:98 (references to papers on nesting habits); Kingsley, Bailowitz, and Smith, 1987:18 (Arizona: Organ Pipe Cactus National Monument: Quitobaquito Springs area); Spofford, Kurczewski, and Downes, 1989:256 (references to publications on nest parasites *Hilarella hilarella* (Zetterstedt), *Metopia argyrocephala* (Meigen), and *Opsidia* sp., miltogrammine flies); Menke, 1994f:21 (Utah: Calf Creek Falls State Park); G. Scudder, 1994:75 (in checklist of rare and endangered invertebrates of British Columbia); Amarante, 2002:66 (in catalog of Neotropical Sphecidae); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:669 (in checklist of Mexican Sphecidae); Ohl and Linde, 2003:149 (number of ovarioles); Jiménez-Jiménez, and Placios-Cardiel, 2008:227 (Mexico: Baja California Sur: La Paz area; nesting habits); Miller, Pearce, and O'Neill, 2009:3 (known to be parasitized by *Paraxenos lugubris* (Pierce), Strepsiptera); Field, Ohl, and Kennedy, 2011:734 (in molecular cladistic analysis of Ammophilini); Stevens and Menke, 2014:220 (Arizona: Grand Canyon ecoregion); Field, Shreeves, Kennedy, Brace, and Gilbert, 2015:1899 (sex-biased parental care and sexual size dimorphism); Ratzlaff, 2016:28 (Canada: British Columbia: from Spencer and Wellington, 1948, Blades and Masier, 1992, and Scudder, 1994); Field, Gonzalez-Voyer, and Boulton, 2020:7 (evolution of parental care); Menke, 2020:81 (in revision of North and Central American *Ammophila*); Buck and Bennett, 2025:222 (in checklist of Sphecidae sensu lato of Canada, Alaska, and Greenland: Canada: Alberta, British Columbia, Saskatchewan: no specific locality). – **As *Sphex aberti***: Mickel, 1918b:403 (new generic assignment, in catalog of Nebraskan Sphecidae, as *alberti*); Hicks, 1932b:145 (nesting habits); Fernald, 1934:80 (in revision of North American and West Indian *Ammophila*); Murray, 1938:41 (redescription); Dreisbach, 1944:269, 270 (in key to *Ammophila* of Michigan); Strickland, 1947:129 (Canada: Alberta: Lethbridge, Medicine Hat); Spencer and Wellington, 1948:10 (British Columbia); Piek and Spanjer, 1986:189 (in list of Sphecidae with known prey).

Ammophila tarsata F. Smith, 1856:219. Substitute name for *Ammophila urnaria* Lepeletier de Saint Fargeau. – Dalla Torre, 1897:410 (in catalog of world Hymenoptera).

Ammophila yarrowi Cresson, 1875:713, ♂. Lectotype: ♂, USA: Colorado: Pueblo (ANSP), designated by Cresson, 1916:95. Synonymized with *Ammophila aberti* by Fernald, 1931a:449 (as *Sphex aberti*), and by Menke, 1965c:1 (as new synonym). – Williston, 1892:85 (nesting habits); W. Fox, 1894c:101 (Mexico: Baja California), 1895c:266 (Mexico: Baja California Sur); Dalla Torre, 1897:412 (in catalog of world Hymenoptera); Ashmead, 1899d:354 (in checklist of North American Sphecidae, as *yarrowii*); Melander, 1903:160 (in key to North American Ammophilini), 163 (bibliographic references, geographic distribution); G. Peckham and E. Peckham, 1905:41 (nest construction and closure); G. Carpenter, 1930b:297 (nest closure).

Sphex transversus Fernald, 1934:141, ♂. Holotype: ♂, USA: Utah: Beaver Valley (originally H. Fernald collection, now USNM). Synonymized with *Ammophila aberti* by Murray, 1938:41, and Menke, 1965c:1 (as new synonym).

2. *abnormis* Dollfuss

Ammophila abnormis Dollfuss, 2013a:404, ♂. Holotype: ♂, Pakistan: Baluchestan: Gwal (BMNH). – Dollfuss, 2013a:402 (in key to *Ammophila* of Palearctic Region and India).

3. *acuta* (Fernald)

Sphex acutus Fernald, 1934:150, ♂. Holotype: ♂, USA: southern Arizona: no specific locality (originally H. Fernald collection, now USNM). – **As *Ammophila acuta***: Murray in Muesebeck, Krombein, and Townes, 1951:975 (new generic assignment, in catalog of North American Hymenoptera); R. Bohart and Menke, 1976:150 (in checklist of world Sphecidae); Krombein, 1979b:1590 (in catalog of North American Hymenoptera); Stevens and Menke, 2014:220 (Arizona: Grand Canyon ecoregion); Ratzlaff, 2016:28 (first record from Canada: British Columbia: Southern Interior and Southern Interior Mountains), 39 (British Columbia: locality records); Menke, 2020:61 (in revision of North and Central American *Ammophila*); Menke, 2020:63 (in revision of North and Central American *Ammophila*).

4. *adelpha* Kohl

As *Ammophila striata*: Kohl, 1884a:382 (description, China), corrected to *Ammophila adelpha* by Kohl, 1901d:152.

Ammophila adelpha Kohl, 1901:152, ♀. Lectotype: ♀, China: Sinkiang (as Dzhungaria): no specific locality, designated by Dollfuss, 2013a:405 (NHMW). – Kohl, 1906b:343 (in revision of Palearctic Ammophilini); Gussakovskij, 1934a:6 (northwestern China); de Beaumont, 1957b:129 (northern Iran; diagnostic characters); Kazenas, 1968b:342 (Kazakhstan: Mangyshlak Peninsula); R. Bohart and Menke,

1976:150 (in checklist of world Sphecidae); Kazenas, 1978b:36 (in key to Sphecidae of Kazakhstan and Central Asia); Dollfuss, 1989:7 (type material in NHMW); Kazenas, 1992c:25 (Turkmenistan: Repetek Nature Reserve), 1998b:158 (in Sphecidae Fauna of Kazakhstan); Esenbekova and Kazenas, 2000:12 (southeastern Kazakhstan: 5-8 km east of Bakanas); Kazenas, 2001b:17 (in checklist of Sphecidae of Kazakhstan and Central Asia), 2002a:35 (geographic distribution, collecting localities in Kazakhstan), 2004b:100 (Kazakhstan: western Tien Shan Mountains), 2004d:28 (Kazakhstan: northern Caspian region), 2008a:98 (southeastern Kazakhstan: 50 km east of Chilik, near Kapchagay, near Bakanas); Danilov, 2010b:44 (distribution of Tethyan type); Dollfuss, 2013a:392, 393, 402, 403 (in key to *Ammophila* of Palearctic Region and India), 405 (in revision of *Ammophila* of Palearctic Region and India), 2013b:565 (locality records from Kazakhstan, Kyrgyzstan, and Uzbekistan); Kazenas, 2014a:132 (Kazakhstan: Karatau Mountain Range); Danilov, 2017b:211 (in catalog of Sphecidae s.s. of Russia); Danilov and Mokrousov, 2017a:110 (Russia: Kalmykia: near Hulhuta); Jahantigh, Rakhshani, Mokhtari, and Ramroodi, 2017:14 (Iran: known from Semnan Province); Ch. Wang, Bashir, Q. Li, and Ma, 2018:299, 302 (in key to *Ammophila* of China); Danilov, 2020:316 (specimens from Kazakhstan in Institute of Systematics and Ecology of Animals, Novosibirsk, Russia); Medetov, Embergenov, Kholmatov, Elmurodova, Rakhimov, and Tajibaeva, 2024:418 (Uzbekistan: distribution).

5. *aellos* Menke

Ammophila aellos Menke, 1966b:26, ♀, ♂. Holotype: ♂, Mexico: Jalisco: 8 mi. south of Guadalajara (UCD). – R. Bohart and Menke, 1976:150 (in checklist of world Sphecidae); Amarante, 2002:66 (in catalog of Neotropical Sphecidae); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:669 (in checklist of Mexican Sphecidae); Menke, 2020:82 (in revision of North and Central American *Ammophila*).

6. *afghanica* Balthasar

Ammophila afghanica Balthasar, 1957b:190, ♀, ♂ (♂ = *Ammophila sarekandana*). Holotype: ♀, Afghanistan: Badakhshan: Sarekanda (originally V. Balthasar collection, now NMPC). – R. Bohart and Menke, 1976:150 (in checklist of world Sphecidae); Dollfuss, 2013a:394, 403 (in key to *Ammophila* of Palearctic Region and India), 406 (in revision of *Ammophila* of Palearctic Region and India); Dunford, Turbyville, and Leavengood, 2014:10 (listed as medically important in Afghanistan).

7. *africana* Dollfuss

Ammophila africana Dollfuss, 2015a:318, ♂. Holotype: ♂, Kenya: Archer's Post at Evaso Ng'iro River: 0°39'N 37°41'E (CAS). Paratypes: Ethiopia, Ivory Coast, Senegal. – Dollfuss, 2015a:317 (in key to Sub-Saharan *Ammophila*), 2015b:413 (locality records from Ethiopia and Kenya).

8. *albotomentosa* Morice

Ammophila albotomentosa Morice, 1900a:69, ♀, ♂. Syntypes: Algeria: Biskra (OXUM). Dollfuss (2013a) spoke of a holotype, but this cannot be regarded as designation of lectotype under Article 74.7 of the Code. – Kohl, 1906b:348 (in revision of Palearctic *Ammophilini*); Morice, 1911:73 (Algeria: Biskra); Roth, 1928:195 (in revision of North African *Ammophilini*); Leclercq, 1955h:84 (bibliographic references); de Beaumont, 1963b:20 (in revision of *Ammophila nasuta* species group); R. Bohart and Menke, 1976:150 (in checklist of world Sphecidae); Gayubo, 1985b:492 (Spain: Valencia: Gilet; redescription); Bitsch, Barbier, Gayubo, Schmidt, and Ohl, 1997:77 (in Sphecidae Fauna of Western Europe); Dollfuss, 2013a:387, 398 (in key to *Ammophila* of Palearctic Region and India), 407 (in revision of *Ammophila* of Palearctic Region and India), 2013b:566 (Tunisia: Gasfa); Ben Khedher, Yildirim, Braham, and Ljubomirov, 2020a:302 (in list of Tunisian Sphecidae *sensu stricto*); Bitsch, Barbier, and Jacobs *in* Bitsch, Barbier, Gayubo, Jacobs, Leclercq, and Schmidt, 2020:91 (in Sphecidae Fauna of Europe).

9. *altigena* Gussakovskij

Ammophila altigena Gussakovskij, 1930b:73, ♂. Holotype: ♂, Tajikistan: Sary-kol Range on Chinese border of Pamir [Tajikistan: Gorno-Badakhshanskiy Autonomous Region: near Akbaytal at 38°29'N 73°52'E according to Danilov, 2016:346] (ZIN). – R. Bohart and Menke, 1976:150 (in checklist of world Sphecidae); Kazenas, 2001b:17 (in checklist of Sphecidae of Kazakhstan and Central Asia); Dollfuss, 2013a:400 (in key to *Ammophila* of Palearctic Region and India), 408 (in revision of *Ammophila* of Palearctic Region and India), 2013b:566 (locality records from Kazakhstan and Uzbekistan); Danilov, 2016:346 (holotype preserved in Zoological Institute, Sankt-Petersburg, Russia); Medetov, Embergenov, Kholmatov, Elmurodova, Rakhimov, and Tajibaeva, 2024:418 (Uzbekistan: distribution).

10. *antenniferruginea* Yan and Q. Li

Ammophila antenniferruginea Yan and Q. Li, 2010:48, ♀. Holotype: ♀, China: Xingiang: Uygur Autonomous Region: Tuoli County (Academia Sinica). – Ch. Wang, Bashir, Q. Li, and Ma, 2018:300 (in key to *Ammophila* of China)

11. *antoninae* Danilov

Ammophila antoninae Danilov, 2018:322, ♂. Holotype: ♂, Tajikistan: Lake Iskandekul at 39°04'N 68°21'E (ZIN).

12. *antropovi* Dollfuss

Ammophila antropovi Dollfuss, 2013a:409, ♂. Holotype: ♂, Tunisia: 25 km south of Zarzis (OÖLM). – Dollfuss, 2013a:398 (in key to *Ammophila* of Palearctic Region and India), 2013b:566 (Tunisia: 25 km south of Zarzis); Ben Khedher, Yildirim, Braham, and Ljubomirov, 2020a:302 (in list of Tunisian Sphecidae *sensu stricto*).

13. *aphrodite* Menke

Ammophila aphrodite Menke, 1964a:8, ♀, ♂. Holotype: ♂, USA: California: Riverside County: 10 mi. east of White Water (UCD). – R. Bohart and Menke, 1976:150 (in checklist of world Sphecidae); Krombein, 1979b:1590 (in catalog of North American Hymenoptera); Stevens and Menke, 2014:220 (Arizona: unknown from Grand Canyon ecoregion); Danilov, 2014:354 (a pair of paratypes preserved in Zoological Institute, Sankt-Petersburg, Russia); Menke, 2020:107 (in revision of North and Central American *Ammophila*).

14. *apicalis* Guérin-Méneville

Ammophilus apicalis Guérin-Méneville, 1835:pl. 70, Fig. 3, ♀, actually ♂. Holotype or syntypes: ♂, Cuba: no specific locality (MSNG). – Guérin-Méneville, 1844:435 (description); Guiglia, 1948b:179 (type in Genova Mus). – **As *Ammophila apicalis***: F. Smith, 1856:224 (new generic assignment, in catalog of Hymenoptera in British Museum); Cresson, 1863:318 (in catalog of North American Hymenoptera), 1865a:134 (Cuba); Girard, 1879:969 (morphology and distribution); Menke, 1964b:151 (synonymy, study of type, diagnostic characters), 1970:238 (member of *Ammophila nigricans* species group, diagnostic characters, distribution); Alayo Dalmau, 1973:185 (in catalog of Cuban Hymenoptera), 1976:11 (in key to Cuban *Ammophila*), 27 (in checklist of Cuban Sphecidae); R. Bohart and Menke, 1976:150 (in checklist of world Sphecidae); Genaro and Sánchez Alonso, 1990c:1 (nesting behavior); Amarante, 2002:66 (in catalog of Neotropical Sphecidae); Fernández, Saríol, Vega, Ricardo, González, and Portuondo, 2002:46 (Cuba: Provincia Granma); Portundo and Fernández, 2004:134 (Cuba: Sierra Maestra and Nipe-Sagua-Baracoa mountains); Genaro, 2006:51 (in checklist of Cuban Sphecidae and Crabronidae; other countries: Isla de la Juventud, Bahamas: Long Island, Jamaica).

Ammophila guerinii Dalla Torre, 1897:400 (as *guérinii*, incorrect diacritic mark). Unnecessary substitute name for *Ammophila apicalis* Guérin-Méneville, 1835, nec Brullé, 1839. – Ashmead, 1899d:354 (in checklist of North American Sphecidae), 1900:308 (in checklist of Caribbean Hymenoptera); Melander, 1903:161 (in key to North American *Ammophilini*), 164 (bibliographic references, geographic distribution). – **As *Sphex guerinii***: Holland, 1917:294 (new generic assignment, Cuba: Isla de Pinos, now Isla de la Juventud: Nueva Gerona); Fernald, 1934:57 (in revision of North American and West Indian *Ammophila*).

15. *arabica* W.F. Kirby

Ammophila arabica W.F. Kirby, 1900:24, ♀. Holotype: ♀, Yemen: Lahej near Aden (lost: Guichard, 1988a:129). – R. Bohart and Menke, 1976:150 (in checklist of world Sphecidae); El-Hawagry, Khalil, Sharaf, Fadl, and Aldawood, 2013:78 (Saudi Arabia: Al-Baha Province); Gadallah, 2020d:78 (in list of aculeate wasps of Arabian Peninsula).

16. *ardens* F. Smith

Ammophila ardens F. Smith, 1868b:247, ♀. Holotype or syntypes: ♀, Australia: Western Australia: Swan River (BMNH). – Froggatt, 1892:209 (in catalog of Australian Hymenoptera); Dalla Torre, 1897:395 (in catalog of world Hymenoptera); R. Turner, 1908:466 (Australia: Queensland: Mackay); R. Bohart and Menke, 1976:150 (in checklist of world Sphecidae); Cardale, 1985:229 (in catalog of Australian Sphecidae).

17. *areolata* Walker

Ammophila areolata Walker, 1871:19, ♀. Holotype or syntypes: ♀, Egypt: Sinai Peninsula: Pharaoh's Baths (destroyed). – Dalla Torre, 1897:395 (in catalog of world Hymenoptera); Kohl, 1906b:370 (original description copied); R. Bohart and Menke, 1976:150 (in checklist of world Sphecidae); Gadallah, 2020d:78 (in list of aculeate wasps of Arabian Peninsula).

18. *argyrocephala* Arnold

Ammophila argyrocephala Arnold, 1951:143, ♀. Syntypes: Ethiopia: River Errer, Meisso (BMNH). – Leclercq, 1955h:82 (bibliographic references); R. Bohart and Menke, 1976:150 (in checklist of world Sphecidae); Dollfuss, 2015a:313, 315 (in key to Sub-Saharan *Ammophila*),

319 (in revision of Sub-Saharan *Ammophila*), 2015b:414 (locality records from Ethiopia, Kenya, Mozambique, Namibia, South Africa, Tanzania, and Zimbabwe).

19. *arnoldi* Dollfuss

Ammophila arnoldi Dollfuss, 2015a:321, ♂. Holotype: ♂, South Africa: Western Cape Province: Knersflakte at 31°07'30"S 18°55'30"E (ZMHU). – Dollfuss, 2015a:315 (in key to Sub-Saharan *Ammophila*).

20. *arvensis* Lepeletier de Saint Fargeau (preoccupied)

Ammophila arvensis Lepeletier de Saint Fargeau, 1845:384, ♀, ♂, junior secondary homonym of *Ammophila arvensis* (Dahlbom, 1843), now *Ammophila pubescens*. Syntypes: North America: no specific locality (M. Spinola collection, Torino). – F. Smith, 1856:223 (in catalog of Hymenoptera in British Museum); Cresson, 1863:318 (in catalog of North American Hymenoptera), 1887:274 (in catalog of North American Hymenoptera); J. Smith, 1900:523 (in list of insects of New Jersey); Melander, 1903:160 (in key to North American Ammophilini), 163 (bibliographic references, geographic distribution); Murray *in* Muesebeck, Krombein, and Townes, 1951:975 (in catalog of North American Hymenoptera); R. Bohart and Menke, 1976:150 (in checklist of world Sphecidae, = *Ammophila procera* or *Podalonia*); Casolari and Casolari Moreno, 1980:101 (specimens in M. Spinola collection, Torino); Pagliano, 2008:517 (unpublished lectotype in M. Spinola collection, Torino). – **As *Sphex arvensis***: J. Smith, 1910:676 (new generic assignment, in new list of insects of New Jersey, as *arvensis* Dahlb.); Rohwer, 1916b:682 (in catalog of Hymenoptera of Connecticut); Rohwer *in* Viereck, 1925:682 (in key to Sphecidae of Connecticut); J.Ch. Bradley, 1928:1012 (in catalog of New York Sphecidae).

21. *asiatica* Tsuneki

Ammophila asiatica Tsuneki, 1971k:166, ♀, ♂. Holotype: ♂, Mongolia: Uvs Aymag: Hödlon gol (TMB). – R. Bohart and Menke, 1976:150 (in checklist of world Sphecidae); Nemkov *in* Nemkov, Kazenas, Budrys, et Antropov, 1995:387 (in key to Sphecidae of Russian Far East); Nemkov, 2008b:17 and 2009b:48 (in new catalog of Sphecidae and Crabronidae of Asiatic Russia); Danilov, 2010b:45 (distribution of Scythian type); Dollfuss, 2013a:394, 404 (in key to *Ammophila* of Palearctic Region and India), 410 (in revision of *Ammophila* of Palearctic Region and India), 2013b:566 (Mongolia: locality records); Danilov, 2014a:426 (Russia: Siberia: Altay Republic, Buryatia, Tyva, Zabaikal'skiy Kray), 2014b:520, 521 (in key to Sphecidae s.s. of Siberia), 2017b:212 (in catalog of Sphecidae s.s. of Russia); Baghirov and Nesterovitch, 2019:45 (Russia: Western Siberia: Yamalo-Nenets Autonomous District: near Khanymey village); Danilov, 2020:316 (specimens from Russia: Tyva Republic, and Kazakhstan in Institute of Systematics and Ecology of Animals, Novosibirsk, Russia).

22. *assimilis* Kohl

Ammophila assimilis Kohl, 1901d:150, ♀, ♂. Lectotype: ♀, Syria: no specific locality (NHMW), designated by Dollfuss, 2013a:411. – Kohl, 1906b:341 (in revision of Palearctic Ammophilini); Balthasar, 1954b:281 (Palestine: Jerusalem); de Beaumont and Bytinski-Salz, 1955:39 (Israel); de Beaumont, 1967a:269 (Turkey), 1969:81 (Turkey), 1970a:389 (Afghanistan); R. Bohart and Menke, 1976:150 (in checklist of world Sphecidae); Kazenas, 1978b:38 (in key to Sphecidae of Kazakhstan and Central Asia); Dollfuss, 1989:7 (type material in NHMW); Guichard, 1991a:338 (Jordan); Ljubomirov and Yildirim, 2008:33 (in catalog of Sphecidae of Turkey); Murai and Amr, 2011:118 (recorded from Syria by Kohl, 1901); Dollfuss, 2013a:390, 400 (in key to *Ammophila* of Palearctic Region and India), 411 (in revision of *Ammophila* of Palearctic Region and India), 2013b:566 (locality records from Jordan and Syria); Dunford, Turbyville, and Leavengood, 2014:10 (listed as medically important in Afghanistan); Yildirim, 2014:30 (Turkey: distribution by biogeographic provinces); Dollfuss, 2015b:414 (locality records from Jordan and Turkey); Koçak and Kemal, 2015:277 (in checklist of Hymenoptera of Turkey), 2023:1691 (in checklist of Sphecidae *sensu lato* of Turkey).

23. *atlantica* Roth

Ammophila nasuta var. *atlantica* Roth, 1928:199, ♀, ♂. Lectotype: ♀, Morocco: Tanger (MNHN), designated by Dollfuss, 2013a:412. – Nadig, 1933:101 (Morocco); Leclercq, 1955h:85 (bibliographic reference). – **As *Ammophila nasuta atlantica***: de Beaumont, 1951e:267 (new status; Morocco), 1963b:11 (subspecific status confirmed, in revision of *Ammophila nasuta* species group). – **As *Ammophila atlantica***: Bytinski-Salz *in* de Beaumont and Bytinski-Salz, 1955:38 (as full species); R. Bohart and Menke, 1976:151 (in checklist of world Sphecidae); Dollfuss, 2013a:387, 399 (in key to *Ammophila* of Palearctic Region and India), 412 (in revision of *Ammophila* of Palearctic Region and India), 2013b:567 (Morocco: locality records).

24. *aucella* Menke

Ammophila aucella Menke, 1966b:27, ♀, ♂. Holotype: ♂, Mexico: Jalisco: 3 mi. southeast of Plan de Barrancas (UCD). – R. Bohart and Menke, 1976:151 (in checklist of world Sphecidae); Amarante, 2002:66 (in catalog of Neotropical Sphecidae); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:669 (in checklist of Mexican Sphecidae); Menke, 2020:84 (in revision of North and Central American *Ammophila*).

25. *aurifera* R. Turner

Ammophila aurifera R. Turner, 1908:464, ♀, ♂. Syntypes: Australia: Northern Territory: Darwin (BMNH). – R. Bohart and Menke, 1976:151 (in checklist of world Sphecidae); Cardale, 1985:229 (in catalog of Australian Sphecidae).

26. *azteca* Cameron

Ammophila azteca Cameron, 1888a:17, ♀. Syntypes: ♀, Mexico: Sinaloa: Mazatlán (BMNH). – Dalla Torre, 1897:396 (in catalog of world Hymenoptera); Ashmead, 1899d:354 (in checklist of North American Sphecidae); Melander, 1903:161 (in key to North American Ammophilini), 164 (bibliographic references, geographic distribution); Fernald, 1934:152 (in revision of North American and West Indian *Ammophila*, as *Sphex*, as unrecognized species); Evans, 1965:8 (simultaneous care of more than one nest), 1970:485 (Wyoming: Jackson Hole, prey); Menke, 1965b:200 (*Sphex aculeatus* of Hicks, 1935, is *Ammophila azteca*); G. Bohart, Nye, and Hawthorn, 1970:49 (Utah: Logan, onion pollinator); Horning and Barr, 1970:104 (USA: Idaho: Craters of the Moon National Monument); Steiner, 1973:25 (Canada: Northwest Territories, Yukon Territory); R. Bohart and Menke, 1976:151 (in checklist of world Sphecidae); Kumar, Lavigne, Lloyd, and Pfadt, 1976:51 (USA: Colorado: Pawnee National Grassland); Steiner, 1977:315 (remarkable constancy in captivity for overnight resting site); Krombein, 1979b:1590 (in catalog of North American Hymenoptera); Finnamore, 1982:28 (in Sphecid Fauna of Southern Quebec); Menke, 1983b:21 (Nebraska: Hooker County: Mullen area; Cherry County: Nenzel area; and Dawes County: north of Crawford); Brockmann, 1985b:312 (nest closure summary); Rust, Menke, and Miller, 1985:46 (California Channel Islands), 52 (prey: geometrid caterpillar); Menke, 1986c:35 (Utah: San Juan County: east of Natural Bridges National Monument; Arizona: Navajo County: 18 mi. west of Kayenta); Piek and Spanjer, 1986:179 (in list of Sphecidae with known prey); Rosenheim, 1987a:740 (California: Nevada County: Sagehen Creek near Hobart Mills), 1987b:401 (nest parasite: *Argochrysis armilla* R. Bohart, a chrysidid); O'Brien, 1989b:209 (distribution in Michigan); Menke, 1994f:22 (Utah: Monticello area; New Mexico: Aztec); Blades and Maier, 1996:71 (Canada: British Columbia: Osoyoos - Mount Kobau area at 119°40'W 49°05'N); Finnamore, 1997:884 (Canada: Yukon, as *azteca azteca*); Weissmann and Kondratieff, 1999:77 (Colorado: Great Sand Dunes National Monument); Amarante, 2002:66 (in catalog of Neotropical Sphecidae); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:669 (in checklist of Mexican Sphecidae); Buck, 2004:24 (Canada: in checklist of Sphecidae of Ontario); Field, Ohl, and Kennedy, 2011:734 (in molecular cladistic analysis of Ammophilini); Stevens and Menke, 2014:220 (Arizona: Grand Canyon ecoregion); Dollfuss, 2015b:414 (locality records from California and Oregon); Field, Shreeves, Kennedy, Brace, and Gilbert, 2015:1899 (sex-biased parental care and sexual size dimorphism); Ratzlaff, 2016:28 (Canada: British Columbia: from Krombein, 1979); Field, Gonzalez-Voyer, and Boulton, 2020:7 (evolution of parental care); Menke, 2020:64 (in revision of North and Central American *Ammophila*); Buck and Bennett, 2025:223 (in checklist of Sphecidae *sensu lato* of Canada, Alaska, and Greenland: first record from Alaska: no specific locality, Canada: Alberta, British Columbia, Labrador, Manitoba, New Brunswick, Northwest Territories, Nova Scotia, Ontario, Prince Edward Island, Quebec, Saskatchewan, Yukon Territory, first record from Newfoundland Island: no specific locality).

Sphex pilosus Fernald, 1934:120, ♀, ♂. Holotype: ♀, USA: "Colorado Territory": no specific locality (ANSP). Synonymized with *Ammophila azteca* by Menke, 1965b:258, 1965c:1, and 1967a:3 (as new synonym). – Murray, 1938:26 (redescription); Dreisbach, 1944:269, 271 (in key to *Ammophila* of Michigan), 274 (Michigan: locality records); Strickland, 1947:129 (Canada: Alberta); Spencer and Wellington, 1948:10 (British Columbia, as *pilosus pilosus*). – **As *Ammophila pilosa***: Murray *in* Muesebeck, Krombein, and Townes, 1951:976 (in catalog of North American Hymenoptera); Evans, 1963b:238 (nesting behavior); Powell, 1964b:244 (prey: lycaenid and pterophorid caterpillars); Evans, 1970:486 (Wyoming: Jackson Hole).

Sphex aculeatus Fernald, 1934:145, ♀, ♂. Holotype: ♀, USA: Colorado: Boulder County: Owen's Lake (originally H. Fernald collection, now USNM). Synonymized with *Ammophila azteca* by Menke, 1965c:1 and 1967a:3. – Hicks, 1935:99 (nesting habits).

Sphex pilosus var. *nudus* Murray, 1938:28, ♀, ♂, junior primary homonym of *Sphex nudus* Fernald, 1903. Holotype: ♂, USA: Minnesota: Sawyer (depository?). – **As *Sphex pilosus nudus***: Dreisbach, 1944:269, 271 (new status, in key to *Ammophila* of Michigan), 273 (Michigan: locality records). – **As *Sphex nudus***: Strickland, 1947:129 (new status, Canada: Alberta).

Ammophila pilosa brevisericea Murray *in* Muesebeck, Krombein, and Townes, 1951:976. Substitute name for *Sphex pilosus nudus* Murray, 1938. Synonymized with *Ammophila azteca* Cameron, 1988 by Menke, 1965c:1.

Ammophila shoshone Menke, 1967a:5, ♀, ♂. Holotype: ♂, USA: Wyoming: Horse Creek Camp in Shoshone National Forest (Cornell Univ.).

Synonymized with *Ammophila azteca* by Menke, 2020:64. – R. Bohart and Menke, 1976:153 (in checklist of world Sphecidae); Krombein, 1979b:1594 (in catalog of North American Hymenoptera).

Ammophila silvestris Kirkbride, 1982:457, ♀, ♂. Holotype: ♂, USA: Idaho: Idaho County: 21 mi. west of Lolo Pass (Univ. Idaho, Moscow).

Paratypes: Montana, Wyoming. Synonymized with *Ammophila azteca* by Menke, 2020:64. – Field, Ohl, and Kennedy, 2011:734 (in molecular cladistic analysis of Ammophilini).

As *Sphex breviceps*: Hicks, 1933a:49 (nesting habits), corrected to *Ammophila azteca* by Menke, 1965b:258.

As *Sphex arvensis*: A. Brown, 1934:264 (Canada: Ontario: Timagami), corrected to *Ammophila azteca* by Buck, 2004:75.

ssp. *clemente* Menke

Ammophila azteca clemente Menke, 1967a:7, ♀, ♂. Holotype: ♂, USA: California: Los Angeles County: Island of San Clemente (Los Angeles County Mus.). – R. Bohart and Menke, 1976:151 (in checklist of world Sphecidae); Krombein, 1979b:1590 (in catalog of North American Hymenoptera); Rust, Menke, and Miller, 1985:46 (California: Channel Islands), 52 (prey); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:669 (in checklist of Mexican Sphecidae); Menke, 2020:67 (in revision of North and Central American *Ammophila*).

27. *barbara* (Lepeletier de Saint Fargeau)

Coloptera barbara Lepeletier de Saint Fargeau, 1845:387, ♂. Syntypes: Algeria: Oran (originally Lepeletier de Saint Fargeau collection, now?). – Lucas, 1849:276 (Algeria: Oran; original description copied with modifications); F. Smith, 1856:225 (in catalog of Hymenoptera in British Museum); Ed. André, 1886:92 (in revision of Sphecidae of Europe and Algeria), 1888:5* (bibliographic references); Pérez, 1895:CLXXII (valid species; Tunisia: Kairouan); Acloque, 1897:97 (in Sphecid Fauna of France and Algeria); Zanon, 1926:91 (Libya: Fueihat 15 km south of Benghazi). – **As *Ammophila barbara***: Dalla Torre, 1897:396 (new generic assignment, in catalog of world Hymenoptera); Kohl, 1906b:317 (in revision of Palearctic Ammophilini); von Schulthess, 1926b:208 (Tunisia: Kairouan; Libya: Benghazi); Roth, 1928:186 (in revision of North African Ammophilini); Guiglia, 1934b:291 (Libya: bibliography and summary of locality records); Giner Marí, 1945:362 (Río de Oro, now Western Sahara in Morocco), 1947:18 (Río de Oro, now Western Sahara in Morocco); Berland, 1950b:296 (Niger: Aïr area); de Beaumont, 1950f:395 (Algeria), 1951e:264 (Morocco; nominotypical subspecies); Grandi, 1954:235 (Algeria: El Kantara); de Beaumont and Bytinski-Salz, 1955:36 (Israel); Leclercq, 1955h:93 (bibliographic references); de Beaumont, 1956a:215 (Libya), 1958a:290 (illustration of genitalia), 1960e:3 (taxonomy and relationships); R. Bohart and Menke, 1976:151 (in checklist of world Sphecidae); Guichard, 1980:224 (Oman), 1988a:127 (Oman); Roche, 2007a:15 (first record from Egypt: Sinai Peninsula, in checklist of Egyptian Sphecidae), 2007b:2 (in checklist of Egyptian Ampulicidae, Sphecidae, and Crabronidae); Schmid-Egger, 2011b:593 (first record from United Arab Emirates: Wadi Bih), 597 (color photograph of male); Dollfuss, 2013a:394, 404 (in key to *Ammophila* of Palearctic Region and India), 413 (in revision of *Ammophila* of Palearctic Region and India), 2013b:567 (locality records from Jordan, Morocco, Syria, Tunisia, and Turkey); Schmid-Egger, 2014:615 (United Arab Emirates: Wadi Bih); Dollfuss, 2015b:414 (Turkey: Bitlis); Koçak and Kemal, 2015:277 (in checklist of Hymenoptera of Turkey); Yildirim, Ljubomirov, Özbek, and Yüksel, 2016:6 (Turkey: Bayburt: Kopdağ); Augul, 2019:492 (Iraq: Basra Province: Al-Hartha District); Ben Khedher, Yildirim, Braham, and Ljubomirov, 2020a:302 (in list of Tunisian Sphecidae *sensu stricto*); Gadallah, 2020d:78 (in list of aculeate wasps of Arabian Peninsula); Kaplan and Yildirim, 2023:1691 (in checklist of Sphecidae *sensu lato* of Turkey).

Ammophila barbara semota de Beaumont, 1967a:265, ♀. Holotype: ♀, Turkey: Ankara: Dickmen (BMNH). Synonymized with *Ammophila barbara* by Dollfuss, 2013a:413. – R. Bohart and Menke, 1976:151 (in checklist of world Sphecidae); Gülmez and Tüzün, 2005:50 (Turkey: Ankara Province); Ljubomirov and Yildirim, 2008:34 (in catalog of Sphecidae of Turkey); Yildirim, 2014:30 (Turkey: distribution by biogeographic provinces); Gülmez, 2019:3 (Turkey: Ankara Province: no specific locality); Kaplan and Yildirim, 2023:1691 (in checklist of Sphecidae *sensu lato* of Turkey).

As *Ammophila judaeorum* (present correction based on geographic distribution): W. Schulz, 1905b:32 (Algeria: Biskra; redescription); Morice, 1911:73 (Algeria: Biskra); Giner Marí, 1945b:362 (Morocco: Western Sahara: Aserifa, Um at Sfaia), 1947:18 (Morocco: Western Sahara).

28. *barbarorum* Arnold

Ammophila barbarorum Arnold, 1951:141, ♀. Lectotype: ♀, Ethiopia: Addis Ababa (BMNH), designated by Dollfuss, 2015a:322. – Leclercq, 1955h:86 (bibliographic reference); R. Bohart and Menke, 1976:151 (in checklist of world Sphecidae); Dollfuss, 2015a:311, 315 (in key to Sub-Saharan *Ammophila*), 322 (in revision of Sub-Saharan *Ammophila*), 2015b:415 (Kenya: Mackinnon Road).

29. *barkalovi* Danilov

Ammophila barkalovi Danilov, 2015a:538, ♀, ♂. Holotype: ♀, Kazakhstan: Almaty Region: Altyñ-Emel National Park, near mount Ayak-Kalkhan at 43°52'N 78°43'E (Institute of Systematics and Ecology of Animals, Russian Academy of Sciences, Siberian Branch, Novosibirsk, Russia). – Danilov, 2016:356 (paratype preserved in Zoological Institute, Sankt-Petersburg, Russia), 2020:317 (specimen from Mongolia in Institute of Systematics and Ecology of Animals, Novosibirsk, Russia).

30. *beaumonti* Dollfuss

Ammophila beaumonti Dollfuss, 2013a:414, ♀, ♂. Holotype: ♂, Mongolia: Gobi Aymag: 100 km northwest of Dalanzagdad Bayanzad (OÖLM). – Dollfuss, 2013a:389, 399 (in key to *Ammophila* of Palearctic Region and India), 2020:317 (specimens from Kazakhstan in Institute of Systematics and Ecology of Animals, Novosibirsk, Russia).

31. *bechuana* (R. Turner)

Sphex bechuana R. Turner, 1929b:554, ♀. Holotype or syntypes: ♀, Botswana: Ghanzi, Mongalatsila (BMNH). – **As *Ammophila bechuana***: Leclercq, 1955h:88 (new generic assignment, bibliographic references); R. Bohart and Menke, 1976:151 (in checklist of world Sphecidae); Dollfuss, 2015a:311, 314 (in key to Sub-Saharan *Ammophila*), 323 (in revision of Sub-Saharan *Ammophila*, description of ♂; Kenya, Malawi, Namibia, South Africa, Tanzania, Yemen, Zimbabwe), 2015b:415 (locality records from South Africa, Tanzania, Yemen, Zambia, and Zimbabwe); Gadallah, 2020d:78 (in list of aculeate wasps of Arabian Peninsula).

32. *bella* Menke

Ammophila bella Menke, 1966b:27, ♀, ♂. Holotype: ♂, Mexico: Puebla: 3 mi. north of Petalcingo (UCD). – R. Bohart and Menke, 1976:151 (in checklist of world Sphecidae); Krombein, 1979b:1590 (in catalog of North American Hymenoptera); Amarante, 2002:66 (in catalog of Neotropical Sphecidae); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:669 (in checklist of Mexican Sphecidae); Stevens and Menke, 2014:220 (Arizona: unknown from Grand Canyon ecoregion); Menke, 2020:85 (in revision of North and Central American *Ammophila*).

33. *bellula* Menke

Ammophila bellula Menke, 1964a:17, ♀, ♂. Holotype: ♂, USA: Arizona: Pima County: Madera Canyon in Santa Rita Mountains (UCD). – R. Bohart and Menke, 1976:151 (in checklist of world Sphecidae); Krombein, 1979b:1590 (in catalog of North American Hymenoptera); Amarante, 2002:66 (in catalog of Neotropical Sphecidae); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:669 (in checklist of Mexican Sphecidae); Stevens and Menke, 2014:220 (Arizona: unknown from Grand Canyon ecoregion); Menke, 2020:87 (in revision of North and Central American *Ammophila*).

34. *beniniensis* (Palisot de Beauvois)

Sphex beniniensis Palisot de Beauvois, 1806:48, sex not stated. Holotype or syntypes: Nigeria: city of Benin (destroyed?). – R. Turner, 1919c:394 (synonymy); Arnold, 1920:37 (in revision of southern African *Ammophila*), 1928:263 (in revision of southern African *Ammophila*), 1930:17 (in checklist of Afrotropical Sphecidae); Schouteden, 1930:95 (Zaire); Scott *in* Arnold, 1933a:370 (Ethiopia: Harar District and Higo Samula); Arnold, 1945:87 (Madagascar, geographic variation). – **As *Ammophila beniniensis***: F. Smith, 1856:213 (new generic assignment, in catalog of Hymenoptera in British Museum); W. Fox, 1896e:552 (Ethiopia: Bale Province: Sheikh Husein, now Shek Husen); Dalla Torre, 1897:396 (in catalog of world Hymenoptera); Bingham, 1902:218 (South Africa, Malawi); Cameron, 1908a:266 (Kenya, redescription); Carpenter, 1918:xlii (nesting behavior; determination tentative); Giordani Soika, 1939c:104 (Eritrea: Alta Assaorta, Maio); Guiglia, 1939a:201 (Eritrea: Saganeiti), 1939b:91 (Ethiopia: Lake Tana: Bahar-Dar), 1943c:76 (Ethiopia: Gamo Gofa: Sagan – Omo region), 1950:245 (Ethiopia: Gamo Gofa: Banno); Arnold, 1951:141 (Ethiopia: Moggio); Berland, 1952b:276 (boundary of Ivory Coast, Guinea, and Liberia: Mount Nimba); Leclercq, 1953b:211 (Madagascar), 1955h:89 (bibliographic references, locality records from Zaire and elsewhere), 1955i:406 (Rwanda), 1961b:54 (Madagascar, Zaire), 1961d:107 (Madagascar, color variation), 1962a:394 (Tanzania: Uluguru Mountains); Diniz, 1964c:110 (Angola: Lunda: Alto Chicapa, Andrada, Dundo, Mufta-Luembe, Rio Caquele, Xá-Ua at Rio Luita); Leclercq, 1969:1051 (Congo Brazzaville); I. Robertson, 1969:480 (Tanzania: Nuarumbugu); R. Bohart and Menke, 1976:139 (in checklist of world Sphecidae); de Beaumont, 1967b:503 (South Africa, Zimbabwe); R. Bohart and Menke, 1976:151 (in checklist of world Sphecidae); nec Guichard, 1980:224 (= *Ammophila panti*); Gess, 1981:19 (South Africa: Hilton Farm 18 km west-northwest of Grahamstown; nesting in friable soils); Rodgers and Homewood, 1982:233 (Tanzania: Usambara Mountains, as *benninensis*); Weaving, 1988:327-349 (prey selection), 1989a:1-16 (South Africa; nesting habits: nest provisioned with one large caterpillar), 1989b:847-871 (habitat selection and nest construction); Dollfuss, 1990:122 (Central African Republic); S. Gess, 1996:279, 283, 303 (floral records); S. Gess and F.

Gess, 2003:94 (Namibia and South Africa: visiting flowers of *Sarcostemma viminale* (L.) R. Br., Apocynaceae, *Geigeria* sp., Asteraceae, *Lasiospermum bipinnatum* (Thunb.) Druce, Asteraceae, *Verbesina encelioides* (Cav.) Benth and Hook., Asteraceae, *Anchusa capensis* Thunb., Boraginaceae, *Maytenus linearis* (L. f.) Marais, *Acacia karroo* Hayne, Fabaceae, *Phyllopodium cuneifolium* (L. f.) Benth., *Lycium* sp., Solanaceae, and *Tribulus* sp., Zygophyllaceae); Dollfuss, 2015a:310, 314 (in key to Sub-Saharan *Ammophila*), 324 (in revision of Sub-Saharan *Ammophila*), 2015b:415 (locality records from Benin, Burkina Faso, Cameroon, Central African Republic, Egypt, Ethiopia, Ghana, Guinea, Kenya, Malawi, Madagascar, Mozambique, Namibia, Nigeria, Oman, Senegal, South Africa, Tanzania, Uganda, Zambia, and Zimbabwe); Danilov, 2020:317 (specimen from South Africa in Institute of Systematics and Ecology of Animals, Novosibirsk, Russia); Gadallah, 2020d:78 (in list of aculeate wasps of Arabian Peninsula).

Sphex tenuis Palisot de Beauvois, 1806:48, sex not stated. Holotype or syntypes: Nigeria: city of Benin (destroyed?). Synonymized with *Sphex beniniensis* by Arnold, 1945:86. – Schletterer, 1891:13 (Zaire); W. Schulz, 1906:192 (probable synonym of *Ammophila beniniensis*); Brauns, 1911a:238 (South Africa, as *tennis*); Arnold, 1920:39 (in revision of southern African *Ammophila*), 1928b:263 (in revision of southern African *Ammophila*), 1930:17 (in checklist of Afrotropical Sphecidae), 1943:77 (Zaire); Schouteden, 1930:95 (Zaire); Arnold, 1943:77 (Zaire). – **As *Ammophila tenuis***: F. Smith, 1856:212 (new generic assignment, in catalog of Hymenoptera in British Museum); Kohl, 1894:342 (Mozambique: Delagoa Bay, now Maputo Bay; South Africa: Port Natal, now Durban; Zambia: Chama); Dalla Torre, 1897:410 (in catalog of world Hymenoptera); Guiglia, 1940b:289 (Somalia), 1943c:76 (Ethiopia: Gamo Gofa: Sagan – Omo region), 1950:246 (Ethiopia: Gamo Gofa: Banao, Caschei, headwaters of Sagan); I. Robertson, 1969:480 (Tanzania: Ukiriguru).

Ammophila cyaniventris Guérin-Méneville, 1843:9, ♂. Holotype or syntypes: ♂, Senegal: no specific locality (MSNG). Synonymized with *Sphex beniniensis* by R. Turner, 1919c:394. – Magretti, 1895:166 (Ethiopia: Ganale); Dalla Torre, 1897:398 (in catalog of world Hymenoptera, as *cyaneiventris*). – **As *Chlorion cyaniventris***: Jörgensen, 1912:285 (new generic assignment, Argentina: Mendoza Province, clearly in error); Schrottky, 1913a:224 (Argentina, as *cyaneiventre*, clearly in error); Guiglia, 1948b:179 (type in Genova), 185 (redescription; as *cyaneiventris*). – **As *Sphex cyaniventris***: Piek and Spanjer, 1986:189 (in list of Sphecidae with known prey).

Ammophila rugicollis Lepeletier de Saint Fargeau, 1845:373, ♂ (authorship attributed to Klug). Holotype or syntypes: ♂, South Africa: Cape of Good Hope (originally M. Spinola collection, Torino, now missing). Synonymized with *Sphex tenuis* by Arnold, 1920:39. – F. Smith, 1856:212 (in catalog of Hymenoptera in British Museum); A. Costa, 1864b:111 (specimen from Algeria in Museo Zoologico di Napoli); Dalla Torre, 1897:407 (in catalog of world Hymenoptera); Morice, 1900a:67 (Algeria: Biskra); Magretti, 1906:20 (Eritrea); Casolari and Casolari Moreno, 1980:100 (specimens in M. Spinola collection, Torino); Pagliano, 2008:514 (specimens missing in M. Spinola collection, Torino).

Ammophila lugubris Gerstaecker in Peters, 1858:510, ♀, ♂. Lectotype: ♀, Mozambique: no specific locality (ZMHU), designated by Dollfuss, 2015a:325. Synonymized with *Sphex beniniensis* by R. Turner, 1919c:394. – Radoszkowski, 1881:211 (Angola); W. Fox, 1896e:552 (Ethiopia: Bale Province: Sheikh Husein, now Shek Husen); Dalla Torre, 1897:404 (in catalog of world Hymenoptera); Magretti, 1906:20 (Eritrea); G. Carpenter, 1930b:292 (nest closure).

Ammophila lugubris Gerstaecker, 1862:480, ♀, ♂. Objective synonym of *Ammophila lugubris* Gerstaecker, 1858.

Ammophila guineensis Ritsema, 1874:192, ♀. Syntypes: ♀, Guinea: no specific locality (RMNH). Synonymized with *Sphex tenuis* by R. Turner, 1919c:394. – Dalla Torre, 1897:400 (in catalog of world Hymenoptera).

Ammophila koppenfelsii Taschenberg, 1880:777, ♀, ♂. Syntypes: West Africa: no specific locality (Halle). Synonymized with *Ammophila beninensis* by Dollfuss, 2015a:325. – Dalla Torre, 1897:403 (in catalog of world Hymenoptera); R. Bohart and Menke, 1976:152 (in checklist of world Sphecidae).

Ammophila coeruleornata Cameron, 1910b:135, ♂. Holotype or syntypes: ♂, South Africa: Gauteng:Pretoria: Borea Park (TMP). Synonymized with *Sphex tenuis* by R. Turner, 1919c:394 and Brauns, 1917:241 (as *coeruleornata*).

Ammophila maculifrons Cameron, 1910b:134, ♂, actually ♀. Holotype or syntypes: ♀, South Africa: Gauteng: Pretoria: Borea Park (TMP). Synonymized with *Ammophila tenuis* by Brauns, 1917:241 and R. Turner, 1919c:394.

Ammophila massaica Cameron, 1908a:264, ♂. Syntypes: ♂, Tanzania: Mount Meru lowlands: Ngare na nyuki (NRS). Synonymized with *Sphex tenuis* by Arnold, 1928b:279.

Ammophila sjoestedti Cameron, 1908a:267, ♂ (as *Sjöstedti* incorrect original capitalization and diacritic mark). Holotype or syntypes: ♂, Tanzania: Mount Meru lowlands: Ngare na nyuki (NRS). Synonymized with *Sphex tenuis* by Arnold, 1928b:279.

Sphex beniniensis race *tomentosus* Arnold, 1920:39, ♀ (as *tomentosa*, incorrect original termination), junior primary homonym of *Sphex tomentosus* Fabricius, 1787. Holotype: ♀, Namibia: Windhoek (TMP). Synonymized with *Ammophila beniniensis* by Dollfuss, 2015a:325. – Arnold, 1928b:265 (in revision of southern African *Ammophila*), 1930:17 (in checklist of Afrotropical Sphecidae). – **As *Ammophila beniniensis tomentosa***: R. Bohart and Menke, 1976:151 (new status, in checklist of world Sphecidae).

spp. imerinae de Saussure

Ammophila imerinae de Saussure, 1892:435, ♂. Syntypes: ♂, Madagascar: Imerina, Antananarivo, Anosibé (MHNG). – Dalla Torre, 1897:403 (in catalog of world Hymenoptera); Arnold, 1945:87 (as junior synonym of *Sphex beninensis*, Madagascar). – **As *Ammophila lugubris* var. *imerinae***: Kohl, 1909:371 (new status; Comoro Islands, Madagascar, Island of Europa in Mozambique Channel); Bischoff, 1912:220 (Zaire). – **As *Ammophila beniniensis imerinae***: R. Bohart and Menke, 1976:151 (new status, in checklist of world Sphecidae); Pulawski, 2003b:795 (in checklist of Malagasy Sphecidae); Parnaudeau and Madl, 2009:459 (western Indian Ocean: island of Europa); Madl, 2014a:1014 (in catalog of Ampulicidae, Crabronidae, and Sphecidae of Madagascar, with synonymy and locality records), 2014b:22 (Madagascar: locality records).

As *Ammophila rubiginosa*: de Saussure, 1892:435 (Madagascar), corrected to *Sphex beninensis* by Arnold, 1945:87; Friederichs, 1918:43 (nesting habits in Madagascar), 48 (Madagascar: Diego Suarez), present correction.

35. bispinosa Dollfuss

Ammophila bispinosa Dollfuss, 2015a:326, ♂. Holotype: ♂, Zambia: 50 km east of Mwinilunga at 11°43'S 24°47'E (OÖLM). Paratype: Angola. – Dollfuss, 2015a:316 (in key to Sub-Saharan *Ammophila*), 2015b:419 (locality records from Zambia).

36. boharti Menke

Ammophila boharti Menke, 1964a:9, ♀, ♂. Holotype: ♂, USA: California: Yolo County: Davis (UCD). – R. Bohart and Menke, 1976:151 (in checklist of world Sphecidae); Krombein, 1979b:1590 (in catalog of North American Hymenoptera); Danilov, 2014:354 (a pair of paratypes preserved in Zoological Institute, Sankt-Petersburg, Russia); Menke, 2020:110 (in revision of North and Central American *Ammophila*).

37. borealis Q. Li and Ch. Yang

Ammophila borealis Q. Li and Ch. Yang, 1990:263, ♀, ♂. Holotype: ♀, China: Nei Mongol: City of Hailar (Beijing Agricultural University). – Hua, 2006:275 (in list of Chinese insects, geographic distribution); Dollfuss, 2013a:415 (original description translated from Chinese into English, in revision of *Ammophila* of Palearctic Region and India); Ch. Wang, Bashir, Q. Li, and Ma, 2018:300, 302 (in key to *Ammophila* of China).

38. braunsi (R. Turner)

Sphex braunsi R. Turner, 1919c:395, ♀, ♂. Syntypes: South Africa: Eastern Cape Province: Willowmore (BMNH). – Arnold, 1920:42 (in revision of southern African *Ammophila*), 1928b:267 (in revision of southern African *Ammophila*), 1930:17 (in checklist of Afrotropical Sphecidae). – **As *Ammophila braunsi***: Leclercq, 1955h:88 (new generic assignment, bibliographic references); R. Bohart and Menke, 1976:151 (in checklist of world Sphecidae); Weaving, 1988:327-349 (prey selection), 1989a:1-16 (South Africa; nesting habits: one large caterpillar per cell), 1989b:847-871 (nests in abandoned burrows of other wasps in non-friable clay soils); Dollfuss, 2015a:311, 315 (in key to Sub-Saharan *Ammophila*), 327 (in revision of Sub-Saharan *Ammophila*), 2015b:419 (locality records from South Africa).

Sphex laticeps Arnold, 1928b:268, ♀. Holotype: ♀, Namibia: Koakoveld: Warmbad (SAMC). Synonymized with *Ammophila braunsi* by Dollfuss, 2015a:327. – Arnold, 1930:17 (in checklist of Afrotropical Sphecidae). – **As *Ammophila laticeps***: Leclercq, 1955h:88 (new generic assignment, bibliographic references); R. Bohart and Menke, 1976:152 (in checklist of world Sphecidae); S. Gess and F. Gess, 2003:97 (Namibia: visiting flowers of *Ocimum americanum* L., Lamiaceae).

39. breviceps F. Smith

Ammophila breviceps F. Smith, 1856:221, ♀. Holotype: ♀, Mexico: no specific locality (BMNH). – Cresson, 1863:318 (in catalog of North American Sphecidae); Cameron, 1888a:19 (Mexico); Dalla Torre, 1897:396 (in catalog of world Hymenoptera); Ashmead, 1899d:354 (in checklist of North American Sphecidae); Melander, 1903:160 (in key to North American), 163 (bibliographic references, geographic distribution); Murray in Muesebeck, Krombein, and Townes, 1951:975 (in catalog of North American Hymenoptera); Hurd and Linsley, 1975:116 (New Mexico: Hidalgo County: Lordsburg; on flowers of *Larrea tridentata* (De Candolle) Coville, Zygophyllaceae); R. Bohart and Menke, 1976:151 (in checklist of world Sphecidae); C. Ward et al., 1977:55 (associated with mesquite (*Prosopis glandulosa* Torr.), Fabaceae); Krombein, 1979b:1590 (in catalog of North American Hymenoptera); Zalom, Meyer, and Mason, 1979:239 (Arizona: Santa Rita Mountains; sympatric association with the bombyliids *Systropus angulatus ammophiloides* Townsend and *S. arizonicus* Banks); Menke, 1986c:36 (Arizona: Gila County: Carrizo), 37 (Arizona: Cochise County: north of Apache, Naco); Steiner, 1986:98 (references to

papers on nesting habits); Kingsley, Bailowitz, and Smith, 1987:18 (Arizona: Organ Pipe Cactus National Monument: Quitobaquito Springs area); Menke, 1994f:21 (Utah: Calf Creek Falls State Park and Monticello area; Arizona: Bisbee); Amarante, 2002:66 (in catalog of Neotropical Sphecidae); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:669 (in checklist of Mexican Sphecidae); Ohl and Linde, 2003:149 (number of ovarioles); Horta Vega, Pinson Domínguez, Barrientos Lozano, and Correa Sandoval, 2007:47 (Mexico: Tamaulipas); Miller, Pearce, and O'Neill, 2009:3 (known to be parasitized by *Paraxenos lugubris* (Pierce), Strepsiptera); Field, Ohl, and Kennedy, 2011:734 (in molecular cladistic analysis of Ammophilini); Stevens and Menke, 2014:220 (Arizona: Grand Canyon ecoregion); Menke, 2020:67 (in revision of North and Central American *Ammophila*); Buck and Bennett, 2025:223 (in checklist of Sphecidae sensu lato of Canada, Alaska, and Greenland: Canada: British Columbia: no specific locality). – **As *Sphex breviceps***: H. Smith, 1908b:329 (new generic assignment, in revision of Nebraskan Sphecidae); Mickel, 1918b:403 (in catalog of Nebraskan Sphecidae); Fernald, 1931:448 (synonymy); nec Hicks, 1933a:49 (= *Ammophila azteca*); Fernald, 1934:84 (in revision of North American and West Indian *Ammophila*, as *breviceps breviceps*); Dreisbach, 1944:270 (in key to *Ammophila* of Michigan, as *breviceps breviceps*); Strickland, 1947:129 (Canada: Alberta: Lethbridge, Vermillion, as *breviceps breviceps*).

40. *brevipennis* Bingham

Ammophila brevipennis Bingham, 1897:232, ♀. Holotype: ♀, India: Maharashtra: Bombay, now Mumbai (BMNH). – Giner Marí, 1945c:850 (India: Maharashtra: Khandala); Gupta, 1960:26 (India: Himalaya); R. Bohart and Menke, 1976:151 (in checklist of world Sphecidae); Dollfuss, 2013a:390 (in key to *Ammophila* of Palearctic Region and India), 416 (in revision of *Ammophila* of Palearctic Region and India).

41. *californica* Menke

Ammophila californica Menke, 1964a:18, ♀, ♂. Holotype: ♂, USA: California: Kern County: Mill Potrero on side of Mount Pinos (UCD). – R. Bohart and Menke, 1976:151 (in checklist of world Sphecidae); Krombein, 1979b:1590 (in catalog of North American Hymenoptera); Menke, 2007:37 (in review of *Ammophila pruinosus* complex); Stevens and Menke, 2014:220 (Arizona: Grand Canyon ecoregion); Menke, 2020:68 (in revision of North and Central American *Ammophila*).

42. *calva* (Arnold)

Sphex beniniensis var. *calvus* Arnold, 1920:38, ♀, ♂. Syntypes: Zimbabwe: Umgusa and Sawmills; South Africa: Zululand, now QuaZulu-Natal (SAM). – Arnold, 1928b:264 (in revision of southern African *Ammophila*), 1930:17 (in checklist of Afrotropical Sphecidae). – **As *Sphex beniniensis calvus***: Marshall, 1997:3 (new generic assignment, new status, reference to original description). – **As *Sphex calvus***: Arnold, 1945:86 (new status, raised to full species). – **As *Ammophila calva***: Menke in Bohart and Menke, 1976:151 (new generic assignment, as new status, in checklist of world Sphecidae); Dollfuss, 2015a:311, 314 (in key to Sub-Saharan *Ammophila*), 328 (in revision of Sub-Saharan *Ammophila*; Botswana, Ethiopia, Kenya, Mozambique, Senegal, Tanzania, Zambia, Zimbabwe), 2015b:419 (locality records from Ethiopia, Kenya, Mozambique, Senegal, South Africa, Zambia, and Zimbabwe).

43. *campestris* Latreille

Ammophila campestris Latreille, 1809:54, ♀, ♂. Syntypes: France: Paris area (lost). – Audouin, 1822a:242 (in Dictionnaire classique d'histoire naturelle); Dahlbom, 1831:45 (redescription); nec Curtis, 1836:pl.604, Shuckard, 1837a:80, 251, and Stephens, 1846:15 (= *Ammophila pubescens*); Lepeletier de Saint Fargeau and Audinet-Serville, 1828:452 (redescription); Taschenberg, 1858:61 (in key to Sphecidae of Germany); Funk, 1859:59 (Germany: Bayern: Bamberg); nec F. Smith, 1851c:17 and 1865b:86 (= *Ammophila pubescens*); Taschenberg, 1866:208 (in revision of Hymenoptera of Germany); Kirchner, 1867:217 (in catalog of European Hymenoptera); Wierzejski, 1868:117 (Ukraine: Podole Region); Schlechtendal, 1872:37 (Germany: Sachsen: Zwickau); Wierzejski, 1874:258 (Ukraine: Podole Region: Sinków, Skala on Zbrucz River); Becker, 1880:150 (Russia: Sarepta, now Krasnoarmeysk south of Volgograd); Kohl, 1880:183 (Austria: Tirol, and Italy: Trentino-Alto Adige), 237 (the genus *Miscus* cannot be maintained); nec E. Saunders, 1880:248 (= *Ammophila pubescens*); Magretti, 1881:113 (Italy: Lombardia), 270 (in list of species discussed in this paper); Kohl, 1883e:674 (Switzerland); von Heyden, 1884:116 (Germany: Frankfurt am Main); Ed. André, 1886:62 (in revision of Sphecidae of Europe and Algeria); Wüstnei, 1886:43 (Germany: Schleswig-Holstein); Ed. André, 1888:2* (bibliographic references); Kohl, 1888b:729 (Austria: Tirol, now Italy: Alto Adige); Kohl and Handlirsch, 1889:276 (Turkmenistan); F. Morawitz, 1889a:127 (Mongolia); Kohl, 1893a:35 (Austria: Niederösterreich); F. Morawitz, 1893a:108 (Russia: Karelian Isthmus, may be *Ammophila pubescens*), 1893b:407 (Tajikistan: Takfan in Yaghnob River valley); Sickmann, 1893:95 (Germany: Niedersachsen: Iburg); Baldini, 1894:47 (Italy: Modena area); Engel, 1894:53 (Germany: Jägerhof in Hausbruch near Hamburg); Krieger, 1894:13 (Germany: Kingdom of Saxony); Medina, 1894a:259 (Spain: Cazalla); Sickmann, 1894:218 (China: Hopei Province: Tientsin); nec E. Saunders, 1896:88 (= *Ammophila pubescens*); Dalla Torre, 1897:396 (in catalog of world Hymenoptera); Mocsáry, 1897:79 (Kingdom of Hungary, some localities are in today's Croatia, Romania, and Slovakia); O. Schneider, 1898:103 (Germany: Island of Borkum); nec Morice, 1900c:210 (= *Ammophila pubescens*); nec Adlerz, 1901:170 (= *Ammophila pubescens*); nec Barnes, 1902:266 (*Ammophila pubescens*); Friese, 1902:477 (occurring in Lapland according to Zetterstedt, 1838, may be *Ammophila pubescens*); E. Saunders, 1902b:143 (Great Britain: Island of Jersey; France: Bretagne: Saint Briac); de Cobelli, 1903:103 (Italy: Province of Trentino); Antiga and Bofill, 1904:4 (Spain: Cataluña Province); Gadeau de Kerville, 1903:306 (France: Eure Department); Adlerz, 1904:108 (nesting habits, may be *Ammophila pubescens*); Aurivillius, 1904:254 (in revision of Swedish Sphecidae); nec E. Saunders, 1903a:16 (= *Ammophila pubescens*); Zilahi Kiss, 1904:77 (Hungary: Hadad); Ferton, 1905:97 (homing); Kubes, 1905:83 (Czech Republic: Kolín, Obora, Sušice); Thijssse, 1905:91 (Netherlands, nesting habits); Kohl, 1906b:319 (in revision of Palearctic Ammophilini); Scholz, 1906:202 (mating); Clerc and Clerc, 1907:79 (Russia: Ekaterinburg district); Móczár and Henter, 1907:205 (Romania: Caraş-Severin: Mehadia); Schmiedeknecht, 1907:245 (in key to Hymenoptera of Central Europe); de Gaulle, 1908:103 (in catalog of French Hymenoptera); Adlerz, 1909b:163 (detailed study of nesting habits); E. Scholz, 1909a:22 (habitat and nesting behavior), 1910:306 (Germany: Wohlau: Krehlau; now Poland: Wołów); Dittrich, 1911b:25 (Germany: Niederschlesien Province, now Poland: Dolny Śląsk Region); Graeffe, 1911:48 (Italy: Trieste area); Zavattari, 1911:3 (Italy: Piemonte: Valle del Maira); Geyer, 1912:378 (structure of compound eyes); nec Latter, 1913:24 (*Ammophila pubescens*); Torcka, 1913:35 (Germany: Provinz Posen, now Poland: Poznań Region); Alfken, 1914:283 (northwestern Germany); Birula, 1914:388 (Belorussia: Ambrosovich and Luskinopol' near Vitebsk, sleeping aggregation of females); Dusmet y Alonso, 1915:86 (Spain: Aragón); O. Meyer, 1919:156 (Germany: Posen Province, now Poland: Poznań Region); nec Morley, 1919:209 (= *Ammophila pubescens*); Łoziński, 1920:121 (Poland: Dąbrowa near Tarnów); Strand, 1920:14 (Germany: Mecklenburg-Vorpommern: Rostock), 23 (Germany: Berlin-Dahlem); A. Wagner, 1920:35 (Germany: Lower Elbe region); Fahringer and Friese, 1921:160 (Turkey: Erzurum: Chanziri in Amanus Mountains = Gavur Dağları); E. Nielsen, 1921:323 (review of prey paralyzing); Strand, 1921:33 (Germany: Bayern: Kulmbach); Dubois, 1922:213 (in key to Belgian Sphecidae); Fahringer, 1922:176 (Turkey); Hedicke, 1922:272 (Germany: Brandenburg: Gross Machnower Weinberg); Strand, 1922:197 (Germany: Bayern: Kulmbach); Alfken, 1924:231 (northern Germany); Berland, 1925d:31 (in Sphecid Fauna of France); Bischoff, 1925:301 (Latvia: Wezkukkul; Poland: Białowieża and Grajewo area); Coulon, 1925:115 (France); E. Nielsen, 1925:441 (nesting habits, prey); Picard, 1925b:162 (review of observations on stinging sequence), 163 (nest construction precedes hunting); Schütze, 1925:114 (Germany: Lausitz Region); Shestakov, 1925:37 (Russia: Yaroslavl' area); K. Strohm, 1925:212 (Germany: Baden-Württemberg: Heidelberg); Bouwman, 1926:280 (in list of Sphecidae of Netherlands); Friese, 1926:167 (in key to Sphecidae of Central Europe, short morphological and biological characteristics); Grandi, 1926:271 (nesting habits), 275 (description of mature larva); Hémon, 1926:199 (France: Finistère: Fouesnant); Maneval, 1926:81 (substituting prey, tenthredinid larvae); K. Strohm, 1926:74 (reference to Leininger, 1922); Bouwman, 1927:113 (in revision of Sphecidae of Netherlands); Crèvecoeur, 1927:308 (material excavated from nest is carried in flight); Grandi, 1927:188 (nest closing), 1927:271 (nesting habits), 275 (description of larva and cocoon); Kokujev, 1927:71 (Russia: Siberia: Lake Baikal); Benoist, 1928:408 (France: Alpes-Maritimes, Basses-Alpes, Hautes-Alpes); Berland, 1928b:175 (add Maneval, 1926, Grandi, 1926, and Crèvecoeur, 1928 to bibliography in Berland, 1925d); Grandi, 1928d:264 (nest closure); van der Vecht, 1928:93 (Netherlands: Meijendel sand dunes); Blüthgen, 1929:83 (Germany: Saale River valley: Himmelreich); Roth, 1929:179 (in revision of Spanish Ammophilini); Bischoff, 1930a:215 (Tajikistan: Pamir); Schmiedeknecht, 1930:706 (in keys to Hymenoptera of North and Central Europe); nec Hobby, 1931b:108 and Spooner, 1931:14 (= *Ammophila pubescens*); Pulkkinen, 1931:52 (in revision of Sphecidae of Finland); Bondroit, 1932:33 (Belgium: Forêt de Soignes); Crèvecoeur, 1932 (nesting habits, progressive provisioning); Guiglia, 1932c:3 (Italy: Valle d'Aosta: Parco Nazionale del Gran Paradiso); nec Hobby, 1932a:4 (*Ammophila pubescens*); Maneval, 1932:90 (prey, spatial orientation); Micheli, 1933:5 (nesting behavior); E. Nielsen, 1933:308 (nesting habits); Balles, 1934:21 (Germany: Baden-Württemberg: Mannheim-Rheinau, Oberachern); Bondroit, 1934:60 (Belgium: specimen with setae covered with secretion); Grandi, 1934:64 (correction to Crèvecoeur, 1932 interpretation of Grandi, 1926 observations), 130 (Italy: Trentino-Alto Adige: Vallesinella); Gussakovskij, 1934a:6 (China, Mongolia); Jansson, 1934:290 (Sweden); Minkiewicz, 1934:220 (nesting behavior); Forsius in Forsius and Hellén, 1935:12 (in checklist of Hymenoptera of Finland); Gussakovskij, 1935:414 (Transcaspia); Marchand and Dulac, 1935:61 (France: Saône-et-Loire: Saint Laurent d'Andenay); E. Nielsen, 1935:196 (metabolism of paralyzed caterpillars is slightly above that of normal individuals), 215 (degeneration of nervous ganglia in paralyzed caterpillars); Vergne, 1935:117 (France: Auvergne: common); Crèvecoeur and Maréchl, 1936:249 (in catalog of Belgian Hymenoptera); Drogoszewski, 1936:130 (Poland: Łowicz, Skarżysko); Heldmann, 1936:103 (Germany: Hessen: Bergstrasse); J. Muller, 1936:163 (Belgium); Pattri, 1936:113 (Germany: Hessen: Darmstadt area, on sandy habitats); Wnukowski, 1936:128 (Russia: Western Siberia: railroad station Mezheninovka at 56°21'38"N 85°22'4"E); Dulac, 1937:7 (France: Saône-et-Loire: Saint-Laurent d'Andenay); Goebel, 1937:47 (Poland: Poznań District: Głuszyna, Kobylepole, Puszczykowo, Strzeszyn, Wyssogotowo);

nec Richards, 1937b:104 (= *Ammophila pubescens*); Zavadil, Šusterka, and Ba'ta, 1937:212 (in catalog of Sphecidae of Czechoslovakia); nec Baerends and van Roon, 1938:41 (= *Ammophila pubescens*); Gussakovskij, 1938:3 (China: Kiangsu Province); A. Wagner, 1938a:123 (northwestern Germany); nec Yarrow, 1939:15 (= *Ammophila pubescens*); Dovnar-Zapolskiy, 1940:304 (Russia: Kursk Oblast'); Balthasar, 1941b:112 (Czech Republic: eastern Morava); Guiglia, 1941c:165 (Italy: Calabria: Grande Sila); Paul, 1941:48 (Germany: Pommern: common in Central- and Ostpommern, now Poland: Pomorze Region); Schneid, 1941:1050 (Germany: Bayern: Bamberg area); Alfken, 1942:231 (Germany: Niedersachsen: Lüneburger Heide); J. Perkins, 1942:197 (Sweden: Skåne: Degaberga and Löderup); nec Adriaanse, 1943:69 (= *Ammophila pubescens*); Giner Marí, 1943a:70 (in Sphecidae Fauna of Spain); nec Spooner, 1943:71 (= *Ammophila pubescens*); Adriaanse, 1944:150 (nesting habits, partly *Ammophila pnsescens*); Guiglia, 1944b:6 (Italy); Šnoflák, 1944a:144 (Czech Republic: serpentine steppe near Mohelno); de Beaumont, 1945:467 (Switzerland; diagnostic characters); Richards, 1946:235 (in key to *Ammophila campestris* and *pubescens*); Adriaanse, 1947:1 (nesting behavior, comparison with that of *Ammophila adriaansei*, now *pubescens*); Carl and de Beaumont, 1947:67 (Switzerland: Graubünden = Grisons Canton: Swiss National Park); Guiglia, 1947a:28 (Italy: Piano Maiuri); Wilcke, 1947:118 (in key to Dutch *Ammophila*); Hellén, 1948:13 (*Ammophila campestris* confused with *A. adriaansei*, now *pubescens*); Leclercq, 1948:204 (less common in Belgium than *Ammophila pubescens*, locality records); Šnoflák in Zavadil and Šnoflák, 1948:100 (in key to Sphecidae of Czechoslovakia); de Andrade, 1949:7 (Portugal); Franz, 1949:13 (Austria: Hohe Tauern); nec Baerends and Baerends-van Roon, 1950:53 (= *Ammophila pubescens*); Cavro, 1950:31 (France: Département du Nord); Georgel, 1950:63 (France: Seine-et-Oise: Sucy-en-Brie); Szulczewski, 1950:108 (Poland: Wielkopolski National Park 15 km south of Poznań); Kjellander, 1951:48 (specimens studied by Adlerz are *Ammophila alpicola*, now *pubescens*; in Sweden collected only in Slättö and Hälsingborg); Głowacki, 1953:521 (Poland: Konstancin near Warszawa); Heldmann, 1953:112 (Germany: Hessen: Eberstädter Düne near Darmstadt); Leininger, 1953:18 (Germany: Baden-Württemberg); Nouvel and Ribaut, 1953:176 (France: Haute-Garonne: Saint-Béat, Luchon, Hautes-Pyrénées: Cadéac, Cauterets); Bischoff and Stadler, 1954:126 (Germany: Bayern: Romberg); de Beaumont, 1954e:86 (Italy); Grandi, 1954:153 (nesting habits), 235 (Italy); Aerts, 1955:64 (Germany: Rheinland); de Beaumont, 1955:56 (effects of stylopization); Steiner, 1955:133 (France: Dordogne); nec Teschner, 1955:57 (= *Ammophila pubescens*); Vogrin, 1955:30 (Yugoslavia); Ceballos, 1956:359 (in catalog of Hymenoptera of Spain); Evans and Lin, 1956a:147 (larva's description by Grandi, 1926); Bajári, 1957a:13 (in key to Hungarian Sphecidae); Fahlander, 1957:63 (Sweden: Småland: Ryssby); Grandi, 1957:386 (Italy); Zirngiebl, 1957:185 (Germany: Rheinland-Pfalz: Birkenheide, Leistadt); Benno, 1958b:10 (in review of Dutch Sphecidae); de Beaumont, 1958c:201 (Swiss National Park); Evans, 1958e:451 (behavioral evolution); Nelson, 1958:154 (Great Britain: Island of Man), may be *Ammophila sabulosa* according to Nelson, 1981:145; de Beaumont, 1959a:7 (Italy, form?); Diniz, 1959:26 (Portugal: Serra do Gerês); Wolf, 1959b:28 (known from Germany, but not from Nassau); Čingovski, 1960:5 (Macedonia: Yakupitsa); Noskiewicz and Pulawski, 1960:37 (in key to Polish Sphecidae); Scobiola, 1960b:233 (Romania: Simleul Silvaniei Region: Giurtelec); Grandi, 1961:129 (nesting habits), 469 (description of larva); Maréchal and Petit, 1961:82 (taxonomic history, comparison with *Ammophila adriaansei* [= *pubescens*], distribution in Belgium); Wengris, 1962:203 (Lithuania: Vilnius area); Hoop, 1963b:8 (Germany: Schleswig-Holstein: Lehmrade); de Beaumont, 1963:290 (Switzerland); Evans, 1963a:150 (prey specialization as distinctive character); Myartseva, 1963b:59 (Turkmenistan: lower Murgab River); de Beaumont, 1964a:290 (relation to *pubescens* and unrecognized species from Swiss Alpes), 1964c:26 (in Sphecidae Fauna of Switzerland); Hüsing and Jäger, 1964:192 (Germany: Sachsen-Anhalt: Nietleben near Halle), 200 (found only sporadically here); de Beaumont, 1965a:12 (Greece); Diniz, 1965:2 (Portugal: Coimbra, Rezende); Fæster, 1965:192 (Denmark: Hansted Nature Reserve); Myartseva, 1965:84 (Turkmenistan: Akibay, Karabata, Yolotan, and Murgab district); Pulawski, 1965b:260 (structure of gastral segment I); Benno, 1967:33 (in checklist of Sphecidae of Netherlands); de Beaumont, 1967:268 (Turkey); Gauss, 1967:550 (Germany: Baden-Württemberg); J. Heinrich, 1967:69 (Germany: Bayern: Unterfranken District); Niedl and Deneš, 1967:86 (Czech Republic: Třeboň area); H. Schulz, 1967:59 (Germany: Brandenburg: Ruhlsdorf near Potsdam); Scobiola-Palade, 1967b:36 (Romania); Benedek, 1968:70 (Hungary, floral records); Kazenas, 1968b:342 (Kazakhstan: Alma Ata and Gur'yev, now Atyraū, oblasts); Parré, 1968:122 (Germany: Sachsen-Anhalt: Staßfurt); de Beaumont, 1969:81 (Turkey); Benedek, 1969a:83 (Hungary; marshy meadow); Lefeber, 1969c:232 (Netherlands: Sint-Pietersberg = Montagne Saint Pierre); Romanova, 1969:133 (Russia: North Caucasus); Schmidt, 1969:161 (Germany: Rhein-Main area: Mainzer Sand); Zangheri, 1969:1699 (Italy: in catalog of flora and fauna of Romagna Region); Benedek, 1970:96 (Hungary: Tapolca); Islamov, 1970:63, 64 (Uzbekistan: Chirchik Basin); Oehlke, 1970:672 (Democratic Germany); Tumšs, 1970:70 (Latvia); Wolf, 1971:374 (Italy: Trentino-Alto Adige: Alpi Siusi); Schmidt, 1971b:22 (Germany: Rheinland-Pfalz: between Gonsenheimer Wald and Mainzer Sand); Balthasar, 1972:430 (in Sphecidae Fauna of Czechoslovakia); Kazenas, 1972b:98 (Kazakhstan); Oehlke, 1972:134 (Germany: Island of Hiddensee); Simon Thomas, 1972:175 (France: Landes, Lot-et-Garonne); Haeseler, 1973:53 (Germany: Schleswig-Holstein: Segrahner Berg 12 km southeast of Mölln); Wolf, 1973:41 (Germany: Siegerländer Hüttensand); Kazenas, 1974b:108 (feeding on flowers of *Tamarix* sp., Tamaricaceae, in Kazakhstan), 109 (feeding on flowers of *Statice gmelini* Willd., Plumbaginaceae, *Euphorbia* spp., Euphorbiaceae, in Kazakhstan), 110 (feeding on flowers of *Daucus carota* L., Apiaceae, in Kazakhstan), 111 (feeding on flowers of *Thymus marschallianus* Willd., Lamiaceae, *Saussurea* sp., Asteraceae, and *Lepidium crassifolium* W. et K., Brassicaceae, in Kazakhstan); Kim, Yoon, and Kim, 1975:21 (Korea, as *campoctris*); Lomholdt, 1975c:80 (in Sphecidae Fauna of Fennoscandia and Denmark); R. Bohart and Menke, 1976:151 (in checklist of world Sphecidae); Haeseler, 1976b:72 (Germany: Friesian Islands: Island of Amrum); Simon Thomas, 1976:3 (France: Lot-et-Garonne: Forêt de Campet); Tsuneki, 1976d:291 (differences between Dutch and Polish males); Kolesnikov, 1977:317 (Russia: Bryansk Oblast'); Schmidt, 1977/78:55 (Germany: Rheinland-Pfalz: Mombacher Sand); Guichard, 1978:269 (Greece); Haeseler, 1978c:193 (Germany: Friesian Islands: Island of Borkum); Kazenas, 1978b:37 (in key to Sphecidae of Kazakhstan and Central Asia); Marion, 1978:85 (France: Nièvre Department); Pulawski, 1978:182 (in key to Sphecidae of European part of USSR); Benedek, 1979:227 (Hungary: Bakony Hills); Leclercq, Gaspar and Verstraeten, 1979:map 1404 (Belgium); Lefeber, 1979:11 (in checklist of Sphecidae of Netherlands), 20 (Netherlands: distribution map); Radović and Krnić, 1979:unpaginated foldout (nesting in hard soil, foreleg structure); Richards, 1979:400 (British Channel Islands); Schwammberger, 1979:113 (Germany: Nordrhein-Westfalen: Gildehauser Venn Nature Reserve); Dathe, 1980:208 (Russia: northern Caucasus: Teberda); Kazenas, 1980e:81 (Russia: Far East); Pagliano, 1980:111 (Italy: Piemonte); Petit, 1980:42 (Belgium: Aayen); Westrich, 1980:628 (Germany: Baden-Württemberg: Tübingen area); Gayubo, 1981a:138 (northern Spain: Sierra de Béjar); Haeseler, 1981:50 (Germany: Friesian Island: Island of Amrum); Schmidt, 1981:221 (Germany: Baden-Württemberg); Donath, 1982:211 (Germany: Cottbus Bezirk); Gayubo, 1982f:246 (Spain: Cádiz Province: Puerto Real); Silvestre de Sacy, 1982:4 (France: Côte-du-Nord: Paimpol area); Skibińska, 1982:122 (Poland: Warszawa area); Dollfuss, 1983b:3 (in catalog of Sphecidae of Austria); Gayubo, 1983c:233 (Spain: Salamanca Province: La Alberca); Lefeber, 1983a:84 (Netherlands: Waddendistrict: northern coast sand dunes); Mingo and Gayubo, 1983:160 (Spain); Schmidt and Westrich, 1983:121 (Greece); Grimm, 1984:101 (Germany: Island of Hiddensee; activity depending on weather condition; determination tentative, may be *Ammophila pubescens*); Haack, Tschartke, and Vidal, 1984:124 (Germany: Hamburg area); Pagliano, 1984:368 (Italy); Schmidt and Westrich, 1984:240 (Germany: Rheinland-Pfalz: Bad Münster); Haeseler, 1985c:571 (Germany: Friesian Islands); Józán, 1985a:180 (Hungary), 1985b:55 (Hungary south of Lake Balaton), 76 (floral records), 83 (ecological and zoogeographic characteristics); Lefeber, 1985:86 (Netherlands: southern Limburg); Pagliano, 1985:13 (Italy); Paik, 1985:197 (in list of Sphecidae of Korea); Radović, 1985:64 (sting apparatus analyzed); Tyrner, 1985:9 (Czech Republic: Jezerka Nature Reserve in Krušné Hory = Erzgebirge); Brechtel, 1986:57 (Germany: Südpfalz); Gayubo, 1986b:37 (Spain: Andalucía), 1986c:30 (Spain: Zamora Province); Gayubo and Sanza, 1986:31 (Spain: Burgos, Segovia); Gayubo and Tormos, 1986a:9 (Spain: Castellón de la Plana); Islamov, 1986:514 (Uzbekistan: Surkhandarya and Tashkent Oblast's); Nemkov, 1986:93 (Russia: Irkutsk Oblast'); Piek and Spanjer, 1986:179 (in list of Sphecidae with known prey); Steiner, 1986:98 (references to papers on nesting habits); Vikberg, 1986b:75 (Finland); Schmidt and Westrich, 1987:357 (Germany: Mainz area); Tormos and Jiménez, 1987a:123 (Spain: Valencia); Chevin, 1988:15 (France: La Manche Department); Dollfuss, 1988:8, 21 (Austria: Bisamberg near Vienna; Niederösterreich: Oberweiden); Karsai, 1988:99 (Hungary: Kiskunság National Park); Wolf, 1988b:139 (Germany: Nordrhein-Westfalen); Jacobs, 1989:4 (Germany: Mecklenburg-Vorpommern); Józán, 1989:100 (Hungary: Tihany Nature Reserve); Nilsson, 1989:47 (Sweden); Pádr in Šedivý, 1989a:166 (in checklist of Czechoslovakian Sphecidae); Pankevich, Belyavskaya, Molchanova, Shlyakhtenok, and Blinov, 1989:94 (Belorussia: Berezinskiy Nature Reserve); Pádr, 1990:68 (Czech Republic: Praha area); Gayubo, Asís, and Tormos, 1990a:12 (Spain); Jacobs and Oehlke, 1990:134 (new records from Democratic Germany); Pagliano, 1990:60 (in catalog of Italian Sphecidae); Riemann and Melber, 1990:119 (northwestern Germany: *Calluna*-meadows); Schwammberger and Priesner, 1990:533 (Austria: Kärnten); von der Heide and Witt, 1990:63 (Germany: Niedersachsen); Dollfuss, 1991:32 (in key to Sphecidae of North and Central Europe); Gayubo, Borsato, and Osella, 1991:396 (Italy); Kuhlmann et al., 1991:87 (Germany: Senne Region); Negrisolo, 1991:316 (Italy: Venezia Province); van der Smissen, 1991:96 (northwestern Germany); Budrys, 1992:22 (in list of Sphecidae of Lithuania); Delarze, 1992:67 (Switzerland: Valais: Les Follatères); Gayubo, Borsato, and Osella, 1992:278 (France, Greece, Turkey); Hamon, Tussac, and Fonfria, 1992:406, 410 (in key to French *Ammophilini*), 411 (distribution in France); Józán, 1992a:228 (Hungary: Béda-Karapanca Protected Area), 1992b:171 (Hungary: Boronka-melléki Protected Area), 1992c:289 (Hungary: Zselic Hills); K. Weber, 1992:86 (Germany: Bayern: Bamberg District); Gorobchishin, 1993:46 (Ukraine: Kanev Nature Reserve); Józán, 1993:412 (Hungary: Bükk National Park); Kuhlmann, 1993:75 (Germany: known from Westfalen); Wiśniowski, 1993a:96 (Poland: in checklist of Sphecidae of Białowieża Primeval Forest); Blagoveshchenskaya, 1994:88 (Russia: Ul'yanovsk Oblast'); Schmid-Egger, 1994a:687 (Germany: Rheinland-Pfalz: Höllenberg near Grünstadt); Theunert, 1994c:32 (Germany: records from Niedersachsen and Bremen, probably refer to *Ammophila pubescens*); Gorobchishin, 1995:17 (Ukraine: Kanev Nature Reserve); Jansen and Kaluza, 1995:7 (Germany: endangered in Sachsen); Józán, 1995:104 (Hungary: projected Duna-Dráva National Park); Krasnobayev et al., 1995:138 (Russia: Zhiguli Hills northwest of

Samara); Negrisolo, 1995a:18 (visiting flowers of *Echinophora spinosa* L., Apiaceae), 22 (Italy: Veneto); Negrisolo *in* Minelli, Ruffo, and La Posta, 1995b:2 (in catalog of Italian fauna); Nemkov *in* Nemkov, Kazenas, Budrys, et Antropov, 1995:387 (in key to Sphecidae of Russian Far East); Saure and Dürrenfeld, 1995:29 (Germany: Brandenburg: Gabower Hänge near Bad Freienwalde); Scharrer, 1995:22 (Germany: Bayern: Aschaffenburg); Schmid-Egger, Risch, and Niehuis, 1995:163 (Germany: summary of records from Rheinland-Pfalz); Skibińska, 1995:423, 424 (Poland: pine forest in Białowieża Primeval Forest); Blösch, 1996:3 (Germany: Bayern: Tennenloher Forst Nature Reserve near Erlangen); Gorobchishin, 1996:53 (Ukraine: Kanev Nature Reserve); Jakubzik, 1996:251 (Germany: Köln); Kuhlmann, 1996:219 (Portugal: Serra de Estrela); Lauterbach, 1996:133 (Germany: Nordrhein-Westfalen: Bielefeld area); Minoranskiy and Shkuratov, 1996:81 (Russia: Rostov Oblast'); Saure, 1996:502 (Germany: Berlin-Pankow: sewage irrigation field); Schmid-Egger, Schmidt, and D. Doczkal, 1996:375, 376 (Germany: Baden-Württemberg: endangered); Voblenko, Gorobchishin, and Nesterov, 1996:14 (Ukraine: Polesye Region); Witt, 1996:105 (Germany: Brandenburg), 106 (locality records); Woydak, 1996:10 (Germany: Westfalen: summary of distribution and nesting habits); Pawlikowski and Kruszyński, 1996:86 (Poland: Toruń Basin); Wu and Zhou, 1996a:50 (in revision in Economic Insect Fauna of China), 1996b:297 (China: Karakorum – Kunlun Mountains); Bitsch, Barbier, Gayubo, Schmidt, and Ohl, 1997:78 (in Sphecidae Fauna of Western Europe); Celary, 1997:57 (in checklist of Animals of Poland); Nazarova and Shomirsaidov, 1997:23 (Tajikistan: fruit tree orchards in Vakhsh River valley); Schmidt and Schmid-Egger, 1997:5 (in checklist of German Sphecidae); Stoyanov and Ljubomirov, 1997:26 (Bulgaria: Rila Mountains); F. Burger, Saure, and Oehlke, 1998:26 (Germany: in list of Sphecidae of Brandenburg), 35 (endangered); Dollfuss, Gusenleitner, and Bregant, 1998:508 (Austria: summary of collecting records from Burgenland); Flügel, 1998:59 (Germany: Brandenburg: Unteres Odertal National Park); Gorobchishin, 1998a:48 (Ukraine: Kiev and surroundings); Jakubzik, Schlüter, and Cölln, 1998:1181, 1183 (Germany: Rheinland-Pfalz); Józán, 1998:310 (Hungary: Duna-Dráva National Park); Kazenas, 1998b:160 (in Sphecidae Fauna of Kazakhstan); Mauss and Schindler, 1898:136 (Germany: Schleswig-Holstein: Nordfriesland District); Nazarova, 1998:40 (Tajikistan: Tigrovaya Balka Nature Reserve); N. Schneider, Olinger, and Cungs, 1998:160 (Luxembourg: Remerschen); H.-J. Schulz, 1998c:112 (Germany: Lausitz: former military training area near Mücka); van der Smitten, 1998:53 (Germany: Schleswig-Holstein, Niedersachsen); Anan'eva and Kochetkov, 1999:6 (Russia: Ryazan Oblast': no specific locality); Herrmann, 1999:7 (Germany: Niedersachsen: Oldenburg area; habitats size); W. Klein, 1999:34 (recently recorded from Belgium); Kuhlmann, Wolf, and Woydak, 1999:569 (Germany: strongly endangered in Nordrhein-Westfalen); Ljubomirov, 1999b:44 (Bulgaria: Mount Vitosha near Sofia); Neumayer, Schwarz, and Bregant, 1999:223 (Austria: in checklist of Sphecidae of Land Kärnten); Pauly, 1999:107 (in catalog of Belgian aculeates); Saure, 1999:33 (Germany: Berlin-Köpenick); M. Schwarz, 1999:84 (Austria: Oberösterreich: city of Linz area); Blösch, 2000:127 (in Sphecidae Fauna of Germany); Cartier, 2000a:74 (France: Hauts-de-Seine: Rueil-Malmaison); Dressler, 2000:30 (Germany: Hessen: Darmstadt area); Esenbekova and Kazenas, 2000:12 (southeastern Kazakhstan: Aksu-Dzhabagly, 3 km northwest of Bakanas, 64 km west of Taraz); Gayubo, González, and Torres, 2000:184 (Spain: Salamanca Province); Giachino, Grosso, Marchetti, Pagliano, Scaramozzino, and Vailati, 2000:105 (Greece); Jacobs, 2000:6, 17 (Germany: Land Mecklenburg-Vorpommern: vulnerable); Józán, 2000:104 (Hungary: Bakony Mountains); Pijfers, 2000:4 (Netherlands: Twente Region); Schmid-Egger, 2000b:275 (Germany: Baden-Württemberg: shores of Rhine River); M. Schwarz, 2000:10 (Austria: Oberösterreich: Linz); Shkuratov, 2000:54 (Russia: Rostov Oblast': Vëshenskaya village area at 49°37'N 41°45'E); Vicidomini, 2000b:22 (Italy: previously recorded from Campania); Cungs and Jakubzik, 2001:122, 123 (Luxembourg); Józán, 2001:277 (Hungary: Somogy County); Kazenas, 2001b:17 (in checklist of Sphecidae of Kazakhstan and Central Asia), 107 (review of known biology); Kazenas and Esenbekova, 2001:133 (Kazakhstan: Almatinskiy Nature Reserve); Ohl et al., 2001:137 (distribution in Germany by provinces); Skibińska, 2001:219 (Poland: Białowieża Primeval Forest); van der Smitten, 2001:58 (Germany: Schleswig-Holstein: strongly endangered); Wolf, 2001a:171 (Germany: Bayern: Lech valley from Augsburg to Donau); Zettel, Gross, and Mazzucco, 2001:67 (Austria: Wien); Bieri, 2002:72 (Liechtenstein); Józán, 2002:53 (Hungary: Mecsek Mountains); Kazenas, 2002a:35 (geographic distribution, collecting localities in Kazakhstan); Kowalczyk, Szczepko, and Świątek, 2002:152 (Poland: Kampinos National Park near Warszawa); Shlyakhtenok and Skibinska, 2002:32 (Belorussia: no specific locality); Söderman and Vikberg, 2002:50 (in list of Aculeata of Finland); Bergsten, Ekerholm, Hellqvist, Hilszczanski, Nilsson, Pettersson, and Werner, 2003:71 (Sweden: Västerbotten: Island of Romelsön); Drewes, 2003:132 (France, Germany: miscellaneous locality records); Józán, 2003: 226 (Hungary: Látványi Pusztá Nature Conservation Area); Lukáš, 2003:73 (Slovakia: Bratislava: old fruit orchard); Mandery, Kraus, Voith, Wickl, Scheuchl, Schubert, and Warncke, 2003:63 (Germany: in catalog of wasps and bees of Bayern); Nieves-Aldrey, Fontal-Cazalla, Garrido-Torres, and Rey del Castillo, 2003:42 (Spain: Madrid: Estación Biogeológica de El Ventorrillo in Sierra de Guadarrama); Wickl, Voith, Mandery, Weber, Kraus, Bausenwein, and Blösch, 2003:197 (Germany: Bayern: approaching endangered status); Esser, Jakubzik, Sonnenburg, and Woydak, 2004:261 (Germany: in checklist of Sphecidae of Nordrhein-Westfalen); Gayubo et al. 2004:130 (Spain: Madrid: Estación Biogeológica de El Ventorrillo in Sierra de Guadarrama); Heitmans *in* Peeters, van Achterberg, et al., 2004:351 (in Wasp and Ant Fauna of Netherlands); Hellrigl, 2004a:172 (Italy: Trentino-Alto Adige, as Südtirol: Vinschgau = Val Venosta: Suldén); Jakubzik, Niehuis, and Cölln, 2004:457 (Germany: Rheinland-Pfalz: Roßstein in Rhein valley at 50°06'42"N 7°43'87"E); Kazenas, 2004b:100 (Kazakhstan: western Tien Shan Mountains), 2004d:28 (Kazakhstan: northern Caspian region); Shkuratov, 2004a:72 (Russia: Rostov Oblast'), 2004b:164 (Russia: Rostov Oblast': Gosudarstvennyi Muzej-Zapovednik M.A. Sholokhova); Skibińska *in* Bogdanowicz, Chudzicka, Pilipiuk, and Skibińska, 2004:357 (in catalog of Polish Sphecidae); Stolle et al., 2004:371 (Germany: Sachsen-Anhalt: in red list of Sphecidae); van Achterberg and Peeters, 2004:30 (in checklist of Sphecidae of Netherlands); Wiśniowski, 2004:39 and 58 (in checklist of Polish Sphecidae); Blösch, 2005:3 (Germany: Bayern: Tennenloher Forst Nature Reserve near Erlangen); Burger, 2005:31 (Germany: Thüringen); Gayubo and Özbek, 2005:12 (Turkey: Erzurum: Palandöken, Kargapazarý, Oltu; Kayseri: Hacýlar); Gülmez and Tüzün, 2005:50 (Turkey: Ankara Province); Haeseler, 2005:628 (Germany: Niedersachsen: Steller Heide near Bremen); Jacobs, 2005a:436 (Bulgaria); Kofler, 2005:165 (Austria: Tirol: Lienz District: Tessenberg Fronstahl-Alm in Heinfels Common, road to Stoan = Stein in Matrei Common, Leibnitztal in Sankt Johann Common); Kraatz, 2005:102 (Germany: Niedersachsen: Bümmerstede near Oldenburg); Mandery, 2005:173 (Germany: Bayern: Hainberg Nature Reserve near Nürnberg); Mokrousov and Selivanova, 2005:752 (Russia: Voronezh Oblast'); Nazarova, 2005:93 (alfalfa fields in southwestern Tajikistan); Pagliano and Negrisolo, 2005:66 (in Sphecidae Fauna of Italy); Pijfers, 2005:49 (Netherlands: Twente: Noordelijke Manderheide); Riemann and Hohmann, 2005:543 (Germany: Niedersachsen: city of Bremen and vicinity); Saure, 2005:13 (Germany: Berlin); Shorenko, 2005a:163 (Ukraine: Crimea); Theunert, 2005a:16 (Germany: in checklist of Sphecidae of Niedersachsen and Bremen); Venne and Bleidorn, 2005:42 (Germany: Nordrhein-Westfalen: Moosheide Nature Reserve); Yildirim and Ljubomirov, 2005:1788 (Turkey: Erzurum: Arıbahçe, Aşkale); Ziska and Saure, 2005:80 (Germany: Berlin: Biesenhorster Sand); Blösch, 2006:63 (specimens spend nights attached to plant stems or leave blades with their mandibles); Bock, 2006:41 (Germany: Bayern: Kelheim District: Abensberg sands); Feitz, Gloden, Melchior, and Schneider, 2006:83 (Luxembourg: Baggerweieren area in Haff Réimech Nature Reserve); Hansen, Kvamme, and Lønnve, 2006:304 (in Red List of Hymenoptera of Norway); Hua, 2006:275 (in list of Chinese insects, geographic distribution); Liebig, 2006:40 (Germany: Sachsen: Muskauer Heide); Liška, 2006a:88 (Slovakia: Váh river valley near Trenčín); Shlyakhtenok, 2006:110 (Belorussia: Polesye Radiological Nature Reserve); Tomarchio and Turrisi, 2006:954 (Italy: first record from Sicilia: Monte Etna); Alieva and Humbatov, 2007:77 (nesting and prey, from literature); Burguet, 2007:unnumbered p. 2 (France: Puy-de-Dôme: sands Girauds-Faures in Orléat commune); Cungs, Jakubzik, and Cölln, 2007:139 (Luxembourg: Haardt Nature Reserve); Herrmann, 2007a:51 (Germany: Niedersachsen: Ostfriesland); Jacobs, 2007:46, 47 (in key to Sphecidae of Germany); Jansen and Kaluza, 2007:22 (Germany: northwestern Sachsen); Józán, 2007:179 (Hungary: Zselic hills); Kazenas, 2007a:89 (Kazakhstan: Akmala Oblast': Kurgandzhin Nature Reserve and vicinity); Saure, 2007:81 (Germany: in checklist of Aculeata of Brandenburg); Smit and Megens, 2007:17 (Netherlands: Noort Brabant: vicinity of Leende); Vago, 2007:174 (France: département de Somme); Venne, Bleidorn, and Lauterbach, 2007:300 (Germany: Nordrhein-Westfalen: Bielefeld); Vepřek and Straka, 2007:199 (in catalog of Sphecidae of Czech Republic and Slovakia); Danilov, 2008:346 (Russia: Altayskiy Krai: Barnaul area); Ivory, Chevin, Lair, Sagot, and Baldock, 2008:22 (France: Département de la Manche); Ljubomirov and Yildirim, 2008:34 (in catalog of Sphecidae of Turkey); Gayubo, González, Tormos, and Asís, 2008:136 (Spain: Salamanca: Parque Natural de Las Batuecas – Sierra de Francia); Haeseler, 2008:307 (Germany: Friesian Islands); Heneberg, Bogusch, and Řehounek, 2008:unnumbered p. 7 (Czech Republic: sandpits); Nemkov, 2008b:17 (in catalog of Sphecidae of Asiatic Russia); Pagliano, 2008:515 (specimens in M. Spinola collection, Torino); Protsenko and Drozdovskaya, 2008:125 (Ukraine: Sumy Oblast': Mogritsa village); Tannert and von der Dunk, 2008:180 (Germany: Bayern: west of Ernhofen and Weissenbrunn); Theunert, 2008:7 (Germany: map of distribution in Niedersachsen and Bremen); Baños-Picón, Asís, Gayubo, and Tormos, 2009:310 (Spain: frequency of specimens collected with hand nets and Malaise traps); Belkheir, 2009:17 (France: Pyrénées-Orientales: commune d'Eyne); Danilov, 2009:56 (Russia: Western Siberia: Kulundinskaya Steppe); Debuysse and Vago, 2009:2 (in list of Sphecidae *sensu lato* of northern France); Frantsevich and Wang, 2009:17, 19, 20, 21, 23, 27 (thorax-coxa, coxa-trochanter, and femur-tibia articulations); U. Frommer, 2009a:26 (Germany: in checklist of Sphecidae of central Hessen); González, Gayubo, Asís, and Tormos, 2009:622 (Spain: Salamanca and Zamora provinces: Arribes del Duero Natural Park); Guéorguiev and Ljubomirov, 2009:262 (Bulgaria: Maleshevska Planina); Nemkov, 2009b:48 (in new catalog of Sphecidae and Crabronidae of Asiatic Russia); Ødegaard, Sverdrup-Thygeson, Hansen, Hanssen, and Öberg, 2009:28 (known from Norway), 43 and 70 (Norway: locality records); Shorenko, 2009:367 (in list of Sphecidae *sensu lato* of Crimea); Szczepko and Wiśniowski, 2009:72 (Poland: Spała Landscape Park); Bitsch, 2010:106 (in supplement to vol. II of Faune de France, 1997: recent record from Sicily reported); Danilov, 2010b:45 (distribution of transpalearctic type); Esser, Fuhrmann, and Venne, 2010:38 (Germany: in checklist of aculeates of Nordrhein-Westfalen); Hable, Kraus, von der Dunk, and Wickl, 2010:26 (Germany: Bayern: Sulz- and Ottmaringer Tal); Mokrousov, 2010a:60 (Russia: Nizhniy Novgorod Oblast', Tatarstan: no specific localities); Rudoiskatel', 2010:147 (Russia: central and

southern Ural Mountains); Saure, 2010b:174 (Germany: Berlin-Reinickendorf: airport Tempel and Flughafensee Protected Area); Schmid-Egger, 2010a:22 (in red list of Aculeata of Germany: relatively common); Schmidt, 2010:131 (Germany: Bayern: collected along Main-Donau canal); Shorenko and Konovalov, 2010:10 (Ukraine); Smit and Wijngaard, 2010:69 (in checklist of Sphecinae of Netherlands); Treiber, 2010:134 (France: départements du Bas-Rhin and du Haut-Rhin); van der Smitsen, 2010a:332 (Germany: Schleswig-Holstein and Mecklenburg-Vorpommern: locality records), 2010b:383 (France: Ardèche: Lachamp-Raphaël, Plateau du Coiron); Wurdack and Gack, 2010:153 (Germany: Baden-Württemberg: Kaiserstuhl); Baghirov, 2011b:139 (Russia: Altayskiy Krai: Savvushka); Burger, 2011a:286 (Germany: in red list of Sphecidae *sensu lato* of Thüringen); Cruz-Sánchez, Asís, Gayubo, Tormos, and González, 2011:497 (Spain: Salamanca and Zamora provinces: Arribes del Duero Natural Park: effects of wildfire); Gogala, 2011:7 (Slovenia); Józán, 2011:178 (in checklist of Sphecidae *sensu lato* of Hungary); Rudoiskatel', 2011d:238 (Russia: central Ural Mountains); Saure, 2011d:199 (Germany: Sachsen-Anhalt: conservation area "Heide südlich Burg"); Schmid-Egger, 2011a:42 (France: Parc National du Mercantour); Theunert, 2011a:18 (Germany: in checklist of aculeates of Niedersachsen including city of Bremen); Tischendorf, Frommer, Flügel et al., 2011:66 (Germany: Hessen: endangered); Ziska and Saure, 2011:108 (Germany: Berlin: Tegeler Fließ valley); Boillat, 2012:228 (Switzerland: in checklist of insects of Canton de Genève); Burguet *in* Durand and Burguet, 2012:2 (France: Puy-de-Dôme: sands Girauts-Faures in Orliat commune); Protsenko, Fateryga, Ivanov, and Puzanov, 2012:52 (Ukraine: Crimea; Russia: Irkutsk Oblast': near Bakhtay and Bolshoy Goloustnyi); Nemkov, 2012c:434 (in catalog of Sphecidae of Russian Far East); Saure, 2012b:227 (Germany: Berlin-Spandau: Spandauer Forst); Shlyakhtenok, 2012b:91 (Belorussia: Beresina National Reserve: overgrowing dry meadow); Akulov and Proshchalykin, 2013:111 (Russia: Siberia: Krasnoyarsk Krai); Bitsch, Grouet, and Savina, 2013:291 (France: Pyrénées centrales: département d'Ariège: col de Pailhères), 292 (France: Pyrénées-Orientales: col de Puymorens); Braun-Reichert, 2013:14 (Germany: Bayern: pastures between Regensburg and Nürnberg); Dollfuss, 2013a:394, 404 (in key to *Ammophila* of Palearctic Region and India), 417 (in revision of *Ammophila* of Palearctic Region and India), 2013b:567 (locality records from Austria, Czech Republic, France, Greece, Hungary, Italy, Kazakhstan, Kyrgyzstan, Romania, Russia, Serbia, Slovakia, Tunisia, and Turkey); Dyuzhaeva, 2013:116 (Russia: Samara Oblast': Zhiguli Nature Reserve); Mokrousov, Ruchin, and Egorov, 2013:198 (Russia: Republic of Mordovia: Mordovian State Nature Reserve); Pankov, 2013:228 (Russia: Ivanovo Oblast'); Saure, 2013:17 (Berlin: Treptow-Köpenick: Gosener Wiesen); A. Scholz and Liebig, 2013:16 (Germany: Sachsen: in list of Sphecidae *sensu lato*); Shlyakhtenok, 2013:131 (in annotated catalog of aculeate wasps of Belorussia); Vieira, Oliveira, Brewster, and Gayubo, 2013:15 (Portugal: Douro International Natural Park); Wiśniowski and Piotrowski, 2013:20 (Poland: Poleski National Park); Wiśniowski and Szczepko, 2013:20 (Poland: Kampinos National Park near Warszawa); Bitsch, 2014:395 (France: Ariège: Ascou: col de Pailhères); Danilov, 2014a:426 (Russia: Siberia: Altayskiy Krai, Irkutsk Oblast', Krasnoyarskiy Krai, Novosibirsk Oblast', Omsk Oblast', Tyva), 2014b:520, 521 (in key to Sphecidae s.s. of Siberia); Flügel, 2014:255 (Brandenburg: Hangelsberger Heide); U. Frommer, 2014:26 (Germany: Hessen: Lorch); Hellqvist, Abenius, and Norén, 2014:90 (in catalog of Ampulicidae, Sphecidae, and Crabronidae of Sweden, by provinces); Kazenas, 2014a:132 (Kazakhstan: Karatau Mountain Range); Kim, Yeo, and Kim, 2014:274 (in key to *Ammophila* of South Korea), 275 (in revision of Sphecidae *sensu stricto* of South Korea); Mokrousov and Vafin, 2014:54 (Russia: Republic of Tatarstan); P. Rosa and Pagliano, 2015:95 (Italy: Lombardia and Piemonte: Parco del Ticino); Yildirim, 2014:30 (Turkey: distribution by biogeographic provinces); Dollfuss, 2015b:419 (Morocco: Grand Atlas Mountains: Oukaimedon); J.-K. Kim, 2014:416 (in catalog of Sphecidae *sensu lato* of Korean Peninsula); Koçak and Kemal, 2015:277 (in checklist of Hymenoptera of Turkey); Paukkunen and Kozlov, 2015:67 (northernmost known area: Russia: Murmansk Oblast': Kashkarantsy); P. Rosa and Pagliano, 2015:95 (Italy: Lombardia and Piemonte: Parco del Ticino); Saure, 2015:12 (Germany: Berlin-Lichterfelde); Shorenko, 2015:311 (in list of Sphecidae *sensu lato* of Crimea); Simon, Lorthiois, and Macé, 2015:53 (France: alluvial terraces in Seine-Maritime Department: Anneville-Ambourville); Bleidorn, Gerth, Hopfe, et al., 2016:11 (Germany: Sachsen: Trages circa 20 km south of Leipzig); Levärdä and Matache, 2016:39 (in catalog of Sphecidae s.s. of Romania); Mokrousov and Popov, 2016:560 (Russia: Krasnodarskiy Krai); Reemer and Peeters, 2016:10 (Netherlands: Hulshorsterzand); A. Scholz, 2016:71 (Germany: Sachsen: Kleinraschützer Heide); Stolle and Saure, 2016:927 (Germany: in list of Sphecidae *sensu lato* of Sachsen-Anhalt); Vas, Szöllösi-Tóth, and Muskovits, 2016:154 (Romania: Sălaj County); Yildirim, Ljubomirov, Özbek, and Yüksel, 2016:7 (Turkey: Erzurum: Çat: Yukari Çat); Arens, 2017a:635 (Greece: Peloponnesus); Danilov, 2017b:212 (in catalog of Sphecidae s.s. of Russia); Magdalou, 2017:14 (France: Pyrénées-Orientales: Réserves Naturelles Catalanes: Julols and Vallée d'Eyne); Shorenko, 2017:75 (in Crimea collected in May through July); Twerd, Krzyżyński, Waldon-Rudziołek, and Olszewski, 2017:6 (Poland: Inowrocław: nesting in postindustrial soda ash dumping sites); Lett, 2018:202 (France: Loir-et-Cher: Gièvres at 47°16'39"N 1°41'52"E); Nicolas and Vago, 2018:12 (France: Pas-de-Calais: Mont Saint-Frieux); Shorenko, 2018:126 (Crimea, including localities, habitats, and number of specimens); Ch. Wang, Bashir, Q. Li, and Ma, 2018:300, 302 (in key to *Ammophila* of China); Baghirov and Nesterovitch, 2019:45 (Russia: Western Siberia: Yamalo-Nenets Autonomous District: near Khanymey village); Carminati, Mora, and Cretin, 2019:27 (France: in list of Sphecidae *sensu lato* of Franche-Comté); Ruchin and Antropov, 2019a:1319 (Russia: Mordovian State Nature Reserve); Gülmez, 2019:3 (Turkey: Ankara and Sivas provinces: no specific localities), 4 (abnormal forewing venation); Bitsch, Barbier, and Jacobs *in* Bitsch, Barbier, Gayubo, Jacobs, Leclercq, and Schmidt, 2020:91 (in Sphecidae Fauna of Europe); Ben Khedher, Yildirim, Braham, and Ljubomirov, 2020a:303 (in list of Tunisian Sphecidae *sensu stricto*); Danilov, 2020:317 (specimens from Kazakhstan and Russia in Institute of Systematics and Ecology of Animals, Novosibirsk, Russia); Kejval, Blažej, and Erhart, 2020:118 (western Czech Republic); Saure, 2020:276 (Germany: Sachsen-Anhalt: sand dunes); Can and Gülmez, 2021a:308 (Turkey: locality records); Cross, Baldock, and Wood, 2021:14 (in catalog of Sphecidae *sensu lato* of Portugal); Olszewski, Wiśniowski, and Ljubomirov, 2021:102 (in commented list of Sphecidae *sensu lato* of Poland); Embergenov, Élmurodova, Amirov and Kimyonazarov, 2022:47 (Uzbekistan: Khiva area, Zhizzak Province: Arnasay District); Embergenov, Akhmedov, and Medetov, 2023:24 (Uzbekistan: southern Lake Aral region); Kaplan and Yildirim, 2023:1691 (in checklist of Sphecidae *sensu lato* of Turkey); Medetov, Embergenov, Kholmatov, Elmurodova, Rakhimov, and Tajibaeva, 2024:418 (Uzbekistan: distribution); Pytel-Huta and Franchuk, 2024:90 (Ukraine: Rivno Nature Reserve); Barthelemy_Guenard_2025:146 (record from Hong Kong by Dover, 1926:234 is unreliable); Frommer and Klenke, 2025:162 (Germany: Hessen: Lahntal near Weilburg). – **As *Sphex campestris***: Zetterstedt, 1838:436 (new generic assignment, in revision of insects of Lapland, probably misidentified *Ammophila pubescens*); Valkeila, 1962b:67 (southwestern Finland). – **As *Podalonia campestris***: Bischoff, 1931:8 (new generic assignment, Spain). – **As *Miscus campestris***: Vander Linden, 1827:362 (new generic assignment, France: Paris area); von Siebold, 1839:47 (Germany: Danzig, now Poland: Gdańsk); Herrich-Schaeffer, 1840:297 (Germany: Bayern: Regensburg area); Dahlbom, 1942a:8 (in review of Scandinavian aculeates), 1843:7 (in revision of Sphecidae and Pompilidae), 1845:429 (in Tabula Synoptica of Sphecidae); Lepeletier de Saint Fargeau, 1845:386 (in revision of world Hymenoptera); Eversmann, 1849:363 (Russia: Orenburg area); nec F. Smith, 1849b:2550 (= *Ammophila pubescens*, preying on caterpillars, nesting in soil); Wissmann, 1849:9 (Germany: Kingdom of Hannover: Hannover, Hedemünden); Tischbein, 1850:7 (Germany: Rheinland-Pfalz: Herrstein in Fürstenthum Birkenfeld); Wesmael, 1852:83 (Belgium); F. Smith, 1853:62 (in checklist of British Hymenoptera); Kirchner, 1854:310 (Czechoslovakia: Kaplitz in Budweiser District, now České Budějovice); F. Smith, 1856:224 (in catalog of Hymenoptera in British Museum); Kawall, 1857:23 (Kurland, now Latvia); Ruthe and Stein, 1857:312 (Germany: Berlin area); Schenck, 1857:203 (Germany: in revision of fossorial wasps of Nassau Region); A. Costa, 1858a:19 (Italy: Campania: Monti Partenii in Benevento Region), 1858b:21 (in revision of Sphecidae of Kingdom of Naples); F. Smith, 1858c:84 (in review of British Aculeata, redescription); Assmuss, 1859:606 (Russia: Moscow Governorate); Schenck, 1860:149 (Germany: Nassau Region); Brischke, 1862:98 (Germany: Preussen Province, now Poland: Pomorze Region), 1864:208 (Germany: Pommern, now Poland: Pomorze Region, prey); A. Costa, 1867b:79 and 1867c:23 (in revision of Italian Sphecidae); Jaenicke, 1867:147 (Germany: Hessen: Frankfurt area); Schenck, 1867a:357 (Germany: Nassau Region); Dietrich, 1868:364 (Switzerland: Zurich Canton); Jaenicke, 1868:9 (Germany: Hessen: Rüsselsheim); Aichinger, 1870:321 (Austria: Tirol); Thomson, 1870:230 (in revision of Swedish wasps); F. Smith, 1871b:9 (in catalog of British Aculeata); P. Ivanov, 1872:152 (Ukraine: Khar'kiv Oblast': Kupyansk area); Dours, 1874:146 (in catalog of Hymenoptera of France); Thomson, 1874:173 (in revision of Hymenoptera of Scandinavia); Beuthin, 1876:231 (Germany: Hamburg area); Girard, 1879:970 (morphology and habits); Marquet, 1881:178 (southern France, a variety of *Ammophila sabulosa*); Yaroshevskiy, 1881:127 (Ukraine: Khar'kiv Oblast': Khar'kiv, Kupyansk); Schøyen, 1887:9 (Norway: Kragere, Kristiania (now Oslo), and Lærdal i Sogn); Radoszkowski, 1887b:91 (in list of Transcaspien Hymenoptera); Brischke, 1888a:54 (Germany: Hela Peninsula, now Poland: Hel Peninsula), 1888b:94 (Germany: Preussen Province, now Poland: Pomorze Region); Assmuss, 1892:52 (Russia: earlier record from Moscow Governorate repeated); Westerlund, 1893:23 (Russia: Karelian Republic: northern shore of Lake Ladoga); Acloque, 1897:97 (in Sphecidae Fauna of France and Algeria); Borries, 1897:99 (nesting habits); Lüderwaldt, 1897b:30 (Germany: Gollnow, now Poland: Pomorze Region: Goleniów); Strand, 1898b:92 (Norway); Chyzer, 1902:33 (Hungary); Cavro, 1910:685 (France: Département du Nord); Schirmer, 1912:168 (Germany: Berlin area); Ferton, 1923:294 (finds nest with difficulty when carrying prey); Casolari and Casolari Moreno, 1980:101 (specimens in M. Spinola collection, Torino).

Ammophilus retusus Gistel, 1848:142, sex not stated. Holotype or syntypes: Germany: no specific locality (depository unknown, perhaps München). Synonymized with *Ammophila campestris* by Menke, 1964b:152. – **As *Ammophila retusus***: Gistel, 1850:466 (new generic assignment, redescription).

Miscus neoxenus F. Smith, 1856:225, ♀, ♂. Syntypes: China: Shanghai (BMNH). Synonymized with *Ammophila campestris* by Kohl, 1906b:319. – Kohl, 1906b:321 (as variety of *Ammophila campestris*), 373 (original description copied). – **As *Ammophila neoxena***: Dalla Torre, 1897:405 (new generic assignment, in catalog of world Hymenoptera); Dover, 1926:234 (China: Hong Kong).

Ammophila slovaca Zavادل in Zavادل, Šusterá, and Bat'a, 1937:213, ♂. Holotype: ♂, Slovakia: Děvinská Kobyla (NMPC). Synonymized with *Ammophila campestris* by Noskiewicz, 1939:163 and Balthasar, 1972:430. – Šnoflák in Zavادل and Šnoflák, 1948:100 (in key to Sphecidae of Czechoslovakia); Bajári, 1957a:13 (in key to Hungarian Sphecidae), 1957b:134 (first record from Hungary); R. Bohart and Menke, 1976:153 (in checklist of world Sphecidae); Haris, 2016:27 (in list of species described by V. Zavادل from Carpathian Basin).

44. *caprella* Arnold

Ammophila caprella Arnold, 1951:142, ♂, ♀. Syntypes: Ethiopia: Addis Ababa, Mangasha (BMNH). – Leclercq, 1955h:83 (bibliographic references); R. Bohart and Menke, 1976:151 (in checklist of world Sphecidae); Dollfuss, 2015a:313, 316 (in key to Sub-Saharan *Ammophila*), 330 (in revision of Sub-Saharan *Ammophila*; Angola, Burkina Faso, Central African Republic, Nigeria, Togo, Zambia), 2015b:419 (locality records from Central African Republic and Zambia).

45. *cellularis* Gussakovskij

Ammophila cellularis Gussakovskij, 1930c:203, ♀. Holotype: ♀, Kazakhstan: Pavlodar at 52°18'N 76°57'E (ZIN). – R. Bohart and Menke, 1976:151 (in checklist of world Sphecidae); Kazenas, 1978b:37 (in key to Sphecidae of Kazakhstan and Central Asia), 1998b:162 (in Sphecid Fauna of Kazakhstan), 2001b:17 (in checklist of Sphecidae of Kazakhstan and Central Asia, as *cellularis*), 2002a:36 (geographic distribution, collecting localities in Kazakhstan); Danilov, 2009:57 (Russia: Western Siberia: Kulundinskaya Steppe), 2010b:45 (distribution of Scythian type); Dollfuss, 2013a:393 (in key to *Ammophila* of Palearctic Region and India); Danilov, 2014b:519 (in key to Sphecidae s.s. of Siberia, not yet fund in Siberia); 2015a:539 (redescription), 2016:348 (holotype preserved in Zoological Institute, Sankt-Petersburg, Russia).

46. *centralis* Cameron

Ammophila centralis Cameron, 1888a:6, ♂. Lectotype, ♂, Guatemala: El Reposo (BMNH), designated by Menke in Bohart and Menke, 1976:151. – Dalla Torre, 1897:397 (in catalog of world Hymenoptera); Ashmead, 1899d:354 (in checklist of North American Sphecidae); Melander, 1903:161 (in key to North American Ammophilini), 163 (bibliographic references, geographic distribution); Murray in Muesebeck, Krombein, and Townes, 1951:975 (in catalog of North American Hymenoptera); R. Bohart and Menke, 1976:151 (in checklist of world Sphecidae); Krombein, 1979b:1590 (in catalog of North American Hymenoptera); Maes, 1989:94 (in catalog of Nicaraguan Sphecidae); Hanson and Menke, 1995:637 (known from Costa Rica); Menke, 1996e:192 (in key to Ammophilini of Costa Rica, in revision of Ammophilini of Costa Rica); Menke and Parker, 1996:186 (Costa Rica: population largest during wet season); Amarante, 2002:66 (in catalog of Neotropical Sphecidae); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:669 (in checklist of Mexican Sphecidae); Horta Vega, Pinson Domínguez, Barrientos Lozano, and Correa Sandoval, 2007:47 (Mexico: Tamaulipas); Menke, 2020:54 (in revision of North and Central American *Ammophila*). – **As *SpheX centralis***: Fernald, 1934:109 (new generic assignment, in revision of North American and West Indian *Ammophila*).

Ammophila consors Cameron, 1888a:12, ♀, ♂. Lectotype: ♂, Mexico: northern Yucatán: Temax (BMNH), designated by Menke in Bohart and Menke, 1976:151. Synonymized with *Ammophila centralis* by Bohart and Menke, 1976:151 and by Menke, 1996e:192 (as new synonym). – Dalla Torre, 1897:398 (in catalog of world Hymenoptera); Ashmead, 1899d:354 (in checklist of North American Sphecidae); Melander, 1903:161, 162 (in key to North American Ammophilini), 164 (bibliographic references, geographic distribution); Murray in Muesebeck, Krombein, and Townes, 1951:975 (in catalog of North American Hymenoptera). – **As *SpheX consors***: Fernald, 1934:41 (new generic assignment, in revision of North American and West Indian *Ammophila*).

Ammophila nigrocaerulea Cameron, 1888a:12, [♀] (as *nigro-caerulea*, incorrect original hyphenation). Syntypes: ♀, Guatemala: San Gerónimo (BMNH). Synonymized with *Ammophila centralis* by Bohart and Menke, 1976:151 and by Menke, 1996e:192 (as new synonym). – Dalla Torre, 1897:405 (in catalog of world Hymenoptera); Ashmead, 1899d:354 (in checklist of North American Sphecidae); Melander, 1903:162 (in key to North American Ammophilini), 164 (bibliographic references, geographic distribution); Fernald, 1934:157 (in revision of North American and West Indian *Ammophila*, as unrecognized species).

47. *centroafricana* Dollfuss

Ammophila centroafricana Dollfuss, 2015a:331, ♂. Holotype: ♂, Central African Republic: 60 km southeast of Bouar at 15°42'N 16°00'E (OÖLM). Paratypes: Benin, Burkina Faso, Cameroon, Ghana, Guinea, Ivory Coast, Liberia, Namibia, Nigeria, Sierra Leone, Togo, Zimbabwe. – Dollfuss, 2015a:318 (in key to Sub-Saharan *Ammophila*), 2015b:420 (locality records from Benin, Central African Republic, Guinea, Nigeria, Zambia, and Zimbabwe).

48. *clavus* (Fabricius)

NOTE: *clavus*, Latin for nail, is a noun and thus invariable.

SpheX clavus Fabricius, 1775:348, sex not stated (as *clausus*). Holotype or syntypes: ♀, Nova Hollandia, now Australia: no specific locality (BMNH: Banks collection). – Fabricius, 1781:445 (redescription), 1787:275 (redescription); Gmelin, 1790:2727 (redescription); Christ, 1791:299 (redescription); Fabricius, 1793:205 (redescription), 1796:155 (in Index to his Entomologia Systematica, 1793); Turton, 1801:487 (redescription); Fabricius, 1804:206 (redescription); Dahlbom, 1845:XX (specimens in collection Fabricius are *Ammophila holosericea*). – **As *Ammophila clavus***: Audouin, 1822a:242 (new generic assignment, in Dictionnaire classique d'histoire naturelle); F. Smith, 1856:214 (in catalog of Hymenoptera in British Museum, type in Banks collection); Froggatt, 1892:209 (in catalog of Australian Hymenoptera); Dalla Torre, 1897:397 (in catalog of world Hymenoptera); R. Turner, 1908:463 (redescription; Australia: Queensland); Maidl, 1925a:381 (Indonesia: Sumatra); Sonan, 1927:132 (new generic assignment, Taiwan, as *clvus*); Yasumatsu, 1935a:3, 22 (China: Jehol Region); Iwata, 1939b:165 (nesting habits); Sonan, 1942:134 (in revision of Ammophilini of Taiwan); Iwata, 1955:28 (egg size, number of oocytes); van der Vecht, 1961a:39 (redescription of type material); Tsuneki, 1962b:25, 26 (in key to Ammophilini of Japan and Korea; synonymy); Iwata, 1964b:358 (nesting behavior in Thailand), 1965:107 (number of oocytes); Tsuneki, 1966a:21 (Japan), 1967e:2 (China: Manchuria), 1967i:383 (Ruykyu Islands and Taiwan), 1967j:5 (Taiwan), 9, 11 (in key to Ammophilini of East Asia); Okuno, 1969:63 (nesting habits); R. Bohart and Menke, 1976:151 (in checklist of world Sphecidae); Casolari and Casolari Moreno, 1980:100 (specimens in M. Spinola collection, Torino); Brockmann, 1985b:312 (nest closure summary); Cardale, 1985:229 (in catalog of Australian Sphecidae); Naumann, 1993:181 (Australia: Queensland: Heathlands area in Cape York), 1998:182 (Australia: northwest Queensland: Musselbrook area, approximately 18°40'S 138°23'E); Ohl and Linde, 2003:149 (number of ovarioles); Hua, 2006:275 (in list of Chinese insects, geographic distribution, as *clavus clavus*); Nagase, 2006b:2 (specimens collected by First Scientific Expedition to Manchoukou, 1933, now part of eastern China); Pagliano, 2008:514 (specimens in M. Spinola collection, Torino); Dollfuss, 2013a:392, 402 (in key to *Ammophila* of Palearctic Region and India), 419 (in revision of *Ammophila* of Palearctic Region and India), 2013b:568 (locality records from China, India, Indonesia, Laos, Malaysia, Thailand, and Vietnam); Barthélémy, 2014:4 (China: Hong Kong); Job and Olakkengil, 2014:14 (India: Kerala: Thrissur District); Dollfuss, 2015b:420 (locality records from Laos and Thailand); Pham, Kumar and Danilov, 2015:1583 (in list of Sphecidae *sensu lato* of Vietnam, as *clavus clavus*); Tano and Kurokawa, 2015:26 (central Vietnam: My Son); Sheikh, Thomas, Bandari, and Jubiraj, 2017:286 (India: Madhya Pradesh: Jabalpur District: Dumna Nature Park; diagnostic characters); Ch. Wang, Bashir, Q. Li, and Ma, 2018:299, 302 (in key to *Ammophila* of China); Pham, Truong, Th.T. Nguyen, Th.H. Nguyen, Q. Nguyen, and Th.M. Nguyen, 2019:73 (Vietnam: Hanoi and vicinity); Danilov, 2020:317 (specimens from Thailand and Vietnam in Institute of Systematics and Ecology of Animals, Novosibirsk, Russia); Barthélémy and Guénard, 2025:39 (China: Hong Kong).

Ammophila atripes F. Smith, 1852a:46, ♀. Holotype or syntypes: ♀, India: Maharashtra: Khandaly (BMNH). Synonymized with *Ammophila clavus* by Dollfuss, 2013a:419. – F. Smith, 1856:217 (in catalog of Hymenoptera in British Museum); de Motschoulsky, 1863:23 (Sri Lanka, listed); F. Smith, 1871a:359 (in catalog of Oriental Aculeata); Cameron, 1889c:93 (in list of Sphecidae of Oriental Region), 97 (redescription); Bingham, 1896a:437 (in list of Aculeata of Sri Lanka, bibliographic references), 1897:229 (redescription; prey: Locustidae, probably in error); Dalla Torre, 1897:395 (in catalog of world Hymenoptera); Cameron, 1901a:25 (Malaysia); Rothney, 1903:104 (India: West Bengal: Barrackpore); Ashmead, 1904d:150 (Philippines); Bingham, 1905:44 (Malaysia: Biserat); Cameron, 1905k:65 (Java); R. Brown, 1906:687 (in catalog of Philippine Hymenoptera); Paiva, 1907:15 (India: West Bengal: Siliguri; Nepal: Soondrijal); Maxwell-Lefroy, 1909:203 (India: common); Strand, 1913a:85 (Taiwan); Nurse, 1914:445 (India: Assam: Sadiya); Strand, 1915:95 (India, Sri Lanka; China: Tsingtau, now Qingdao); Dover, 1926:234 (China: Hong Kong); Matsumura and Uchida, 1926:41 (Okinawa); von Schulthess, 1935:304 (Australia: Burnside, Darwin, Katherine; Indonesia: Flores: Kelimotoe; specimens from Timor = *Ammophila insolata auricollis*); Iwata and Yoshikawa, 1961:398 (Thailand); Tsuneki, 1963i:101 (Malaysia: Parit Buntar); Yasumatsu and Hirashima, 1965:176 (Taiwan: Tainan); Baltazar, 1966:342 (occurrence in Philippines doubtful); R. Bohart and Menke, 1976:151 (in checklist of world Sphecidae); Hua, 1989:116 (China); Krombein, 1984a:6 (Sri Lanka, nesting habits); Cardale, 1985:229 (in catalog of Australian Sphecidae); Zhou and Wu, 1993a:670 (China: Wuling Mountains), 1993b:724 (China: Longqi Mountain Nature Reserve, as *atripes atripes*); Q. Li, J. Li, and J. Yang, 1994:289 (in revision of *Ammophila* of Shandong Province, China, as *atripes atripes*); S. Gupta, 1995:85 (India: Uttar Pradesh); Q. Li and Ch. Yang, 1995c:573 (China: Zhejiang Province: Baishanzu Mountain, as *atripes atripes*), 1995c:271 (China: Zhejiang Province: Gutianshan, as *atripes atripes*); van Vondel, 1995:29 (specimens from India and Java in Natuurmuseum Rotterdam); Wu and Zhou, 1996a:47 (in revision in Economic Insect Fauna of China, as *atripes atripes*); Jha and Farooqi, 1994:8 (description and illustration of male genitalia); Yamane, Ikudome, and Terayama, 1999:480 (Japan: in Identification Guide to Sphecidae of Nansei = Ryukyu Islands); Jonathan, Ray, and Kundu, 2000:185 (India: Meghalaya: East Khasi Hills: Songsak; West Garo Hills: Tura); Q. Li and He, 2001:754

(China: Tianmushan Nature Reserve at 30°22'N 119°26'E, as *atripes atripes*); S. Gupta, 2004:25 (India: Uttaranchal: Naitwar in Uttarkashi District); Wu, Zhou, Q. Li, and Yang, 2003:808 (China: Fujian Province, as *Ammophila atripes atripes*); Q. Li and He, 2004:1117 (in hymenopterous fauna of Zhejiang Province, China, as *Ammophila atripes atripes*); Hua, 2006:275 (in list of Chinese insects, geographic distribution, as *atripes atripes*); Q. Li, 2006:140 in X. Chen and J. He (description, habits, distribution, illustration of habitus, as *atripes atripes*); Terayama and Tano, 2006:7, 14, 18 (in key to Japanese Ampulicidae and Sphecidae); Ma, Q. Li, Wang, Jiang, and Lu, 2018:852 (China: Shanxi: Qinling Mountains, as *atripes atripes*). – **As *Ammophila clavus atripes***: Tsuneki, 1957j:15 (new status), 1967j:9 (in key to Ammophilini of East Asia), 1974b:590 (Thailand, Malaysia). – **As *Sphex atripes***: Rohwer, 1922:671 (new generic assignment, Philippines).

Ammophila basalis F. Smith, 1856:214, ♀. Syntypes: ♀, India or Pakistan: Punjab: no specific locality (BMNH). Synonymized with *Ammophila clavus* by Dollfuss, 2013a:419. – F. Smith, 1871a:359 (in catalog of Oriental Aculeata); Cameron, 1889c:93 (in list of Sphecidae of Oriental Region); Bingham, 1897:231 (in revision of wasps and bees of British India, now India and Pakistan); Dalla Torre, 1897:396 (in catalog of world Hymenoptera); Nurse, 1893a:520 (description of ♂); Rothney, 1903:104 (India: West Bengal: Barrackpore); Maxwell-Lefroy, 1909:203 (India: common); Matsumura, 1911:119 (in Thousand insects of Japan); Dutt, 1912:202 (India: Pusa); Ramakrishna Aiyar, 1916:554 (reference to Nurse, 1903); Matsumura and Uchida, 1926:41 (Okinawa); R. Bohart and Menke, 1976:151 (in checklist of world Sphecidae); Jha and Farooqi, 1994:8 (description and illustration of male genitalia); Jonathan, Ray, and Kundu, 2000:184 (India: Meghalaya: East Khasi Hills: Shillong); Hua, 2006:275 (in list of Chinese insects, geographic distribution).

Ammophila nigripes F. Smith, 1856:215, ♂. Holotype or syntypes: ♂, India: Tamil Nadu: Madras (BMNH). Synonymized with *Ammophila basalis* by R. Turner, 1919c:396. – F. Smith, 1871a:359 (in catalog of Oriental Aculeata), 1878b:167 (Burma: Tenasserim Province); Cameron, 1889c:93 (in list of Sphecidae of Oriental Region), 97 (redescription); Bingham, 1897:231 (in revision of wasps and bees of British India, now India and Pakistan); Dalla Torre, 1897:405 (in catalog of world Hymenoptera); Rothney, 1903:104 (India: West Bengal: Barrackpore); Bingham, 1905:44 (Malaysia: Sungkei); Dutt, 1912:202 (India: Pusa).

Ammophila dimidiata F. Smith, 1856:216, ♀, junior primary homonym of *Ammophila dimidiata* (Christ, 1791). Syntypes: ♀, India: Bombay, Madras, north Bengal (BMNH). Tentatively synonymized with *Ammophila atripes* by R. Bohart and Menke, 1976:151, synonymy confirmed by Dollfuss, 2013a:418. – F. Smith, 1871a:359 (in catalog of Oriental Aculeata); Cameron, 1889c:93 (in list of Sphecidae of Oriental Region); Bingham, 1897:230 (in revision of wasps and bees of British India, now India and Pakistan); Dalla Torre, 1897:398 (in catalog of world Hymenoptera); Rothney, 1903:104 (India: West Bengal: Barrackpore).

Ammophila simillima F. Smith, 1856:217, ♀. Holotype or syntypes: ♀, China: Hong-Kong (BMNH). Synonymized with *Ammophila atripes* by Bingham, 1897:229. – A. Costa, 1864b:111 (specimen from China in Museo Zoologico di Napoli); Dalla Torre, 1897:410 (in catalog of world Hymenoptera).

Ammophila pulchella F. Smith, 1856:218, ♂. Syntypes: China: Hong Kong and Shanghai (BMNH). Synonymized with *Ammophila atripes* by Bingham, 1897:229. – Dalla Torre, 1897:406 (in catalog of world Hymenoptera); Nomura, 1934:25 (Japan: Ryukyu Islands, as *sulchella*).

Ammophila longiventris de Saussure, 1867:24, ♂. Lectotype: ♂, Sri Lanka: Trincomalee (MHNG), designated by Menke in R. Bohart and Menke, 1976:151. Synonymized with *Ammophila atripes* by Bingham, 1897:229, synonymy confirmed by W. Schulz, 1911b:162. – Bingham, 1896a:437 (in list of Aculeata of Sri Lanka, bibliographic references); Cameron, 1889c:93 (in list of Sphecidae of Oriental Region); Dalla Torre, 1897:404 (in catalog of world Hymenoptera); Casolari and Casolari Moreno, 1980:100 (specimen in M. Spinola collection, Torino); Pagliano, 2008:510 (specimen in M. Spinola collection, Torino).

Ammophila humbertiana de Saussure, 1867:25, ♀. Lectotype: ♀, Sri Lanka: Trincomalee (MHNG), designated by Menke in Bohart and Menke, 1976:151. Synonymized with *Ammophila atripes* by W. Schulz, 1911b:161. – Radoszkowski, 1871:196 (China: Zheizhang Province: Ning-Po); Cameron, 1889c:93 (in list of Sphecidae of Oriental Region); Bingham, 1896a:437 (in list of Aculeata of Sri Lanka, bibliographic references), 1897:230 (redescription); Dalla Torre, 1897:403 (in catalog of world Hymenoptera).

Ammophila spinosa F. Smith, 1873a:259, ♀. Holotype or syntypes: ♀, China: Hong Kong (BMNH). Synonymized with *Ammophila atripes* by Bingham, 1897:229. – Dalla Torre, 1897:410 (in catalog of world Hymenoptera).

Ammophila orientalis Cameron, 1889c:9, ♀. Syntypes: origin not indicated, but probably India (OXUM). Synonymized with *Ammophila basalis* by Bingham, 1897:231. – Cameron, 1889c:3 (in list of Sphecidae of Oriental Region); Dalla Torre, 1897:406 (in catalog of world Hymenoptera); Dollfuss, 1989:7 (type material in NHMW).

Ammophila buddha Cameron, 1889c:94, sex not stated. Syntypes: India: Uttar Pradesh: Allahabad; and West Bengal: Barrackpore 20 km north of Calcutta (OXUM). Synonymized with *Ammophila atripes* by Bingham, 1897:229. – Cameron, 1889c:93 (in list of Sphecidae of Oriental Region); Dalla Torre, 1897:396 (in catalog of world Hymenoptera); Dollfuss, 1989:7 (type material in NHMW).

***spp. formosana* Strand**

Ammophila formosana Strand, 1913:85, ♀, ♂. Syntypes: Taiwan: many localities (DEI). – Strand, 1927:253 (in list of species described by author); Dollfuss, 2013a: 419 (in revision of *Ammophila* of Palearctic Region and India, listed in synonymy of *Ammophila clavus*). – **As *Ammophila atripes formosana***: R. Bohart and Menke, 1976:151 (new status, listed); Tsuneki, 1982d:10 (Taiwan), 1982g:55 (known from the Ryukyu archipelago); Yamane and Ikudome, 1990:101 (Japan: distribution in Ryukyu Islands); Porter, Stange, and Wang, 1999:5 (in checklist of Sphecidae of Taiwan). – **As *Ammophila clavus formosana***: Tsuneki and Iida, 1969:17 (description of larva), Tsuneki, 1971f:4 (Taiwan); Haneda, 1972:5 (Taiwan); Tano, 1972:22 (Japan: Ryukyu Islands); Murota, 1973b:116 (Taiwan); Hua, 2006:275 (in list of Chinese insects, geographic distribution).

Ammophila clavus taiwana Tsuneki, 1967j:15, ♀, ♂. Holotype: ♀, Taiwan: Puli (originally K. Tsuneki collection, now USNM). Synonymized with *Ammophila clavus formosana* by Tsuneki, 1971f:4. – Tsuneki, 1967j:9 (in key to Ammophilini of East Asia), 1968i:60 (nesting habits); Tsuneki in Tsuneki and Iida, 1969:6 (nesting habits); Haneda, 1971b:31 (Taiwan); Nuhn and Menke, 1994:26 (holotype transferred to USNM).

***spp. japonica* Kohl**

Ammophila japonica Kohl, 1906:328, ♀, ♂. Lectotype: ♂, Japan: Kofou (MNHN), designated by Menke in Bohart and Menke, 1976:151. Dollfuss, 2013a: 419 (in revision of *Ammophila* of Palearctic Region and India, listed in synonymy of *Ammophila clavus*). – Strand, 1915:95 (as synonym of *Ammophila atripes*); Gussakovskij, 1938:3 (China: Kiangsu Province). – **As *Ammophila atripes japonica***: R. Bohart and Menke, 1976:151 (new status, in checklist of world Sphecidae); Tsuneki, 1982b:14 (known from Korea); Paik, 1985:197 (in list of Sphecidae of Korea); Tsuneki, 1991:199 (Korea); Nemkov in Nemkov, Kazenas, Budrys, and Antropov, 1995:386 (in key to Sphecidae of Russian Far East); Suda, 2004:35 (Japan: Yamanashi Prefecture); Negoro, Haneda, and Tano, 2005:43 (Japan: Toyama Prefecture); N. Yamamoto, 2011:11 (Japan: Kyūshyū: mainland Nagasaki Prefecture). – **As *Ammophila clavus japonica***: Tsuneki, 1967j:9, 11 (in key to *Ammophila* of East Asia), 15 (new status); Itami, 1968a:16 (Japan: Yamagata Prefecture: foot of Mount Iide); Nambu, 1968b:26 (Japan: Saitama Prefecture); Tsuneki, 1968i:36 (nesting habits), 1969e:24 (Japan: specimens in Osaka Museum of Natural History), 1973p:120 (Japan: Fukui Prefecture), 1974a:359 (Korea); Nambu, 1975b:70 (Japan: Saitama Prefecture); Hua, 2006:275 (in list of Chinese insects, geographic distribution); J.-K. Kim, 2014:416 (in catalog of Sphecidae *sensu lato* of Korean Peninsula); Kim, Yeo, and Kim, 2014:274 (in key to *Ammophila* of South Korea), 276 (in revision of Sphecidae *sensu stricto* of South Korea); Shimizu and Watanabe, 2016:36 (Japan: Fukui Prefecture: Katsuyama City).

***spp. taschenbergi* Cameron**

Ammophila erythropus Taschenberg, 1869:434, ♀, junior primary homonym of *Ammophila erythropus* F. Smith, 1856. Syntypes: Indonesia: Java: no specific locality (Halle). Dollfuss, 2013a: 419 (in revision of *Ammophila* of Palearctic Region and India, listed in synonymy of *Ammophila clavus*). – Bohart and Menke, 1976:151 (in checklist of world Sphecidae).

Ammophila taschenbergi Cameron, 1889c:94. Substitute name for *Ammophila erythropus* Taschenberg. – Dalla Torre, 1897:410 (in catalog of world Hymenoptera). Dollfuss, 2013a: 419 (in revision of *Ammophila* of Palearctic Region and India, listed in synonymy of *Ammophila clavus*). – **As *Ammophila atripes taschenbergi***: R. Bohart and Menke, 1976:151 (new status, in checklist of world Sphecidae).

49. *cleopatra* Menke

Ammophila cleopatra Menke, 1964a:19, ♀, ♂. Holotype: ♂, USA: California: Santa Barbara County: Goleta (UCD). – Evans, 1970:485 (Wyoming: Jackson Hole); R. Bohart and Menke, 1976:151 (in checklist of world Sphecidae); Krombein, 1979b:1590 (in catalog of North American Hymenoptera); Parks, 1986:34 (California: Torrey Pines State Reserve); Menke, 1986c:36 (Arizona: Cochise County: 3 mi. east of Willcox), 37 (Arizona: Cochise County: Naco); O'Brien, 1989b:210 (distribution in Michigan); Dollfuss, 1989:7 (paratype in NHMW); Spofford, Kurczewski, and Downes, 1989:258 (reference to publication on nest parasite *Senotainia littoralis* Allen, miltogrammine fly); Menke, 1994f:21 (Utah: Calf Creek Falls State Park and Monticello area); Amarante, 2002:66 (in catalog of Neotropical Sphecidae); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:669 (in checklist of Mexican Sphecidae); Ohl and Linde, 2003:149 (number of ovarioles); Buck, 2004:24 (Canada: in checklist of Sphecidae of Ontario), 29 (distribution within Ontario), 34 (first records from Ontario and British Columbia: list of localities); Horta Vega, Pinson Domínguez, Barrientos Lozano, and Correa Sandoval, 2007: 47 (Mexico: Tamaulipas); Stevens and Menke, 2014:220 (Arizona: Grand Canyon ecoregion); Danilov, 2014:.354 (a pair of paratypes preserved in Zoological Institute, Sankt-Petersburg, Russia); Ratzlaff, 2016:28 (Canada: British Columbia: from Buck, 2004); Lechner,

2019:152 (Iowa: Sioux City, parasitized by strepsipteran *Paraxenos lugubris* Pierce); Menke, 2020:89 (in revision of North and Central American *Ammophila*); Buck and Bennett, 2025:223 (in checklist of Sphecidae sensu lato of Canada, Alaska, and Greenland: Canada: Alberta, British Columbia, Ontario, first record from Saskatchewan: no specific locality).

As *Ammophila juncea*: Evans, 1959d:461 (nesting behavior), corrected to *Ammophila cleopatra* by Menke, 1965b:258.

50. *clypeola* Q. Li and Ch. Yang

Ammophila clypeola Q. Li and Ch. Yang, 1990:262, ♀. Holotype: ♀, China: Nei Mongol: Dongsheng County: no specific locality (Beijing Agricultural University). – Hua, 2006:275 (in list of Chinese insects, geographic distribution); Dollfuss, 2013a:421 (in revision of *Ammophila* of Palearctic Region and India, original description translated from Chinese into English); Ch. Wang, Bashir, Q. Li, and Ma, 2018:296 (China: Nei Mongol: Siziwangqi at 41°31'N, 111°41'E, description of ♂), 300, 302 (in key to *Ammophila* of China).

51. *clypeolineata* Dollfuss

Ammophila clypeolineata Dollfuss, 2015a:332, ♀, ♂. Holotype: ♂, Central African Republic: 90 km northeast of Nola at 04°07'N 16°37'E. Paratypes: Ivory Coast, Namibia, Nigeria, Kenya, Uganda – Dollfuss, 2015a:310, 314 (in key to Sub-Saharan *Ammophila*), 2015b:420 (locality records from Central African Republic and Nigeria).

52. *coachella* Menke

Ammophila coachella 1965c:1, nomen nudum. Objective synonym of *Ammophila coachella* Menke, 1966b.

Ammophila coachella Menke, 1966b:38, ♀, ♂. Holotype: ♂, USA: California: Riverside County: Boyd Desert Research Center 4 mi. south of Palm Desert (originally CIS, now CAS). – R. Bohart and Menke, 1976:151 (in checklist of world Sphecidae); Krombein, 1979b:1591 (in catalog of North American Hymenoptera); Menke, 2020:139 (in revision of North and Central American *Ammophila*).

53. *conditor* F. Smith

Ammophila conditor F. Smith, 1856:223, ♀. Holotype or syntypes: ♀, USA: Florida: Duval County: Saint John's Bluff, now in Jacksonville (BMNH). – Cresson, 1863:318 (in catalog of North American Hymenoptera); Provancher, 1882:15 (description of ♂), 1883b:616 (in revision of Canadian Hymenoptera); Taylor, 1884:80 (Canada: British Columbia: Island of Vancouver); Cresson, 1887:274 (in catalog of North American Hymenoptera); Dalla Torre, 1897:398 (in catalog of world Hymenoptera); Ashmead, 1899d:354 (in checklist of North American Sphecidae); J. Smith, 1900:523 (in list of insects of New Jersey); nec Harrington, 1902:224 (= *Ammophila urnaria*); Melander, 1903:159 (in key to North American Ammophilini), 163 (bibliographic references, geographic distribution); Murray in Muesebeck, Krombein, and Townes, 1951:975 (in catalog of North American Hymenoptera); R. Bohart and Menke, 1976:151 (in checklist of world Sphecidae); Krombein, 1979b:1591 (in catalog of North American Hymenoptera); Menke, 2020:111 (in revision of North and Central American *Ammophila*). – **As *Sphex conditor***: J. Smith, 1910:676 (new generic assignment, in new list of insects of New Jersey); nec Faull, 1913:384 (= *Ammophila urnaria*); Fernald, 1926:8 (as new synonym of *Ammophila procera*); Krombein and Evans, 1955:233 (Florida).

54. *confusa* A. Costa

Ammophila confusa A. Costa, 1864b:111, sex not stated. Syntypes: Senegal: no specific locality (Napoli). – Dalla Torre, 1897:398 (in catalog of world Hymenoptera); Berland, 1950b:295 (Niger: Air area, as *confusa* Smith); Leclercq, 1955h:92 (bibliographic references, as incertae sedis); R. Bohart and Menke, 1976:151 (in checklist of world Sphecidae).

55. *conifera* (Arnold)

Sphex conifer Arnold, 1920:47, ♀, ♂ (as *conifera*, incorrect original termination). Syntypes: South Africa: Eastern Cape Province: Willowmore; Zimbabwe: Bulawayo (SAM). – Arnold, 1928b:273 (in revision of southern African *Ammophila*), 1930:17 (in checklist of Afrotropical Sphecidae); Marshall, 1997:3 (reference to original description). – **As *Ammophila conifera***: Salt, 1927:182 (new generic assignment, stylopized specimen; Zaire: Kabare); Leclercq, 1955h:87 (bibliographic references, locality records); de Beaumont, 1967b:504 (South Africa); R. Bohart and Menke, 1976:151 (in checklist of world Sphecidae); Gess, 1981:19 (South Africa: Hilton Farm 18 km west-northwest of Grahamstown; nesting in friable soils); Weaving, 1988:327-349 (prey selection), 1989a:1-16 (South Africa; nesting habits); S. Gess, 1996:275, 303 (floral records); S. Gess and F. Gess, 2003:95 (South Africa: visiting flowers of *Hermbsstaedtia glauca* Reichb. ex Steud., Amaranthaceae, *Conyza bonariensis* (L.) Cronq., Asteraceae, *Acacia karroo* Hayne, Fabaceae, and *Phyllopodium cuneifolium* (L. f.) Benth., Scrophulariaceae); Dollfuss, 2015a:311, 315 (in key to Sub-Saharan *Ammophila*), 334 (in revision of Sub-Saharan *Ammophila*; Mozambique, Namibia, Zimbabwe), 2015b:420 (locality records from Mozambique, Namibia, South Africa, and Zimbabwe).

56. *cora* Cameron

Ammophila cora Cameron, 1888a:14, ♂. Lectotype: ♂, Guatemala: San Geronimo (BMNH), designated by Menke in Bohart and Menke, 1976:151. – Dalla Torre, 1897:398 (in catalog of world Hymenoptera); Ashmead, 1899d:354 (in checklist of North American Sphecidae); Melander, 1903:162 (in key to North American Ammophilini), 164 (bibliographic references, geographic distribution); R. Bohart and Menke, 1976:151 (in checklist of world Sphecidae); Amarante, 2002:66 (in catalog of Neotropical Sphecidae); Menke, 2020:55 (in revision of North and Central American *Ammophila*). – **As *Sphex cora***: Fernald, 1934:107 (new generic assignment, in revision of North American and West Indian *Ammophila*).

57. *coronata* A. Costa

Ammophila coronata A. Costa, 1864b:111, sex not stated. Holotype: Philippines: no specific locality (Napoli). – Dalla Torre, 1897:398 (in catalog of world Hymenoptera); Ashmead, 1904d:150 (Philippines, as *corinata*); R. Brown, 1906:687 (in catalog of Philippine Hymenoptera); Baltazar, 1966:342 (in catalog of Hymenoptera of Philippines); R. Bohart and Menke, 1976:151 (in checklist of world Sphecidae); Tano, Nozaka, Kurokawa, and Murota, 1994:51 (Philippines). – **As *Sphex coronatus***: Rohwer, 1922:671 (new generic assignment, Philippines).

Ammophila superciliaris de Saussure, 1867:24, ♀. Holotype or syntypes: Philippines: Manila (NHMW). Synonymized with *Ammophila coronata* by R. Bohart and Menke, 1976:151. – Cameron, 1889c:94 (in list of Sphecidae of Oriental Region, as *superciliosa*); Casto de Elera, 1895:245 (in catalog of fauna of Philippines); Dalla Torre, 1897:410 (in catalog of world Hymenoptera); Ashmead, 1904a:6 (Philippines), 1904d:150 (Philippines); R. Brown, 1906:687 (in catalog of Philippine Hymenoptera).

58. *crassifemoralis* (R. Turner)

Sphex crassifemoralis R. Turner, 1919d:48, ♂. Holotype: ♂, Uganda: Mount Elgon (BMNH). – Arnold, 1928b:261 (original description copied), 1930:17 (in checklist of Afrotropical Sphecidae). – **As *Ammophila crassifemoralis***: Leclercq, 1955h:93 (new generic assignment, bibliographic references); R. Bohart and Menke, 1976:151 (in checklist of world Sphecidae); Dollfuss, 2015a:310, 314 (in key to Sub-Saharan *Ammophila*, description of ♀; Central African Republic).

59. *curvistriata* Cameron

? *Ammophila curvistriata* Cameron, 1908a:265, ♂, actually ♀. Holotype: ♀, Tanzania: Mount Kilimanjaro: Kibonoto (NRS). – Arnold, 1928b:279 (tentatively synonymized with *Sphex ferrugineipes*); Dollfuss, 2015a:312, 317 (in key to Sub-Saharan *Ammophila*), 337 (in revision of Sub-Saharan *Ammophila*, resurrected status, description of ♂; Angola, Botswana, Burkina Faso, Cameroon, Ethiopia, Kenya, Mali, Nigeria, Senegal, South Africa), 2015b:421 (locality records from Ethiopia, Kenya, Mozaambique, Senegal, South Africa, and Zimbabwe).

60. *cybele* Menke

Ammophila cybele Menke, 1970:237, ♀, ♂. Holotype: ♂, Cuba: Oriente: Juraguá (Acad. Cienc. Cuba). – Alayo Dalmau, 1973:186 (in catalog of Cuban Hymenoptera), 1976:11 (in key to Cuban *Ammophila*), 27 (in checklist of Cuban Sphecidae); R. Bohart and Menke, 1976:151 (in checklist of world Sphecidae); Reyes and Hernández, 1995:3 (holotype in Inst. Ecol. Sist., La Havana, Cuba); Amarante, 2002:66 (in catalog of Neotropical Sphecidae); Hidalgo-Gato González, Reyes Sánchez, Mestre Novoa, Fernández García, Rodríguez-León Merino, Rodríguez Velázquez, Genaro Artola, and Fontenla Rizo, 2002:29 (holotype deposited at IZAC); Portuondo and Fernández, 2004:134 (Cuba: Sierra Maestra); Genaro, 2006:51 (in checklist of Cuban Sphecidae and Crabronidae).

61. *dejecta* Cameron

Ammophila dejecta Cameron, 1888a:14, sex not stated. Syntypes: Mexico: northern Sonora: no specific locality (BMNH). – Dalla Torre, 1897:398 (in catalog of world Hymenoptera); Ashmead, 1899d:354 (in checklist of North American Sphecidae); Melander, 1903:161 (in key to North American Ammophilini), 164 (bibliographic references, geographic distribution); Fernald, 1934:155 (in revision of North American and West Indian *Ammophila*, as unrecognized species); R. Bohart and Menke, 1976:151 (in checklist of world Sphecidae); Krombein, 1979b:1591 (in catalog of North American Hymenoptera); Amarante, 2002:66 (in catalog of Neotropical Sphecidae); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:669 (in checklist of Mexican Sphecidae); Stevens and Menke, 2014:220 (Arizona: unknown from Grand Canyon ecoregion); Menke, 2020:91 (in revision of North and Central American *Ammophila*).

62. *dentigera* Gussakovskij

Ammophila dentigera Gussakovskij, 1928a:8, ♀, ♂. Syntypes: Turkmenistan: Bayram Ali at 36°50'N 54°26'E; Uzbekistan: Khiva at 41°23'N 60°22'E; Iran: Golestan: Astrabad, now Gorgan at 36°50'N 54°26'E (ZIN). – de Beaumont, 1961b:272 (Afghanistan); Myartseva, 1972a:86 (Turkmenistan); R. Bohart and Menke, 1976:151 (in checklist of world Sphecidae); Kazenas, 1978b:38 (in key to Sphecidae of Kazakhstan

and Central Asia); Nazarova and Shomirsaidov, 1997:23 (Tajikistan: fruit tree orchards in Vakhsh River valley); Kazenas, 1998b:163 (in Sphecidae Fauna of Kazakhstan); Nazarova, 1998:40 (Tajikistan: Tigrovaya Balka Nature Reserve); Kazenas, 2001b:17 (in checklist of Sphecidae of Kazakhstan and Central Asia), 107 (nest with terminal false burrow next to cell, prey: caterpillar, probably Noctuidae), 2002a:36 (geographic distribution, collecting localities in Kazakhstan); Nazarova, 2005:93 (alfalfa fields in southwestern Tajikistan); Kazenas, 2008a:98 (southeastern Kazakhstan: 35 km north of Chilik, 65 km west of Bakanas); Danilov, 2010b:44 (distribution of Tethyan type); Dollfuss, 2013a:389, 399 (in key to *Ammophila* of Palearctic Region and India), 421 (in revision of *Ammophila* of Palearctic Region and India), 2013b:596 (locality records from Kazakhstan, Turkmenistan, and Uzbekistan); Dunford, Turbyville, and Leavengood, 2014:10 (listed as medically important in Afghanistan); Danilow, 2016:348 (syntypes preserved in Zoological Institute, Sankt-Petersburg, Russia); Jahantigh, Rakhshani, Mokhtari, and Ramroodi, 2017:14 (Iran: known from Golestan Province); Medetov, Embergenov, Kholmatov, Elmurodova, Rakhimov, and Tajibaeva, 2024:418 (Uzbekistan: distribution).

63. *deserticola* Tsuneki

Ammophila deserticola Tsuneki, 1971k:169, ♂, ♀. Holotype: ♂, Mongolia: Bulgan Aymag: Somon Abzaga (TMB). – Tsuneki, 1971m:2 (China: Peking: Tiendang); R. Bohart and Menke, 1976:151 (in checklist of world Sphecidae); Nemkov *in* Nemkov, Kazenas, Budrys, et Antropov, 1995:387 (in key to Sphecidae of Russian Far East); Nemkov, 2008b:17 (in catalog of Sphecidae of Asiatic Russia); Danilov, 2009:57 (Russia: Western Siberia: Kulundinskaya Steppe); Nemkov, 2009b:49 (in new catalog of Sphecidae and Crabronidae of Asiatic Russia); Danilov, 2010b:45 (distribution of Scythian type), 2011a:189 (Russia: Primorskiy Kray: Khanka Rayon: Komissarovo), 2011b:203 (Russia: Zabaikal'skiy Kray: Daur'skiy Nature Reserve); Nemkov, 2012c:434 (in catalog of Sphecidae of Russian Far East); Akulov and Proshchalykin, 2013:111 (Russia: Siberia: Krasnoyarsk Kray); Dollfuss, 2013a:393, 403 (in key to *Ammophila* of Palearctic Region and India), 423 (in revision of *Ammophila* of Palearctic Region and India), 2013b:569 (locality records from China, Kyrgyzstan, Mongolia, and Russia: Tyva Republic); Danilov, 2014a:426 (Russia: Siberia: many areas), 2014b:519, 521 (in key to Sphecidae s.s. of Siberia), 2017b:212 (in catalog of Sphecidae s.s. of Russia); Jacobs and Liebig, 2018:134 (Russia: Irkutsk Oblast: Bol'shoje Goloustnoye); Ch. Wang, Bashir, Q. Li, and Ma, 2018:300, 302 (in key to *Ammophila* of China); Danilov, 2020:317 (specimens from various localities in Russia and from Kazakhstan in Institute of Systematics and Ecology of Animals, Novosibirsk, Russia).

64. *djaouak de Beaumont* 178

Ammophila djaouak de Beaumont, 1956a:, ♂. Holotype: ♂, Libya: Tripolitania: Gargaresc (BMNH). – de Beaumont, 1960b:226 (Libya), 1963b:18 (in revision of *Ammophila nasuta* species group); R. Bohart and Menke, 1976:151 (in checklist of world Sphecidae); Roche, 2007a:16 (first record from Egypt, description of ♂, in checklist of Egyptian Sphecidae), 2007b:2 (in checklist of Egyptian Ampulicidae, Sphecidae, and Crabronidae); Dollfuss, 2013a:398 (in key to *Ammophila* of Palearctic Region and India), 424 (in revision of *Ammophila* of Palearctic Region and India), 2013b:569 (Tunisia: Tataouine); Ben Khedher, Yildirim, Braham, and Ljubomirov, 2020a:303 (in list of Tunisian Sphecidae *sensu stricto*).

65. *dolichocephala* Cameron

Ammophila dolichocephala Cameron, 1910b:135, ♂. Syntypes: ♂, South Africa: Gauteng: Pretoria (TMP). – Brauns, 1917:241 (syntypes in TMP); Leclercq, 1955h:87 (bibliographic references); de Beaumont, 1967b:504 (Namibia); R. Bohart and Menke, 1976:151 (in checklist of world Sphecidae); Weaving, 1988:327-349 (prey selection), 1989a:1-16 (South Africa: nesting habits), 1989b:847-871 (habitat selection and nest construction); S. Gess and F. Gess, 2003:95 (Namibia: visiting flowers of *Geigeria* sp., Asteraceae); Dollfuss, 2015a:311, 315 (in key to Sub-Saharan *Ammophila*), 338 (in revision of Sub-Saharan *Ammophila*; Kenya, Namibia, South Africa, Zimbabwe), 2015b:421 (locality records from Kenya, Namibia, South Africa, and Zimbabwe). – **As *Sphex dolichocephala***: Arnold, 1920:46 (new generic assignment, description of ♀), 1928b:272 (in revision of southern African *Ammophila*), 1930:17 (in checklist of Afrotropical Sphecidae).

66. *dolichodera* Kohl

Ammophila dolichodera Kohl, 1884a:383, ♂. Lectotype: ♂, South Africa: Western Cape Province: Prince Albert area (NHMW), designated by Dollfuss, 2015a:340. – Dalla Torre, 1897:399 (in catalog of world Hymenoptera); Leclercq, 1955h:86 (bibliographic references); de Beaumont, 1967b:504 (Namibia); I. Robertson, 1969:480 (Tanzania: Nyarumbugu); R. Bohart and Menke, 1976:151 (in checklist of world Sphecidae); Guichard, 1988a:128 (Saudi Arabia); Weaving, 1988:327-349 (prey selection), 1989a:1-16 (South Africa: nesting habits: hunting precedes nest construction, one large caterpillar used), 1989b:847-871 (habitat selection and nest construction); Dollfuss, 1989:7 (type material in NHMW); S. Gess and F. Gess, 2003:95 (South Africa: visiting flowers of *Monechma* sp., Acanthaceae, and *Deverra denudata* (Viv.) Pfisterer and Podl., Apiaceae); Gadallah and Assery, 2004a:217 (Saudi Arabia: in key to Sphecidae of Jeddah Region), 224 (in catalog of Sphecidae of Saudi Arabia); Sakenin, Samin, and Bagriacik, 2010:17 (Iran: Kermanshah: Ravansar); Schmid-Egger, 2011b:593 (first record from United Arab Emirates: Wadi Bih, Wadi al-Helo, Wadi Maidad, Wadi Safid, Wadi Wurayah), 598 (color photograph of male); Gadallah, Al Dhafer, Aldryhim, Fadl, and Elgharbawy, 2013:359 (in new catalog of Sphecidae of Saudi Arabia); Dollfuss, 2015a:311, 316 (in key to Sub-Saharan *Ammophila*), 340 (in revision of Sub-Saharan *Ammophila*; Ethiopia, Mali, Mozambique, Namibia, Niger, Tanzania, Yemen, Zambia, Zimbabwe), 2015b:421 (locality records from Ethiopia, Kenya, Mozambique, Namibia, South Africa, Tanzania, Yemen, Zambia, and Zimbabwe); Jahantigh, Rakhshani, Mokhtari, and Ramroodi, 2017:14 (Iran: known from Kermanshah Province); Gadallah, 2020d:78 (in list of aculeate wasps of Arabian Peninsula); Gadallah and Abu El-Ghiet, 2024:91 (Saudi Arabia: Jazan Province: Abu Arish). – **As *Sphex dolichoderus***: R. Turner, 1919c:396 (new generic assignment, synonymy); Arnold, 1920:48 (in revision of southern African *Ammophila*), 1928b:274 (in revision of southern African *Ammophila*), 1930:17 (in checklist of Afrotropical Sphecidae), 1935a:503 (South Africa: Kalahari).

Ammophila macrocola Kohl, 1884:377, ♂. Holotype or syntypes: ♂, South Africa: Western Cape Province: Prince Albert area (depository?). Synonymized with *Ammophila dolichodera* by R. Bohart and Menke, 1976:151.

Ammophila pulchricollis Cameron, 1910b:133, ♂, actually ♀ (Brauns, 1917:241). Holotype: ♀, South Africa: Transvaal: Masemola (TMP). Synonymized with *Ammophila dolichodera* by R. Turner, 1919c:396. – Brauns, 1917:241 (holotype is a ♀).

Ammophila lukombensis Cameron, 1912b:398, ♀. Holotype or syntypes: ♀, Zaire: Lukombe (MRAC). Synonymized with *Ammophila dolichodera* by Leclercq, 1955h:86. – **As *Sphex lukombensis***: Arnold, 1928b:279 (new generic assignment, original description copied), 1930:17 (in checklist of Afrotropical Sphecidae); Schouteden, 1930:95 (Zaire).

67. *dubia* Kohl

Ammophila dubia Kohl, 1901d:159, ♀, ♂. Lectotype: ♀, Egypt: no specific locality (NHMW), designated by Dollfuss, 2013a:425. – Kohl, 1906b:356 (in revision of Palearctic *Ammophilini*); Gussakovskij, 1933b:274 (Iran); Guiglia, 1934b:293 (Libya: bibliography and summary of locality records); Alfieri, 1946:130 (in revision of Egyptian *Ammophila*); de Beaumont and Bytinski-Salz, 1955:39 (Israel); Leclercq, 1955h:84 (bibliographic references); de Beaumont, 1965b:772 (Chad: Ennedi); Pulawski, 1967c:387 (Sudan: Nile second cataract); R. Bohart and Menke, 1976:151 (in checklist of world Sphecidae); Dollfuss, 1989:7 (type material in NHMW); Roche and Zalot, 1994:114 (Egypt: Sinai Peninsula); Roche, 2007a:19 (in checklist of Egyptian Sphecidae, redescription), 2007b:2 (in checklist of Egyptian Ampulicidae, Sphecidae, and Crabronidae); Dollfuss, 2013a:387, 397 (in key to *Ammophila* of Palearctic Region and India), 425 (in revision of *Ammophila* of Palearctic Region and India), 2013b:569 (locality records from Morocco and Yemen); Schmid-Egger, 2014:615 (United Arab Emirates); Dollfuss, 2015a:311, 316 (in key to Sub-Saharan *Ammophila*), 3341 (in revision of Sub-Saharan *Ammophila*; Ethiopia, Somalia, Tanzania), 2015b:422 (locality records from Kenya and Oman); Jahantigh, Rakhshani, Mokhtari, and Ramroodi, 2017:14 (Iran: known from Kerman Province); Gadallah, 2020d:78 (in list of aculeate wasps of Arabian Peninsula).

68. *duhokensis* Augul, Abdoul-Rassoul, and Kaddou

Ammophila duhokensis Augul, Abdoul-Rassoul, and Kaddou, 2013:15, ♀, ♂. Holotype: ♂, Iraq: Duhok Governorate: Mount Sheranish (Iraq Natural History Museum). – Augul, 2019:492 (Iraq: Duhok Province: Gara Mountain).

69. *dysmica* Menke

Ammophila dysmica Menke, 1965c:1, nomen nudum. Objective synonym of *Ammophila dysmica* Menke, 1966b.

Ammophila dysmica Menke, 1966b:30, ♀, ♂. Holotype: ♂, USA: California: Nevada County: Sagehen Creek near Hobart Mills (UCD). – Evans, 1970:485 (nesting habits); Horning and Barr, 1970:104 (USA: Idaho: Craters of the Moon National Monument); R. Bohart and Menke, 1976:151 (in checklist of world Sphecidae); Krombein, 1979b:1591 (in catalog of North American Hymenoptera); Steiner, 1986:98 (references to papers on nesting habits); Rosenheim, 1987a:739-749 (nesting habits), 1987b:402 (nest parasite: *Argochrysis armilla* R. Bohart, a chrysidid), 1988:33 (role of parasites in nest site selection), 1989:353-348 (behaviorally mediated refuges from the cleptoparasite *Argochrysis armilla* R. Bohart); Field, Ohl, and Kennedy, 2011:734 (in molecular cladistic analysis of *Ammophilini*); Stevens and Menke, 2014:220 (Arizona: Grand Canyon ecoregion); Field, Shreeves, Kennedy, Brace, and Gilbert, 2015:1899 (sex-biased parental care and sexual size dimorphism); Field, Gonzalez-Voyer, and Boulton, 2020:7 (evolution of parental care); Menke, 2020:92 (in revision of North and Central American *Ammophila*).

70. *electa* Kohl

Ammophila electa Kohl, 1901d:155, ♀, ♂. Lectotype: ♀, Algeria: Sidi Maklouf (MNHN), designated by Menke *in* Bohart and Menke, 1976:154. – Kohl, 1906b:330 (in revision of Palearctic *Ammophilini*); von Schulthess, 1926b:208 (Tunisia); Roth, 1928:192 (in revision

of North African Ammophilini); Guiglia, 1934b:292 (Libya: bibliography and summary of locality records), 1937:184 (Libya: Cyrenaica: Agheila, Mechili), 1942b:229 (Libya); Dollfuss, 2013a:392, 402 (in key to *Ammophila* of Palearctic Region and India), 426 (full species status, in revision of *Ammophila* of Palearctic Region and India), 2013b:569 (Tunisia: locality records); Ben Khedher, Yildirim, Braham, and Ljubomirov, 2020a:303 (in list of Tunisian Sphecidae *sensu stricto*; new records from Gafsa, Kairouan, Sidi Bouzid, and Tataouine provinces). – ***As apicalis electa***: de Beaumont, 1951e:264 (new status; Morocco), 1956a:180 (Libya), 1960:226 (Libya). – ***As terminata electa***: R. Bohart and Menke, 1976:153 (in checklist of world Sphecidae).

71. *elongata* Fischer de Waldheim

Ammophila elongata Fischer de Waldheim, 1843:2, ♀, ♂. Syntypes: southern Russia: no specific locality (NHMW, ZMHU). Dollfuss (2013a) spoke of a holotype, but this cannot be regarded as designation of lectotype under Article 74.7 of the Code. – F. Smith, 1856:210 (in catalog of Hymenoptera in British Museum); Kirchner, 1867:217 (in catalog of European Hymenoptera); Dalla Torre, 1897:399 (in catalog of world Hymenoptera); Kohl, 1906b:325 (in revision of Palearctic Ammophilini); Myartseva, 1971b:180 (ranges slightly outside Turanian Province); Tsuneki, 1971k:177 (Mongolia); Kazenas, 1972b:100 (Kazakhstan: Ili in Alma Ata Oblast', Aidarly in Taukum Desert); Myartseva, 1972a:86 (Turkmenistan); Kazenas, 1974b:108 (feeding on flowers of *Tamarix* sp., Tamaricaceae, in Kazakhstan), 109 feeding on flowers of *Statice gmelini* Willd., Plumbaginaceae, *Euphorbia* spp., Euphorbiaceae, in Kazakhstan), 110 (feeding on flowers of *Nitraria schoberi* L. and *Peganum harmala* L., Zygophyllaceae, in Kazakhstan), 112 (feeding on flowers of *Apocynum lancifolium* Russ., Apocynaceae, in Kazakhstan); R. Bohart and Menke, 1976:151 (in checklist of world Sphecidae); Kazenas, 1978b:35 (in key to Sphecidae of Kazakhstan and Central Asia); Pulawski, 1978:181 (in key to Sphecidae of European part of USSR); Kazenas, 1998b:165 (in Sphecid Fauna of Kazakhstan); Esenbekova and Kazenas, 2000:12 (southeastern Kazakhstan: 3 km northwest of Borandysu, Chinghil'su, 10 km northwest of Chundzha, near Kapchagay, 5 km southwest of village Kazakhstan); Kazenas, 2001b:17 (in checklist of Sphecidae of Kazakhstan and Central Asia), 2002a:36 (geographic distribution, collecting localities in Kazakhstan), 2004d:28 (Kazakhstan: northern Caspian region); Danilov, 2010b:45 (distribution of Tethyan type); Dollfuss, 2013a:391, 401 (in key to *Ammophila* of Palearctic Region and India), 2013b:569 (locality records from Iran, Kazakhstan, Mongolia, Turkey, and Turkmenistan); Danilov, 2014b:519, 520 (in key to Sphecidae s.s. of Siberia, not yet found in Siberia), 2017b:212 (in catalog of Sphecidae s.s. of Russia); Danilov and Mokrousov, 2017a:110 (Russia: Amur Oblast', Volgograd Oblast'); Jahantigh, Rakhshani, Mokhtari, and Ramroodi, 2017:14 (Iran: known from Golestan Province); Danilov, 2020:317 (specimens from Volgograd Oblast' in Russia and Kazakhstan in Institute of Systematics and Ecology of Animals, Novosibirsk, Russia); Embergenov, Élmurodova, Amirov and Kimyonazarov, 2022:47 (Turkmenistan: Karakum Desert); Kaplan and Yildirim, 2023:1691 (in checklist of Sphecidae *sensu lato* of Turkey); Medetov, Embergenov, Kholmatov, Elmurodova, Rakhimov, and Tajibaeva, 2024:418 (Uzbekistan: distribution).

72. *erminea* Kohl

Ammophila erminea Kohl, 1901d:157, ♀, ♂. Lectotype: ♀, Egypt: no specific locality (NHMW), designated by Dollfuss, 2013a:428. – Kohl, 1906b:365 (in revision of Palearctic Ammophilini); Maidl, 1924:246 (Sudan: Port Sudan); von Schulthess, 1926b:209 (Tunisia); Roth, 1928:206 (in revision of North African Ammophilini); Guiglia, 1932d:468 (Libya: Gialo), Guiglia, 1934b:293 (Libya: bibliography and summary of locality records), 1936:4 (Libya: Gialo, and Fezzan: no specific locality), 1937:184 (Libya: Cyrenaica: Mechili), 1942b:229 (Libya); Giner Marí, 1945b:362 (Morocco: Western Sahara), 1945e:219 (Morocco: Western Sahara); Alfieri, 1946:140 (in revision of Egyptian *Ammophila*); Giner Marí, 1947:19 (Morocco: Western Sahara); de Beaumont, 1951e:265 (Morocco; Zeitoun is in Egypt, not in Malta as accepted by Kohl; range: Sinai to Río de Oro, now Western Sahara in Morocco); de Beaumont and Bytinski-Salz, 1955:39 (Israel); Leclercq, 1955h:77 (bibliographic references); de Beaumont, 1956:180 (Libya), 1960:226 (Libya), 1966:211 (Egypt: Aboukir); R. Bohart and Menke, 1976:153 (as junior synonym of *Ammophila rubripes*); Abdu and Shaumar, 1985:229 (Qatar: Al Kor, Al Shahaniyah); Guichard, 1988a:128 (resurrected status, Arabian Peninsula); Dollfuss, 1989:7 (type material in NHMW); Guichard, 1991a:338 (Jordan); Roche and Zalat, 1994:114 (Egypt: Sinai Peninsula); Gadallah and Assery, 2004a:217 (in key to Sphecidae of Jeddah Region, Saudi Arabia), 224 (in catalog of Sphecidae of Saudi Arabia, as *erminea*); Roche, 2007a:19 (in checklist of Egyptian Sphecidae, redescription), 2007b:2 (in checklist of Egyptian Ampulicidae, Sphecidae, and Crabronidae); Schmid-Egger, 2011b:597 (United Arab Emirates: Jebel Hafit south of al-Ain, Sharjah/Tawi as-Saman oasis, Wadi Bih, Wadi Wurayah), 598 (color photograph of male); Dollfuss, 2013a:388, 397 (in key to *Ammophila* of Palearctic Region and India), 428 (in revision of *Ammophila* of Palearctic Region and India), 2013b:570 (locality records from Egypt, Iran, Jordan, Morocco, Tunisia, and Yemen); El-Hawagry, Khalil, Sharaf, Fadl, and Aldawood, 2013:78 (Saudi Arabia: Al-Baha Province: Jebel El-Baher); Gadallah, Al Dhafer, Aldryhim, Fadl, and Elgharbawy, 2013:359 (in new catalog of Sphecidae of Saudi Arabia); Schmid-Egger, 2014:615 (United Arab Emirates); Jahantigh, Rakhshani, Mokhtari, and Ramroodi, 2017:14 (Iran: known from Kerman Province); Ben Khedher, Yildirim, Braham, and Ljubomirov, 2020a:303 (in list of Tunisian Sphecidae *sensu stricto*; new records from Kebili, Sidi Bouzid, and Tataouine provinces); Gadallah, 2020d:79 (in list of aculeate wasps of Arabian Peninsula).

Ammophila dantoni Roth in Nadig, 1933:101, ♀, ♂ (as *Dantoni*, incorrect original capitalization, ♀ = *Ammophila rubripes*). Holotype: sex not stated, Morocco: no specific locality (originally A. Nadig collection, now Zurich). Male synonymized with *Ammophilae erminea* by Dollfuss, 2013a:428, female synonymized with *Ammophila rubripes* by Dollfuss, 2013a:480.

73. *evansi* Menke

Ammophila evansi Menke, 1964a:20, ♀, ♂. Holotype: ♂, USA: Connecticut: Litchfield County: Colebrook (MCZ) – R. Bohart and Menke, 1976:151 (in checklist of world Sphecidae); Finnamore, 1982:29 (in Sphecid Fauna of southern Quebec); Krombein, 1979b:1591 (in catalog of North American Hymenoptera); M. O'Brien and A. O'Brien, 1988:73 (nesting habits); O'Brien, 1989b:210 (distribution in Michigan); Kurczewski and Acciavatti, 1990:60 (New York: Cayuga County); Ahlstrom, 1995:107 (in checklist of insects of North Carolina); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:669 (in checklist of Mexican Sphecidae); Buck, 2004:24 (Canada: in checklist of Sphecidae of Ontario); Miller, Pearce, and O'Neill, 2009:3 (known to be parasitized by *Paraxenos lugubris* (Pierce), Strepsiptera); Menke, 2020:68 (in revision of North and Central American *Ammophila*); Buck and Bennett, 2025:223 (in checklist of Sphecidae *sensu lato* of Canada, Alaska, and Greenland: Canada: Nova Scotia, Ontario, Quebec, first record from New Brunswick: no specific locality).

74. *exsecta* Kohl

Ammophila propinqua var. *exsecta* Kohl, 1906:364, sex not stated. Holotype: Syria: no specific locality (NHMW). – ***As Ammophila exsecta***: R. Bohart and Menke, 1976:151 (new status, in checklist of world Sphecidae); Dollfuss, 1989:7 (type material in NHMW); Murai and Amr, 2011:118 (recorded from Syria by Kohl, 1906); Dollfuss, 2013a:388, 395 (in key to *Ammophila* of Palearctic Region and India), 429 (in revision of *Ammophila* of Palearctic Region and India), 2013b:570 (Jordan: Mubalath in Jordan valley); Gadallah, 2020d:79 (in list of aculeate wasps of Arabian Peninsula).

75. *extremitata* Cresson

Ammophila extremitata Cresson, 1865b:457, ♀, ♂. Lectotype: ♀, USA: "Colorado Territory": no specific locality (ANSP), designated by Cresson, 1916:94 (as *extrematata*). – Cresson, 1887:274 (in catalog of North American Hymenoptera, as *extrematata*); Ashmead, 1890:34 (in checklist of Hymenoptera of Colorado, as *extrematata*); Dalla Torre, 1897:399 (in catalog of world Hymenoptera); Ashmead, 1899d:354 (in checklist of North American Sphecidae, as *extremimator*); Melander, 1903:157 (diagnostic characters), 159, 160, 161, 162 (in key to North American Ammophilini), 163 (bibliographic references, geographic distribution); Viereck, 1903a:68 (New Mexico: Beulah); Hart, 1907:255 (Illinois); Johnson and Ledig, 1918:24 (California: Claremont); Fernald, 1931a:449 (as new synonym of *Sphex placidus*); Menke, 1965c:2 (restored from synonymy); Horning and Barr, 1970:104 (USA: Idaho: Craters of the Moon National Monument, identification tentative); R. Bohart and Menke, 1976:151 (in checklist of world Sphecidae); Krombein, 1979b:1591 (in catalog of North American Hymenoptera); G. Scudder, 1994:75 (in checklist of rare and endangered invertebrates of British Columbia); Blades and Maier, 1996:71 (Canada: British Columbia: Osoyoos - Mount Kobau area at 119°40'W 49°05'N); Stevens and Menke, 2014:220 (Arizona: Grand Canyon ecoregion); Ratzlaff, 2016:28 (Canada: British Columbia: from Blades and Maier, 1992 and Scudder, 1994); Menke, 2020:56 (in revision of North and Central American *Ammophila*); Buck and Bennett, 2025:223 (in checklist of Sphecidae *sensu lato* of Canada, Alaska, and Greenland: Canada: Alberta, British Columbia, first record from Saskatchewan: no specific locality). – ***As Sphex extremitatus***: H. Smith, 1908b:330 (new generic assignment, in revision of Nebraskan Sphecidae); J. Smith, 1910:677 (in new list of insects of New Jersey, as *extrematata*); Rohwer, 1916b:681, 682 (in catalog of Hymenoptera of Connecticut, as *extrematata*, probably in error); Mickel, 1918b:404 (in catalog of Nebraskan Sphecidae); Rohwer in Viereck, 1925:681, 682 (in key to Sphecidae of Connecticut, as *extrematata*); nec *Sphex guerinii extremitatus*: Fernald, 1934:62 (= *Ammophila fernaldi*).

76. *eyrensis* R. Turner

Ammophila eyrensis R. Turner, 1908:465, ♀. Holotype: ♀. Australia: South Australia: Killalpanima 100 mi. east of Lake Eyre (BMNH). – R. Bohart and Menke, 1976:151 (in checklist of world Sphecidae); Cardale, 1985:229 (in catalog of Australian Sphecidae).

77. *femurrubra* W. Fox

Ammophila femurrubra W. Fox, 1894c:102, ♀ (as *femur-rubra*, incorrect original hyphenation). Lectotype: ♀, Mexico: Baja California Sur: San José del Cabo (CAS), designated by Menke, 1965c:1. – W. Fox, 1895c:266 (Mexico: Baja California Sur); Dalla Torre, 1897:399 (in catalog of world Hymenoptera); Ashmead, 1899d:354 (in checklist of North American Sphecidae); Melander, 1903:160 (in key to North

American *Ammophilini*, as *femur-rubrum*), 164 (bibliographic references, geographic distribution, as *femur-rubru*); Fernald, 1934:54 (as new synonym of *Sphex volcanicus*); Menke, 1965c:2 (restored from synonymy); R. Bohart and Menke, 1976:151 (in checklist of world Sphecidae); Krombein, 1979b:1591 (in catalog of North American Hymenoptera); Field, Ohl, and Kennedy, 2011:734 (in molecular cladistic analysis of *Ammophilini*); Stevens and Menke, 2014:220 (Arizona: Grand Canyon ecoregion); Menke, 2020:56 (in revision of North and Central American *Ammophila*).

78. *fernaldi* (Murray)

Sphex fernaldi Murray, 1938:19, ♀, ♂. Holotype: ♀, USA: Minnesota: Luverne (Univ. Minnesota). – Dreisbach, 1944:268, 269, 270 (in key to *Ammophila* of Michigan). – **As *Ammophila fernaldi***: Murray in Muesebeck, Krombein, and Townes, 1951:975 (new generic assignment, in catalog of North American Hymenoptera); Evans and Linsley, 1960:32 (Arizona: regular member of sleeping aggregation at Southwest Research Station); Evans, 1964b:241 (description of larva); Menke, 1965a:260 (species identification by Evans, 1964d:241, is correct); R. Bohart and Menke, 1976:151 (in checklist of world Sphecidae); Krombein, 1979b:1591 (in catalog of North American Hymenoptera); Finnamore, 1982:30 (in Sphecid Fauna of southern Quebec); Menke, 1986c:36 (Arizona: Cochise County: Apache Pass); Amarante, 2002:66 (in catalog of Neotropical Sphecidae); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:669 (in checklist of Mexican Sphecidae); Buck, 2004:24 (Canada: in checklist of Sphecidae of Ontario), 29 (distribution within Ontario), 34 (first record from Ontario: Borden, Walsingham); Field, Ohl, and Kennedy, 2011:734 (in molecular cladistic analysis of *Ammophilini*); Kathirithamby, Lechner, McMahon, Bryson, and Johnston, 2012:466 (stylopization by *Paraxenos lugubris* Pierce, Strepsiptera); Stevens and Menke, 2014:220 (Arizona: Grand Canyon ecoregion); Lechner, 2019:151-154 (Iowa: Sioux City, parasitized by strepsipteran *Paraxenos lugubris* Pierce, Strepsiptera); Menke, 2020:57 (in revision of North and Central American *Ammophila*); Buck and Bennett, 2025:223 (in checklist of Sphecidae sensu lato of Canada, Alaska, and Greenland: Canada: Manitoba, Ontario, Quebec, first records from Alberta and New Brunswick: no specific locality).

As *Sphex guerini* *extremitatus*: Fernald, 1934:62 (new status, in revision of North American and West Indian *Ammophila*), corrected to *Sphex fernaldi* by Murray, 1938:19 (who referred to it as *Sphex placidus extremitatus*).

79. *ferruginosa* Cresson

Ammophila ferruginosa Cresson, 1865b:455, ♀. Lectotype: ♀, USA: “Colorado Territory”: no specific locality (ANSP), designated by Cresson, 1916:94. – Cresson, 1876:208 (Colorado: Plains), 1887:274 (in catalog of North American Hymenoptera); Ashmead, 1890:34 (in checklist of Hymenoptera of Colorado); Dalla Torre, 1897:400 (in catalog of world Hymenoptera); Ashmead, 1899d:354 (in checklist of North American Sphecidae); Melander, 1903:159 (in key to North American *Ammophilini*); Murray in Muesebeck, Krombein, and Townes, 1951:975 (in catalog of North American Hymenoptera), 163 (bibliographic references, geographic distribution); R. Bohart and Menke, 1976:152 (in checklist of world Sphecidae); Kumar, Lavigne, Lloyd, and Pfadt, 1976:51 (USA: Colorado: Pawnee National Grassland); C. Ward et al., 1977:56 (associated with mesquite (*Prosopis glandulosa* Torr.), Fabaceae); Krombein, 1979b:1591 (in catalog of North American Hymenoptera); Menke, 1983b:20 (Nebraska: Thomas County: Halsey area), 21 (Nebraska: Hooker County: Mullen area, and Dawes County: north of Crawford); Menke, 1986c:35 (Arizona: Navajo County: Hopi Reservation); Stevens and Menke, 2014:220 (Arizona: Grand Canyon ecoregion); Dollfuss, 2015b:422 (locality records from Colorado, Las Cruces, and Nebraska); Ratzlaff, 2016:28 (Canada: first record from British Columbia: Southern Interior), 39 (British Columbia: Osoyoos); Menke, 2020:112 (in revision of North and Central American *Ammophila*); Buck and Bennett, 2025:223 (in checklist of Sphecidae sensu lato of Canada, Alaska, and Greenland: Canada: Alberta, British Columbia, Manitoba, Saskatchewan: no specific locality). – **As *Sphex ferruginosus***: H. Smith, 1908b:329 (new generic assignment, in revision of Nebraskan Sphecidae); Mickel, 1918b:403 (in revision of Nebraskan Sphecidae); Fernald, 1931a:449 (as new synonym of *Sphex wrightii*), 1934:41 (valid species, in revision of North American and West Indian *Ammophila*).

Ammophila collaris Cresson, 1865b:456, ♂. Holotype: ♂, USA: “Colorado Territory”: no specific locality (ANSP). Synonymized with *Ammophila ferruginosa* by Fernald, 1931a:449 and 1934:41. – Cresson, 1887:274 (in catalog of North American Hymenoptera); Ashmead, 1890:34 (in checklist of Hymenoptera of Colorado); Dalla Torre, 1897:398 (in catalog of world Hymenoptera); Melander, 1903:159 (in key to North American *Ammophilini*), 163 (bibliographic references, geographic distribution); Cresson, 1916:94 (holotype in ANSP); Casolari and Casolari Moreno, 1980:100 (specimens in M. Spinola collection, Torino); Pagliano, 2008:510 (specimens in M. Spinola collection, Torino). – **As *Psammodia collaris***: Ashmead, 1899d:354 (new generic assignment, in checklist of North American Sphecidae).

Sphex cressoni H. Smith, 1908b:329. Substitute name for *Sphex collaris* (Cresson.) H. Smith, junior secondary homonym in *Sphex* of *Sphex collaris* Linnaeus, 1767. – Mickel, 1918b:404 (in revision of Nebraskan Sphecidae).

80. *filata* Walker

? *Ammophila filata* Walker, 1871:18, ♂. Holotype or syntypes: ♂, Egypt: Sinai Peninsula: Wadi Genneh (destroyed). – Dalla Torre, 1897:400 (in catalog of world Hymenoptera); R. Bohart and Menke, 1976:152 (in checklist of world Sphecidae, as tentative member of *Ammophila*); Roche, 2007a:139 (recorded from Egypt, is a *nomen dubium*).

81. *fischeri* Dollfuss

Ammophila fischeri Dollfuss, 2015a:342, ♀. Holotype: ♀, Zambia: 50 km east of Mwinilunga at 11°43'S 24°47'E (OÖLM). Paratypes: Kenya, Mozambique, Rwanda, South Africa, Tanzania, Uganda, Zaire, Zimbabwe. – Dollfuss, 2015a:312 (in key to Sub-Saharan *Ammophila*), 2015b:422 (locality records from South Africa and Zambia).

82. *formicoides* Menke

Ammophila formicoides Menke, 1964a:10, ♀, ♂. Holotype: ♂, USA: New Mexico: Hidalgo County: Rodeo (CIS according to original description, now CAS). – R. Bohart and Menke, 1976:152 (in checklist of world Sphecidae); Krombein, 1979b:1591 (in catalog of North American Hymenoptera); Menke, 1986c:37 (Arizona: Cochise County: west of Naco); Amarante, 2002:66 (in catalog of Neotropical Sphecidae); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:669 (in checklist of Mexican Sphecidae); Stevens and Menke, 2014:220 (Arizona: unknown from Grand Canyon ecoregion); Danilov, 2014:354 (a pair of paratypes preserved in Zoological Institute, Sankt-Petersburg, Russia); Menke, 2020:115 (in revision of North and Central American *Ammophila*).

83. *formosensis* Tsuneki

As *Ammophila subassimilis*: Tsuneki, 1967i:383 (Taiwan), corrected to *Ammophila formosensis* by Tsuneki, 1967j:18 and 1971f:4.

Ammophila formosana Tsuneki, 1967j:18, ♀, ♂, junior primary homonym of *Ammophila formosana* Strand, 1913. Holotype: ♀, Taiwan: Chiayi Prefecture: Fenchihu (originally K. Tsuneki collection, now USNM). – Tsuneki, 1967j:5 (Taiwan), 10, 11 (in key to *Ammophilini* of East Asia); nec *Ammophila clavus formosana* Tsuneki of Tsuneki and Iida, 1969:17 (= *Ammophila clavus formosana* Strand); Nuhn and Menke, 1994:25 (holotype transferred to USNM).

Ammophila formosensis Tsuneki, 1971f:4, substitute name for *Ammophila formosana* Tsuneki, 1967. – Haneda, 1972a:5 (Taiwan); R. Bohart and Menke, 1976:152 (in checklist of world Sphecidae); Porter, Stange, and Wang, 1999:5 (in checklist of Sphecidae of Taiwan); Dollfuss, 2013a:391, 400 (in key to *Ammophila* of Palearctic Region and India), 430 (in revision of *Ammophila* of Palearctic Region and India); Ch. Wang, Bashir, Q. Li, and L. Ma, 2018:299, 301 (in key to *Ammophila* of China); Olszewski and Danilov, 2020:193 (first records from Kyrgyzstan and Tajikistan); Danilov, 2020:317 (specimens from Kyrgyzstan and Tajikistan in Institute of Systematics and Ecology of Animals, Novosibirsk, Russia).

84. *ganquana* Yang and Q. Li

Ammophila ganquana Yang and Q. Li, 1989:105, ♀, ♂. Holotype: ♀, China: Shaanxi Province: Ganquan County: Quingquan (Beijing Agricult Univ.). – Q. Li and L. Yang, 2005:883 (China: Gansu: Quinling Range and South Mountains); Hua, 2006:275 (in list of Chinese insects, geographic distribution); Dollfuss, 2013a:431 (in revision of *Ammophila* of Palearctic Region and India, original description translated from Chinese into English); Ch. Wang, Bashir, Q. Li, and Ma, 2018:300, 302 (in key to *Ammophila* of China); Ma, Q. Li, Wang, Jiang, and Lu, 2018:853 (China: Shanxi: Qinling Mountains).

85. *gaumeri* Cameron

Ammophila gaumeri Cameron, 1888a:4, ♀, ♂. Lectotype: ♀, Mexico: northern Yucatán: Temax (BMNH), designated by Menke in Bohart and Menke, 1976:152. – Dalla Torre, 1897:400 (in catalog of world Hymenoptera); Ashmead, 1899d:354 (in checklist of North American Sphecidae); Melander, 1903:161 (in key to North American *Ammophilini*), 163 (bibliographic references, geographic distribution); R. Bohart and Menke, 1976:152 (in checklist of world Sphecidae); Nascimento and Overall, 1980:2 (Brazil); Maes, 1989:94 (in catalog of Nicaraguan Sphecidae); Hanson and Menke, 1995:637 (known from Costa Rica); Menke, 1996e:192 (in key to *Ammophilini* of Costa Rica), 194 (in revision of *Ammophilini* of Costa Rica); Menke and Parker, 1996:187 (Costa Rica: phenological observations); Amarante, 2002:66 (in catalog of Neotropical Sphecidae); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:669 (in checklist of Mexican Sphecidae); Dollfuss, 2015b:423 (Mexico: Guerrero: Acahuizotla 35 km south of Chipanchingo); Vanoye-Eligio, Meléndez-Ramírez, Ayala, Navarro-Alberto, and Delfín-González, 2015:994 (Mexico: in list of Sphecidae sensu lato of Yucatán); Menke, 2020:57 (in revision of North and Central American *Ammophila*). – **As *Sphex gaumeri***: Fernald, 1934:111 (new generic assignment, in revision of North American and West Indian *Ammophila*).

Ammophila micans Cameron, 1888a:5, ♀. Holotype or syntypes: ♀, Guatemala: San Gerónimo (BMNH). Synonymized with *Ammophila gaumeri* by Fernald, 1934:114 (as *Sphex gaumeri*). – W. Fox, 1895c:266 (Mexico: Baja California Sur); Dalla Torre, 1897:404 (in catalog of world Hymenoptera); Ashmead, 1899d:354 (in checklist of North American Sphecidae); Melander, 1903:161 (in key to North American Ammophilini), 163 (bibliographic references, geographic distribution).

86. *globifrontalis* Q. Li and Ch. Yang

Ammophila globifrontalis Q. Li and Ch. Yang, 1995b:574, ♀, ♂. Holotype: ♀, China: Guangxi Province: Nanning: Forestry Research Institute (Beijing Agricultural University). – Wu, Zhou, Q. Li, and Yang, 2003:809 (China: Fujian Province); Q. Li and He, 2004:1119 (in hymenopterous fauna of Zhejiang Province, China); Dollfuss, 2013a:432 (in revision of *Ammophila* of Palearctic Region and India, original description translated from Chinese into English); Ch. Wang, Bashir, Q. Li, and L. Ma, 2018:299, 302 (in key to *Ammophila* of China); Pham and Antropov, 2021:316 (recorded from Vietnam by Ph. Pham, T.T. Nguyen, Q. Nguyen, T.M. Nguyen, Dang, D.H. Nguyen, Tran, T.D. Nguyen, and V. Pham, 2020).

87. *globiverticilis* Ch. Wang and L. Ma

Ammophila globiverticilis Ch. Wang and L. Ma in Ch. Wang, Bashir, Q. Li, and L. Ma, 2018:292, ♀. Holotype: ♀, China: Xinjiang: Fukang City at 44°9'N 87°59'E (Entomological Museum of China Agricultural University, Beijing, China). – Ch. Wang, Bashir, Q. Li, and Ma, 2018:299 (in key to *Ammophila* of China).

88. *gracilis* Lapeletier de Saint Fargeau

Ammophila gracilis Lapeletier de Saint Fargeau, 1845:381, ♀. Holotype or syntypes: ♀, Mexico: no specific locality, country in error according to Menke, 1965a:216 (M. Spinola collection, Torino). – F. Smith, 1856:221 (in catalog of Hymenoptera in British Museum); Cresson, 1863:318 (in catalog of North American Hymenoptera), 1873:210 (Texas); Snow, 1881:96 (in checklist of Hymenoptera of Kansas: Douglas and Wallace counties: no specific locality); Provancher, 1883b:615 (in revision of Canadian Hymenoptera); Cresson, 1887:274 (in catalog of North American Hymenoptera); Cameron, 1888a:16 (Mexico, redescription); C. Robertson, 1892:103 (visiting flowers of *Mentha canadensis* Linnaeus, Lamiaceae), 105 (visiting flowers of *Pycnanthemum lanceolatum* Ph., Lamiaceae), 106 (visiting flowers of *Pycnanthemum muticum* Pers., Lamiaceae), 107 (visiting flowers of *Pycnanthemum linifolium* Ph., Lamiaceae), 1894:460 (visiting flowers of *Aster paniculatus* Lam., Asteraceae), 468 (visiting flowers of *Rudbeckia triloba* Linnaeus, Asteraceae); Dalla Torre, 1897:400 (in catalog of world Hymenoptera); Ashmead, 1899d:354 (in checklist of North American Sphecidae); J. Smith, 1900:523 (in list of insects of New Jersey); Melander, 1903:159, 161 (in key to North American Ammophilini), 163 (bibliographic references, geographic distribution); Viereck, 1903d:121 (Maryland: Chestertown); G. Peckham and E. Peckham, 1905:43 (prey carrying, homing); Ducke, 1907b:90 (Brasil: Maranhão State: Alcantara); Schrottky, 1909c:210, 212 (occurring on dry sand); J. Smith, 1910:676 (in new list of insects of New Jersey); Cheesman, 1929:151 (Panama: Colón); Menke, 1965a:216 (synonymy); R. Bohart and Menke, 1976:152 (in checklist of world Sphecidae); Casolari and Casolari Moreno, 1980:100 (specimens in M. Spinola collection, Torino); Nascimento and Overall, 1980:2 (Brazil); Yústiz, 1987:13 (Venezuela: Central Lara Depression); Gaimari and Martins, 1996:240 (nesting behavior, nest distributions); Amarante, 2002:67 (in catalog of Neotropical Sphecidae); Pagliano, 2008:510 (specimens in M. Spinola collection, Torino, including ♀ holotype); Buys, 2009e:276 (Rio de Janeiro: several localities), 2011b:2 (Brazil: Rio de Janeiro: Petrópolis, Rio de Janeiro, Teresópolis); Field, Ohl, and Kennedy, 2011:734 (in molecular cladistic analysis of Ammophilini); Rodrigues and Buys, 2013:213 (Brazil; Espírito Santo: Santa Teresa); Buys and Rodrigues, 2014:37 (Brazil: first record from State of Espírito Santo: several localities); Dollfuss, 2015b:423 (locality records from Argentina and Paraguay); Field, Shreeves, Kennedy, Brace, and Gilbert, 2015:1899 (sex-biased parental care and sexual size dimorphism); López García, Mazzitelli, Frutos, González, Marcucci, Giusti, Alemanno, del Barrio, Portela, and Debandi, 2019:314 (Argentina: Mendoza: departamento de Tupungato: vineyards in Gualtallary); León-Burgos, Murillo-Pacheco, Bautista-Zamora, and Quinto, 2019:6 (Colombia: Meta: Villavicencio at 4°04'30"N 73°35'07"W); Buys, 2020a:140 (nesting habits), 2020b:80 (in cladistic analysis of larvae of Sphecidae s.s.), 2020c:260 (description of mature larva); Field, Gonzalez-Voyer, and Boulton, 2020:7 (evolution of parental care); Menke, 2020:93 (in revision of North and Central American *Ammophila*).

Ammophila mutica Dahlbom, 1845:431, ♀, ♂. Holotype or syntypes: Brazil: no specific locality (Lund). Synonymized with *Ammophila gracilis* by Menke, 1965a:216. – Dalla Torre, 1897:405 (in catalog of world Hymenoptera); Menke, 1964b:150 (redescription of type ♀). – **As *Sphex muticus***: Fernald, 1942:31 (new generic assignment, Guyana: Kartabo).

Ammophila moneta F. Smith, 1856:219, ♀, ♂. Lectotype: ♀, Brazil: no specific locality (BMNH). Synonymized with *Ammophila mutica* by Menke, 1964b:149. – W. Fox, 1897b:374 (Brazil: Chapada, Pedra Branca, and Santarém).

Ammophila fragilis F. Smith, 1856:219, ♀, ♂. Lectotype: ♀, Brazil: no specific locality (BMNH). Synonymized with *Ammophila moneta* by W. Fox, 1897b:374 and with *Ammophila mutica* by Menke, 1964b:149. – Taschenberg, 1869:434 (Brazil; redescription); Cameron, 1888a:15 (Costa Rica, Mexico; redescription); Dalla Torre, 1897:400 (in catalog of world Hymenoptera); Ducke, 1907:90 (Brazil: Maranhão: Alcantara, as *gracilis*, corrected to *Ammophila fragilis* by Ducke, 1910:110); Melander, 1903:160 (in key to North American Ammophilini), 163 (bibliographic references, geographic distribution); Schrottky, 1908:51 (visiting flowers of *Oxalis* sp., Oxalidaceae); Ducke, 1910:110 (Brazil: Ceará State); Strand, 1910a:129 (Paraguay); Schrottky, 1913a:224 (Argentina, Paraguay); Bischoff and von Schulthess, 1937:168 (Argentina, Bolivia); Richards, 1937a:102 (Guyana). – **As *Sphex fragilis***: Fernald, 1907:271 (new generic assignment, Argentina, variation), 1934:114 (in revision of North American and West Indian *Ammophila*); Rau, 1938b:541 (sleeping habits).

? *Ammophila suavis* Burmeister, 1872:241, ♀. Holotype: ♀, Argentina: Mendoza: Mendoza (ZMHU). Tentatively synonymized with *Ammophila gracilis* by R. Bohart and Menke, 1976:152 (in checklist of world Sphecidae). – Dalla Torre, 1897:410 (in catalog of world Hymenoptera); Schrottky, 1903b:123 (in checklist of Hymenoptera of Argentina, Paraguay, and Uruguay); Jörgensen, 1912:285 (Argentina: Mendoza Province).

? *Ammophila arechavaletai* Brèthes, 1909b:61, ♀ (as *Arechavaletai*, incorrect original capitalization). Holotype: ♀, origin unknown, probably Uruguay: no specific locality (Mus. Montevideo). Tentatively synonymized with *Ammophila gracilis* by R. Bohart and Menke, 1976:152 (in checklist of world Sphecidae). – Genise, 1990:26 (type material in Museo de Montevideo).

89. *gracillima* Taschenberg

Ammophila gracillima Taschenberg, 1869:433, ♀. Lectotype: ♀, Sudan: Khartoum (Halle), designated by Menke in Bohart and Menke, 1976:152. – Ed. André, 1886:73 (in revision of Sphecidae of Europe and Algeria), 1888:3* (bibliographic references); Dalla Torre, 1897:400 (in catalog of world Hymenoptera); Kohl, 1906b:323 (in revision of Palearctic Ammophilini); Longstaff, 1911:124 (Sudan: Khartoum); Morice, 1911:73 (Algeria: Biskra); Strand, 1915:96 (Turkmenistan: Askhabad); Moidl, 1924:246 (Sudan: Port Sudan); Roth, 1928:188 (in revision of North African Ammophilini); Kruger, 1929a:21 and 1929b:56 (Libya: Cyrenaica: Giarabub); Roth, 1930:82 (Algeria: Tassili des Ajjer); Guiglia, 1932d:468 (Libya: Gialo); Nadig, 1933:101 (Morocco: Agadir); Guiglia, 1934b:291 (Libya: bibliography and summary of locality records); Roth, 1934b:186 (Algeria); Gussakovskij, 1935:414 (Iran, Transcaspiya, Russia: lower Volga River); Yasumatsu, 1935a:3, 22 (China: Jehol Region); Guiglia, 1936:3 (Libya: Fezzan: no specific locality); Yasumatsu, 1940:31 (China: Nei Mongol: Kunshan-tagh Desert); Guiglia, 1942b:229 (Libya); Giner Marí, 1945e:219 (Morocco:Western Sahara); Alfieri, 1946:131 (in revision of Egyptian *Ammophila*); Giner Marí, 1947:19 (Morocco: Western Sahara); Berland, 1950b:295 (Niger: Aïr area); de Beaumont, 1950f:396 (Algeria); Arnold, 1951:141 (Ethiopia); de Beaumont, 1951e:264 (Morocco), 1953a:172 (Mauritania); de Beaumont and Bytinski-Salz, 1955:36 (Israel); Leclercq, 1955h:88 (bibliographic references); de Beaumont, 1956a:175 (Libya), 1960b:226 (Libya); Myartseva, 1963b:59 (Turkmenistan: lower Murgab River), 1965:85 (Turkmenistan: Akibay, Anau, Sakar-Chagin district, Mary district, and Bayram-Ali district), 1966:48 (preying on caterpillars), 49 (Turkmenistan: lower course of Murgab and Tedjen rivers; preying on caterpillars of *Pericyma albidentaria* Frr., Erebidae); de Beaumont, 1967a:266 (Turkey); Tsuneki, 1967e:2 (China: Manchuria); Kazenas, 1968b:342 (Kazakhstan: Alma Ata and Aktyubinsk oblast's); Myartseva, 1969:50 (nest construction, prey: noctuid larvae, larval development); de Beaumont, 1970a:388 (Afghanistan), 1970c:2 (Iran: Baluchestan); Myartseva, 1971a:77 (in key to *Ammophila* of Turkmenistan); Kazenas, 1972b:100 (Kazakhstan); Myartseva, 1972a:86 (Turkmenistan), 1972b:112 (nest parasite: *Spinolia (Euchroeus) virgo* Semenov, a chrysidid); Kazenas, 1974b:109 (feeding on flowers of *Tamarix* sp., Tamaricaceae, and *Statice gmelini* Willd., Plumbaginaceae, in Kazakhstan), 111 (feeding on flowers of *Astragalus* sp., Fabaceae, *Saussurea* sp., Asteraceae, and *Lepidium crassifolium* W. et K., Brassicaceae, in Kazakhstan), 112 (feeding on flowers of *Lappula spinocarpos* Aschers., Boraginaceae, and *Allium caspium* Pall., Liliaceae, in Kazakhstan); R. Bohart and Menke, 1976:152 (in checklist of world Sphecidae); Nazarova and Shomirsaidov, 1997:23 (Tajikistan: fruit tree orchards in Vakhsh River valley); Kazenas, 1978b:36 (in key to Sphecidae of Kazakhstan and Central Asia); Pulawski, 1978:181 (in key to Sphecidae of European part of USSR); Guichard, 1980:224 (Oman); Roche, 1981:2 (in checklist of Sphecidae of United Arab Emirates); Islamov, 1986:514 (Uzbekistan: Surkhandarya and Tashkent oblast's); Guichard, 1988a:128 (Arabian Peninsula), 1991a:338 (Jordan); Roche and Zalut, 1994:114 (Egypt: Sinai Peninsula); Wu and Zhou, 1996a:51 (in revision in Economic Insect Fauna of China); Kazenas, 1998b:166 (in Sphecid Fauna of Kazakhstan); Nazarova, 1998:40 (Tajikistan: Tigrovaya Balka Nature Reserve); Esenbekova and Kazenas, 2000:13 (southeastern Kazakhstan: six localities); Kazenas, 2001b:18 (in checklist of Sphecidae of Kazakhstan and Central Asia), 2002a:37 (geographic distribution, collecting localities in Kazakhstan), 2004b:100 (Kazakhstan: western Tien Shan Mountains), 2004d:28 (Kazakhstan: northern Caspian region); Nazarova, 2005:93 (alfalfa fields in southwestern Tajikistan); Hua, 2006:275 (in list of Chinese insects, geographic distribution); Nagase, 2006b:2 (specimens collected by First Scientific Expedition to Manchoukou, 1933, now

part of eastern China); Roche, 2007a:16 (in checklist of Egyptian Sphecidae), 2007b:2 (in checklist of Egyptian Ampulicidae, Sphecidae, and Crabronidae); Danilov, 2009:57 (Russia: Western Siberia: Kulundinskaya Steppe), 2010b:44 (distribution of Palearctic-Ethiopian type); Schmid-Egger, 2011b:597 (first record from United Arab Emirates: Al-Ajban); Dollfuss, 2013a:389, 391, 399, 401 (in key to *Ammophila* of Palearctic Region and India), 433 (in revision of *Ammophila* of Palearctic Region and India), 2013b:570 (locality records from Algeria, Iran, Jordan, Kazakhstan, Morocco, Oman, Saudi Arabia, Syria, Tunisia, Turkmenistan, and Uzbekistan); Gadallah, Al Dhafer, Aldryhim, Fadl, and Elgharbawy, 2013:359 (in new catalog of Sphecidae of Saudi Arabia); Danilov, 2014b:519, 520 (in key to Sphecidae s.s. of Siberia, not yet found in Siberia); Dunford, Turbyville, and Leavengood, 2014:10 (listed as medically important in Afghanistan); Schmid-Egger, 2014:615 (United Arab Emirates); Dollfuss, 2015a:310, 314 (in key to Sub-Saharan *Ammophila*), 344 (in revision of Sub-Saharan *Ammophila*; Sudan: Khartoum); Yildirim, Ljubomirov, Özbek, and Yüksel, 2016:7 (first record from Turkey: Iğdır: Karakoyunlu); Danilov, 2017b:212 (in catalog of Sphecidae s.s. of Russia); Jahantigh, Rakhshani, Mokhtari, and Ramroodi, 2017:14 (Iran: known from Golestan, Kerman, Mazandaran, and Sistan-o Baluchestan provinces); Ch. Wang, Bashir, Q. Li, and Ma, 2018:299, 302 (in key to *Ammophila* of China); Augul, 2019:492 (Iraq: Wasit Province: Aziziyah: Al Zelja village); Ben Khedher, Yildirim, Braham, and Ljubomirov, 2020a:303 (in list of Tunisian Sphecidae *sensu stricto*; new records from Sidi Bouzid and Tataouine provinces); Danilov, 2020:317 (specimens from Astrakhan' Oblast' of Russia and Turkmenistan in Institute of Systematics and Ecology of Animals, Novosibirsk, Russia); Gadallah, 2020d:79 (in list of aculeate wasps of Arabian Peninsula); Embergenov, Élmurodova, Amirov and Kimyonazarov, 2022:47 (Uzbekistan: Zhizzakh Province: Zomin District); Kaplan and Yildirim, 2023:1691 (in checklist of Sphecidae *sensu lato* of Turkey); Medetov, Embergenov, Kholmatov, Elmurodova, Rakhimov, and Tajibaeva, 2024:418 (Uzbekistan: distribution). – **As *Sphex gracillima***: Arnold, 1928b:278 (new generic assignment, original description translated into English), 1930:17 (in checklist of Afrotropical Sphecidae); Scott *in* Arnold, 1933a:370 (described from Ethiopia).

Ammophila longicollis Kohl, 1884:379, ♀. Lectotype: ♀, Russia: Sarepta, now Krasnoarmeysk near Volgograd (NHMW), designated by Dollfuss, 2013a:433. Synonymized with *Ammophila gracillima* by Roth, 1928:188. – Ed. André, 1886:68 (in revision of Sphecidae of Europe and Algeria), 1888:2* (bibliographic references); F. Morawitz, 1891a:203 (Russia: Astrakhan Governorate: Ryn Peski), 1894:340 (Turkmenistan: Serax); Dalla Torre, 1897:404 (in catalog of world Hymenoptera); Myartseva, 1971a:77 (in key to *Ammophila* of Turkmenistan), 1971b:180 (ranges slightly outside Turanian Province); Kazenas, 1978b:36 (in key to Sphecidae of Kazakhstan and Central Asia).

Ammophila debilis F. Morawitz, 1889a:125, ♀. Holotype: ♀, “Mongolia: Tsagan Buryuk” [= China: Gansu: Jiuquan Prefecture: Jinta County] (ZIN). Synonymized with *Ammophila gracillima* by Kohl, 1906:324. – Dalla Torre, 1897:398 (in catalog of world Hymenoptera); Danilov, 2016:336 (holotype preserved in Zoological Institute, Sankt-Petersburg, Russia).

Ammophila philomela Nurse, 1903a:519, ♀. Holotype or syntypes: ♀, India: Gujarat: Deesa (BMNH), synonymized with *Ammophila gracillima* by Dollfuss, 2013a:433. – Ramakrishna Aiyar, 1916:554 (in catalog of Indian aculeates described after Bingham, 1897); R. Bohart and Menke, 1976:153 (in checklist of world Sphecidae).

As *Ammophila producticollis* (♂ only): Morice, 1900a:70, corrected to *Ammophila gracillima* by ..

90. *guichardi* de Beaumont

Ammophila guichardi de Beaumont, 1956a:176, ♀, ♂. Holotype: ♀, Libya: northern Tripolitania: Giado, now Jadu (BMNH). – de Beaumont, 1960b:226 (Libya), 1966:211 (Egypt: Wadi Digla near Cairo); R. Bohart and Menke, 1976:152 (in checklist of world Sphecidae); Guichard, 1988a:127 (Saudi Arabia: Lodar); Roche, 2007a:20 (in checklist of Egyptian Sphecidae), 2007b:2 (in checklist of Egyptian Ampulicidae, Sphecidae, and Crabronidae); Dollfuss, 2013a:386, 397 (in key to *Ammophila* of Palearctic Region and India), 434 (in revision of *Ammophila* of Palearctic Region and India); Gadallah, Al Dhafer, Aldryhim, Fadl, and Elgharbawy, 2013:360 (in new catalog of Sphecidae of Saudi Arabia); Ben Khedher, Yildirim, Braham, and Ljubomirov, 2020a:304 (in list of Tunisian Sphecidae *sensu stricto*; new records from Kebili and Tataouine provinces); Gadallah, 2020d:79 (in list of aculeate wasps of Arabian Peninsula).

91. *gusenleitneri* Dollfuss

Ammophila gusenleitneri Dollfuss, 2013a:435, ♀, ♂. Holotype: ♂, Morocco: Oued Massa southwest of Tiznit (OÖLM). – Dollfuss, 2013a:387, 396 (in key to *Ammophila* of Palearctic Region and India), 2015b:423 (Greece: Chalkidiki: Paliouri southeast of Kassandria); Ben Khedher, Yildirim, Braham, and Ljubomirov, 2020a:304 (in list of Tunisian Sphecidae *sensu stricto*; additional records from Ben Arous, Kairouan, Kasserine, Le Kef, Mahdia, Tunis, and Zaghouan provinces); Bitsch, Barbier, and Jacobs *in* Bitsch, Barbier, Gayubo, Jacobs, Leclercq, and Schmidt, 2020:92 (in Sphecid Fauna of Europe).

92. *gussakovskii* Dollfuss

Ammophila rugicollis Gussakovskij, 1930c:203, ♀, ♂, junior primary homonym of *Ammophila rugicollis* Lepeletier de Saint Fargeau, 1845. Syntypes: Azerbaijan: village Karadonly in Arax valley at 39°47'N 48°2'E (ZIN). – de Beaumont, 1970c:3 (Iran: Baluchestan); R. Bohart and Menke, 1976:153 (in checklist of world Sphecidae); Kazenas, 2001b:18 (in checklist of Sphecidae of Kazakhstan and Central Asia).

Ammophila gussakovskii Dollfuss, 2013a:436, substitute name for *Ammophila rugicollis* Gussakovskij, 1930. – Dollfuss, 2013a:392, 402 (in key to *Ammophila* of Palearctic Region and India), 436 (in revision of *Ammophila* of Palearctic Region and India), 2013b:570 (Kazakhstan: Ili River in Bakanas District, 6 km southeast of Lepsi); Danilov, 2016:350 (syntypes preserved in Zoological Institute, Sankt-Petersburg, Russia); Jahantigh, Rakhshani, Mokhtari, and Ramroodi, 2017:14 (Iran: known from Sistan-o Baluchestan Province); Maharramov, Mokrousov, and Proshchalykin, 2020:44 (Azarbaijan: Nakichivan Autonomous Republic); Can and Gülmez, 2021a:308 (first record from Turkey: Erzincan: Refahiye: Sakaltutan); Kaplan and Yildirim, 2023:1691 (in checklist of Sphecidae *sensu lato* of Turkey).

93. *haimatosoma* Kohl

Ammophila haimatosoma Kohl, 1884a:383, ♀. Holotype ("bei vorliegendem Stücke"): ♀, Cyprus: no specific locality (NHMW). – Ed. André, 1886:73 (in revision of Sphecidae of Europe and Algeria), 1888:3* (bibliographic references); Dalla Torre, 1897:400 (in catalog of world Hymenoptera, as *haematosoma*); Kohl, 1901d:153 (redescription), 1906b:326 (in revision of Palearctic *Ammophilini*); Morice, 1911:73 (Algeria: Biskra); Roth, 1924:123 (Algeria: Nemours, now Ghazaouet); von Schulthess, 1926b:208 (Tunisia); Roth, 1928:188 (in revision of North African *Ammophilini*), 217 (nesting habits), 230 (prey capture preceds nest construction); Kruger, 1929a:21 and 1929b:56 (Libya: Cyrenaica: Giarabub); G. Carpenter, 1930b:291 (nest closure); Nadig, 1933:101 (Morocco: Marrakech); Guiglia, 1934b:292 (Libya: bibliography and summary of locality records); Alfieri, 1946:127 (in revision of Egyptian *Ammophila*); de Beaumont, 1950d:6 (Egypt: Siwa oasis), 1950f:395 (Morocco); Pittioni, 1950:20 (Cyprus); de Beaumont, 1951e:264 (Morocco), 1953b:226 (Libya); de Beaumont and Bytinski-Salz, 1955:36 (Israel); Leclercq, 1955h:89 (bibliographic references); de Beaumont, 1956a:175 (Libya); Grandi, 1957:386 (Libya: Tripolitania: Wadi Kaam); de Beaumont, 1960:226 (Libya), 1961e:2 (Iraq), 1965b:772 (Chad: Ennedi), 1970c:2 (Iran: Khuzestan); R. Bohart and Menke, 1976:152 (in checklist of world Sphecidae); Georghiou, 1977:188 (Cyprus); Piek and Spanjer, 1986:179 (in list of Sphecidae with known prey); Steiner, 1986:98 (references to papers on nesting habits); Guichard, 1988a:127 (Saudi Arabia); Roche and Zalut, 1994:114 (Egypt: Sinai Peninsula); Gadallah and Assery, 2004a:217 (Saudi Arabia: in key to Sphecidae of Jeddah Region), 224 (in catalog of Sphecidae of Saudi Arabia: Abrug east of Jeddah, north and south of Jeddah); Roche, 2007a:16 (in checklist of Egyptian Sphecidae, as *haimatosoma haimatosoma*), 2007b:2 (in checklist of Egyptian Ampulicidae, Sphecidae, and Crabronidae, as *haimatosoma haimatosoma*); Sakenin, Samin, and Bagriacik, 2010:17 (Iran: Kerman: Jiroft); Schmid-Egger, 2011b:597 (first record from United Arab Emirates: Dubai/Nakhalai), 601 (color photograph of male); Dollfuss, 2013a:392, 401 (in key to *Ammophila* of Palearctic Region and India), 437 (in revision of *Ammophila* of Palearctic Region and India), 2013b:571 (locality records from Algeria, Iraq, Jordan, and Yemen); Gadallah, Al Dhafer, Aldryhim, Fadl, and Elgharbawy, 2013:360 (in new catalog of Sphecidae of Saudi Arabia); Jahantigh, Rakhshani, Mokhtari, and Ramroodi, 2017:15 (Iran: known from Kerman and Khuzestan provinces); Augul, 2019:492 (Iraq: reference to Kaddou, 1967); Ben Khedher, Yildirim, Braham, and Ljubomirov, 2020a:304 (in list of Tunisian Sphecidae *sensu stricto*; additional records from Kebili, Sidi Bouzid, and Tozeur provinces); Gadallah, 2020d:79 (in list of aculeate wasps of Arabian Peninsula); Gadallah and Abu El-Ghiet, 2024:91 (Saudi Arabia: Jazan Province: Abu Arish, Fayfa). – **As *Sphex haimatosoma***: R. Turner, 1918a:91 (new generic assignment, Pakistan: Karachi).

ssp. sinaitica Alfieri

Ammophila haimatosoma variété *sinaitica* Alfieri, 1946:128. Holotype: ♀, Egypt: Sinai Peninsula: Wadi El Ghedeirat (originally A. Alfieri collection, now USNM). – Dollfuss, 2013a:437 (listed in synonymy of *Ammophila haimatosoma*). – **As *Ammophila haimatosoma sinaitica***: R. Bohart and Menke, 1976:152 (new status, in checklist of world Sphecidae); Roche and Zalut, 1994:114 (Egypt: Sinai Peninsula); Roche, 2007a:16 (in checklist of Egyptian Sphecidae), 2007b:2 (in checklist of Egyptian Ampulicidae, Sphecidae, and Crabronidae).

94. *haladai* Dollfuss

Ammophila haladai Dollfuss, 2013a:439, ♀, ♂. Holotype: ♂, Turkey: Mut: Sertavul (OÖLM). – Dollfuss, 2013a:394, 404 (in key to *Ammophila* of Palearctic Region and India), 2013b:571 (Turkey: locality records); Danilov, 2014a:426 (Russia: Siberia: Khakasiya, Novosibirsk Oblast', Omsk Oblast'), 2014b:520, 521 (in key to Sphecidae s.s. of Siberia), 2017b:212 (in catalog of Sphecidae s.s. of Russia), 2020:317 (specimens from Kazakhstan, Mongolia, and Russia: Siberia in Institute of Systematics and Ecology of Animals, Novosibirsk, Russia); Can and Gülmez, 2021a:308 (Turkey: Giresun and Sivas provinces); Kaplan and Yildirim, 2023:1692 (in checklist of Sphecidae *sensu lato* of Turkey).

95. hallelujah Menke

Ammophila hallelujah Menke, 2020, ♀, ♂. Holotype: ♂, USA: California: Lassen County: Hallelujah Junction (UCD).

96. harti (Fernald)

Ammophila argentata Hart, 1907:266, ♀, ♂, junior primary homonym of *Ammophila argentata* Lepelletier de Saint Fargeau, 1845. Lectotype: ♀, USA: Illinois: Topeca (Illinois State Laboratory of Natural History), designated by Frison, 1927:230. – **As *Sphex argentatus***: Mickel, 1918b:405 (new generic assignment, in catalog of Nebraskan Sphecidae); Britton, 1920:340 (in checklist of insects of Connecticut); Rau, 1922:24 (USA: Missouri: St. Louis, nesting behavior); J.Ch. Bradley, 1928:1012 (in catalog of New York Sphecidae).

Sphex harti Fernald, 1931a:450. Substitute name for *Sphex argentatus* (Hart) Fernald, 1931a, junior secondary homonym of *Sphex argentatus* Fabricius, 1787 (Article 59.3: a junior secondary homonym replaced before 1961 is permanently invalid). – Dreisbach, 1944:268, 271 (in key to *Ammophila* of Michigan), 273 (Michigan: locality records); Strickland, 1947:129 (Canada: Alberta: Wainwright); Krombein, 1958f:192 (in supplement to catalog of North American Hymenoptera: description of larva by Evans and Lin, 1956a, reported). – **As *Ammophila harti***: Murray in Muesebeck, Krombein, and Townes, 1951:975 (new generic assignment, in catalog of North American Hymenoptera); Evans and Lin, 1956a:146 (description of larva), 1958e:451 (behavioral evolution), 1959d:459 (nesting behavior), 1963c:62 (nest closure), 1970:485 (Wyoming: Jackson Hole); R. Bohart and Menke, 1976:152 (in checklist of world Sphecidae); Krombein, 1979b:1591 (in catalog of North American Hymenoptera); Menke, 1983b:20 (Nebraska: Thomas County: Halsey area); Brockmann, 1985b:312 (nest closure summary); Hager and Kurczewski, 1985:597 (male reproductive behavior), 1986a:451 (sarcophagid cleptoparasites *Senotainia vigilans* Allen and *Phrosisinella aurifacies* Downes), 1986b:7 (nesting habits); Wcislo, 1987:519 (facultative parasitic behavior within otherwise free-living species); O'Brien, 1989b:210 (distribution in Michigan); Spofford, Kurczewski, and Downes, 1989:258, 260 (nest parasites: *Senotainia trilineata* (Wulp), and *Sphenometopa tergata* (Coquillett), miltogrammine flies), 260 (references to publications on nest parasites *Senotainia vigilans* Allen, a miltogrammine fly, and undetermined Miltogrammini); Kurczewski and Acciavatti, 1990:60 (New York: Cayuga County); Spofford and Kurczewski, 1990:747, 749, 750 (nest parasites: *Senotainia trilineata* (Van der Wulp), *Senotainia vigilans* Allen, *Sphenometopa tergata* (Coquillett), and unknown species of Miltogrammini, Sarcophagidae), 1992:996 (species of miltogrammine parasites listed), 1002 (counter-cleptoparasitic behavior: freeze-stop and face-off, diversionary flight), 1003 (chasing flight), 1004 (post-larvipositional counter-cleptoparasitic behavior: abandon burrow), 1005 (abandon prey, clean burrow, clean prey, inordinate amount of post-provisioning time in burrow, larval feeding on maggot); Kurczewski, 1998d:250 (pine barrens in upstate New York); Weissmann and Kondratieff, 1999:77 (Colorado: Great Sand Dunes National Monument); Buck, 2004:24 (Canada: in checklist of Sphecidae of Ontario); Stevens and Menke, 2014:220 (Arizona: Grand Canyon ecoregion); Menke, 2020:70 (in revision of North and Central American *Ammophila*); Buck and Bennett, 2025:223 (in checklist of Sphecidae sensu lato of Canada, Alaska, and Greenland: Canada: Alberta, Manitoba, New Brunswick, Ontario, Saskatchewan, first records from Quebec: no specific locality).

97. hemilauta Kohl

Ammophila hemilauta Kohl, 1906:360, ♀. Lectotype: ♀, Tunisia: Médenine (NHMW), designated by Dollfuss, 2013a:440. – von Schulthess, 1926b:209 (Tunisia, Libya); Roth, 1928:203 (in revision of North African Ammophilini, description of ♂); nec Bischoff, 1933:6 (= *Ammophila strumosa*); Bischoff, 1933:6 (Morocco); Guiglia, 1934b:292 (Libya: bibliography and summary of locality records); Alfieri, 1946:135 (in revision of Egyptian *Ammophila*); de Beaumont and Bytinski-Salz, 1955:37 (Israel); Leclercq, 1955h:85 (bibliographic references); de Beaumont, 1956a:178 (Libya), 1958a:290 (illustration of genitalia), 1960b:226 (Libya), 1963b:20 (in revision of *Ammophila nasuta* species group); R. Bohart and Menke, 1976:152 (in checklist of world Sphecidae); Dollfuss, 1989:7 (type material in NHMW); Roche, 2007a:17 (in checklist of Egyptian Sphecidae, redescription), 2007b:2 (in checklist of Egyptian Ampulicidae, Sphecidae, and Crabronidae); Dollfuss, 2013a:387, 398 (in key to *Ammophila* of Palearctic Region and India), 2013b:571 (Tunisia: 20 km southeast of Gabes, Kebili, Tataouine), 2015b:423 (Egypt: Marsa Matrouh: between Burg el Arab und El Hamman at 30°54'21"N 29°26'02"E; new record: Tunisia: Mahdia: Ksour Essef: Salakta).

98. hermosa Menke

Ammophila hermosa Menke 1965c:1, nomen nudum. Objective synonym of *Ammophila hermosa* Menke, 1966b.

Ammophila hermosa Menke, 1966b:31, ♀, ♂. Holotype: ♂, USA: California: Mono County: Black Lake (UCD). – R. Bohart and Menke, 1976:152 (in checklist of world Sphecidae); Krombein, 1979b:1591 (in catalog of North American Hymenoptera); Menke, 1994f:22 (Arizona: Bisbee); Amarante, 2002:67 (in catalog of Neotropical Sphecidae); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:669 (in checklist of Mexican Sphecidae); Stevens and Menke, 2014:220 (Arizona: unknown from Grand Canyon ecoregion); Menke, 2020:94 (in revision of North and Central American *Ammophila*).

99. heteroclypeola Li and Xue

Ammophila heteroclypeola Li and Xue, 1998:181, ♀, ♂. Holotype: ♀, China: Xingjiang: Wujiaqu (Zhejiang Agricult. Univ.). – Dollfuss, 2013a:441 (in revision of *Ammophila* of Palearctic Region and India, original description translated from Chinese into English); Ch. Wang, Bashir, Q. Li, and Ma, 2018:300, 302 (in key to *Ammophila* of China).

100. hevans Menke

Ammophila hevans Menke, 2004:766, ♀, ♂. Holotype: ♀, Bolivia, Santa Cruz 3 km north of Brazilio (CAS). Paratypes: Argentina, Paraguay. – Dollfuss, 2015b:424 (locality records from Argentina and Paraguay); Trad, Buys, and Silvestre, 2016:1 (first record from Brazil: Mato Grosso do Sul: Dourados Municipality: Lagoa Grande rural settlement at 21°59'37"S, 055°19'25"W); Aranda, 2019:308 (Brazil: Mato Grosso de Sul: Corumbá at 19°20'56"S 057°00'60"W).

101. heydeni Dahlbom

NOTE. European records of *Ammophila holosericea* probably refer to *heydeni*.

Ammophila heydeni Dahlbom, 1845:430, sex non indicated (as *Heydeni*, incorrect original capitalization). Holotype or syntypes: southern Europe: no specific locality (Lund). – Eversmann, 1849:364 (Russia: Astrakhan, Orenburg and Saratov areas); F. Smith, 1856:210 (in catalog of Hymenoptera in British Museum); A. Costa, 1858a:19 (Italy: Campania: Monti Partenii in Benevento Region), 1858b:19 (Italy: in revision of Sphecidae of Kingdom of Naples); von Frauenfeld, 1861:103 (Croatia: Dalmatia: no specific locality); Sichel, 1861:751 (Italy: Sicilia); A. Costa, 1863:65 (Italy: Calabria Ulteriore: no specific locality); Giraud, 1863a:14 (Italy: Piemonte: Suse; and France: Hautes-Alpes: Vallouise near Briançon); A. Costa, 1867b:77 and 1867c:21 (in revision of Italian Sphecidae); Kirchner, 1867:217 (in catalog of European Hymenoptera); Palma, 1869:37 (Italy: Sicilia settentrionale); Aichinger, 1870:321 (Austria: Tirol); Dours, 1874:141 (in catalog of Hymenoptera of France); J. Lichtenstein, 1975b:CCII (position of nympe inside cocoon, as *Heydeini*); Frivaldszky, 1876:354 (Hungary: Temes Komitat: Grebenáč, now in Timiș District in Romania); Becker, 1880:150 (Russia: Sarepta, now Krasnoarmeysk south of Volgograd); Kohl, 1880:184 (Austria: Tirol, and Italy: Trentino–Alto Adige); Magretti, 1881:113 (Italy: Lombardia), 270 (in list of species discussed in this paper); Yaroshevskiy, 1881:127 (Ukraine: Khar'kiv Oblast': Khar'kiv); A. Costa, 1882b:22 (Italy: Sardegna); De Stefani Perez, 1882:39 (Italy: Sicilia: Sciacca); Magretti, 1882a:383 (Italy: Pisa Province: Lavaiano); Kohl, 1883e:674 (Switzerland); Ed. André, 1886:71 (in revision of Sphecidae of Europe and Algeria); De Stefani Perez, 1886:171 (Italy: Sicilia: monte di Renda near Palermo); Gasperini, 1887:18 (Dalmatia: Brusije, San Giorgio, Spalato, now Croatia: Brusje and Sućuraj on Island of Hvar, Split); Ed. André, 1888:3* (bibliographic references); Cuní y Martorell, 1888:164 (Spain: Barcelona); Kohl and Handlirsch, 1889:276 (Turkmenistan); F. Morawitz, 1891a:203 (Russia: Astrakhan Governorate); Kohl, 1893a:36 (Austria: Niederösterreich); F. Morawitz, 1893b:408 (Tajikistan); Baldini, 1894:48 (Italy: Modena area); De Stefani Perez, 1894:216 (Italy: Sicilia); Schletterer, 1894:30 (Istria Peninsula, now part of Croatia, Slovenia, and Italy); De Stefani Perez, 1895:226 (Italy: in catalog of Sicilian Hymenoptera); Cuní y Martorell, 1897:331 (Spain: Cataluña: villa de Calella); Dalla Torre, 1897:400 (in catalog of world Hymenoptera); Mocsáry, 1897:79 (Kingdom of Hungary, some localities are in today's Croatia and Romania); Flamary, 1898:38 (France: Saône-et-Loire: Mâcon area); Ferton, 1899:340 (prey paralyzing); Ghigi, 1902:190 (Greece: Ionian Islands: Kefalonia: Ankona, as *heideini*); de Cobelli, 1903:104 (Italy: Province of Trentino); Antiga and Bofill, 1904:3 (Spain: Cataluña Province); E. Saunders, 1904c:635 (Spain); Zilahi Kiss, 1904:77 (Hungary: Nagyfalú); Ferton, 1905:97 (homing); Kohl, 1905c:232 (Turkey: Kayseri: Erciyes Dağı); Mantero, 1905:68 (Italy: Toscana: Isola del Giglio); W. Schulz, 1905b:34 (Algeria: Biskra and Oued Deurdeur); Vängel, 1905:167 (Hungary); Kohl, 1906b:366 (in revision of Palearctic Ammophilini); W. Schulz, 1906:43 (Greece: Crete); Móczár and Henter, 1907:205 (Hungary: Hatvan, Tiszaalpár; Romania: Caraș-Severin: Mehadia); Schmiedeknecht, 1907:245 (in key to Hymenoptera of Central Europe); de Gaulle, 1908:103 (in catalog of French Hymenoptera); Ferton, 1908:560 (nesting habits), 582 (nest excavation and homing, prey); von Schulthess, 1909:440 (Libya: Derna, Gherran); Olivier, 1910:163 (Algerie: Bou Saâda); Graeffe, 1911:48 (Italy: Trieste area); Morice, 1911:74 (Algeria: Constantine); Birula, 1913:545 (Ukraine: Zhytomyr Oblast': Radomyshl'); Kohl, 1913b:15 (Russia: Voronezh Oblast': Valuyki at 50°14'N 38°08'E); Zavattari, 1913b:3 (Greece: Island of Rhodes, as *heydeini*); Szilády, 1914:89 (Hungary: Nagyenyed, Vizakna); Kerenskiy, 1919:35 (Russia: Penza Governorate); Rabaud, 1919:52 (nest excavation, homing, choice of prey); Berland, 1921:533 (Greece); Fahringer and Friese, 1921:160 (Turkey: Erzurum: Iyaribashi in Amanus Mountains = Gavur Dağları); Ferton, 1921:347 (France: Corse: Propriano; nesting behavior); Maidl, 1922:67 (Albania, Croatia); Fahringer, 1922:176 (Turkey); Strand, 1922:198 (Austria: Niederösterreich: Guntramsdorf); Ferton, 1923:87 (prey paralyzing), 138 (progressive provisioning), 294 (easily finds nest when carrying prey), 303 (evacuation of sand from nest in flight, prey carrying), 320 (captures other families when preferred geometrid caterpillars are in short supply); Gribodo,

1924a:262 (Libya: Benghazi), 1924b:48 (Libya: Benghazi, Tolmetta); Roth, 1924:123 (Algeria: Nemours, now Ghazaouet); Berland, 1925a:13 (a spider, *Filistata insidiatrix*, taking away a female's prey, a caterpillar of a *Pararge* butterfly, probably *P. maegera* L., Nymphalidae), 1925d:30 (in Sphecidae Fauna of France); Coulon, 1925:115 (France: Allier, Oise; Italy: Sicilia; Turkey: Istanbul); Grandi, 1925a:90 (Italy: Emilia: Gaggio Montano); Picard, 1925b:163 (nest provisioning of either mass type or delayed type, nest construction precedes hunting, prey: geometrid caterpillars); Rabaud, 1925:173 (nest containing caterpillar was open, mother *A. heydeni* visited it and disappeared, she appeared three days later, bringing second prey, the third prey was found four hours later, with an egg on it); Zanon, 1926:91 (Libya: Fueihat 15 km south of Benghazi); Grandi, 1926:281 (nesting habits); von Schulthess, 1926b:209 (Tunisia, Libya); Kuznetsov-Ugamskij, 1927:249 (Kazakhstan: Khumsan); Benoist, 1928:408 (France: Alpes-Maritimes: Grasse); Berland, 1928b:175 (add Grandi, 1926 and Roth, 1928 to bibliography in Berland, 1925d); Roth, 1928:206 (in revision of North African Ammophilini), 224 (nesting habits); Grandi, 1929:258 (prey carrying, sleeping position), 1929:287 (Italy: Toscana: valle della Limentra); Roth, 1929:185 (in revision of Spanish Ammophilini); G. Carpenter, 1930b:291, 292 (nest closure); Grandi, 1930:302 (attempts at nest closure with pebble that escaped from mandibles), 340 (Italy: Toscana: Maremma); Schmiedeknecht, 1930:706 (in keys to Hymenoptera of North and Central Europe); Dusmet y Alonso, 1931:7 (Portugal: Mitra); Molitor, 1931b:413 (nesting habits); Giordani Soika, 1932a:20 (Italy: Lido di Venezia); Guiglia, 1932d:467 (Libya: Gialo); Molitor, 1932b:450 (nesting habits and experiments); Bischoff, 1933:6 (Morocco); Dulac, 1933b:39 (France: Saône-et-Loire: Saint-Leu and Montcenis near Le Creusot); Gussakovskij, 1933b:274 (Iran, as *heydenii*); Masi, 1933:196 (Italy: Toscana: Isola di Capraia); Molitor, 1933c:502 (experiments with prey substitution), 507 (fighting between females); Nadig, 1933:100 (Algeria: Oran; Morocco); Grandi, 1934:65 (attempts at nest closure with pebble that escaped from mandibles), 130 (Italy: Lazio: Acilia, and Toscana: San Vincenzo); Guiglia, 1934b:292 (Libya: bibliography and summary of locality records); Gussakovskij, 1934a:6 (China: Sinkiang: Kuldja, as *heydenii*); Maidl, 1934:64 (Greece: Aegean Islands); Molitor, 1934b:170 (homing), 1934c:450 (experiments on nesting behavior); Nadig, 1934:33 (France: Corse: Ajaccio, Bastia, Cap Corse); Zavadil, 1934:187 (Slovakia); Berland, 1935b:63 (use of pebble for tampering nest entrance); Bernard, 1935:60 (France: Var: Fréjus area); Grandi, 1935a:49 (nesting habits), 111 (Italy); Gussakovskij, 1935:413 (Tajikistan: Kulab, as *heydenii*); Marchand and Dulac, 1935:61 (France: Saône-et-Loire: Saint-Laurent d'Andenay); Vergne, 1935:117 (France: Auvergne: Chanturgue, Lezoux); Bernard, 1936c:287 (France: Hérault: Valvras; Var: Fréjus); Molitor, 1936a:195 (experiments on color recognition), 1936b:524 (reaction to disturbance and obstacles); Noskiewicz, 1936:160 (Poland: Podole Region: Trembowla, now Ukraine: Terebovlia); Roller, 1936:315 (Austria: loess cliffs at Bisamberg near Vienna); Dulac, 1937:7 (France: Saône-et-Loire: Montcenis, Saint-Laurent d'Andenay); 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Šnoflák in Zavadil and Šnoflák, 1948:99 (in key to Sphecidae of Czechoslovakia); de Beaumont, 1950f:396 (Algeria, Morocco); Scobiola, 1950:21 (Romania); de Beaumont, 1951e:265 (Morocco); Cleu, 1953:50 (France: Ardèche River basin); de Beaumont, 1953h:193 (study of a ♂ from Dalmatia, holotype or syntype of *heydeni*); Guiglia, 1953b:10 (Italy: Lucania-Calabria: Santicelli); Nouvel and Ribaut, 1953:176 (France: Haute-Garonne: Saint-Béat); de Beaumont 1954e:86 (Italy); Grandi, 1954:155 (nesting habits), 235 (Italy); Hertzog, 1954:99 (France: Bouches-du-Rhône: Camargue); Aerts, 1955:64 (Germany: Rheinland); de Beaumont, 1955c:55 (effects of stylopization); de Beaumont and Bytinski-Salz, 1955:39 (Israel); Harant and Leclercq, 1955:251 (France: Hérault: eight localities); Leclercq, 1955h:76 (bibliographic references, locality records from Africa); Steiner, 1955:132 (France: Dordogne); Vergne, 1955:3 (France: Auvergne); Vogrin, 1955:31 (Yugoslavia); Bytinski-Salz, 1956:224 (Turkey: thirteen localities); Ceballos, 1956:359 (in catalog of Hymenoptera of Spain); de Beaumont, 1956a:180 (Libya: Cyrenaica); Dulac, 1956:9 (France: Saône-et-Loire: Mâcon, St.-Laurent-d'Andenay east of Creusot); Hertzog, 1956:146 (nest construction, prey: geometrid caterpillars); Leclercq, 1956g:324 (Greece); Morel, Nouvel, and Ribaut, 1956:336 (France: Département des Pyrénées-Orientales); Bajári, 1957a:14 (in key to Hungarian Sphecidae); de Beaumont, 1957b:129 (northern Iran); Grandi, 1957:340 (prey carrying), 386 (Italy); Nouvel and Ribaut, 1958:8 (France: Pyrénées-Orientales: Banyuls-sur-Mer area); Pulawski, 1958a:163 (Bulgaria: Aitos, Kniiazhevo near Sofia, Nesebar, Sandanski, Sozopol, Varna); van der Zanden, 1958b:90 (France: Piquey, name may be in error); Ceballos, 1959:228 (in supplement to catalog of Spanish Sphecidae); de Beaumont, 1959a:7 (Italy); Diniz, 1959:26 (Portugal: 15 localities); Giner Marí, 1959:387 (Morocco); Scobiola-Palade, 1959:499 (Romania: Constanța Region: Agigea); Suárez, 1959:52 (Spain: Almería Province); Suárez in Giner Marí, 1959:400 (recorded from Morocco by de Beaumont, 1951); Wolf, 1959b:28 (only record from Germany is doubtful; unknown from Nassau); Čingovski, 1960:5 (Macedonia: several localities); de Beaumont, 1960a:5 (Greece: Island of Rhodes), 1960b:226 (Libya); Noskiewicz and Pulawski, 1960:38 (in key to Polish Sphecidae, not yet found in Poland); Scobiola, 1960b:233 (Romania: Constanța Region: Eforie and Techirghiol, Craiova Region: Bucovăț, illustration of male genitalia); de Beaumont, 1961b:272 (Afghanistan), 1961c:44 (Greece: Island of Crete); Grandi, 1961:133 (nesting habits); Atanassov, 1962:125 (Bulgaria: Petrich area); de Beaumont, 1962b:19 (Spain); Grandi, 1962:97 (Italy); Scobiola, 1963:825 (Romania: Cardon); Ceballos, 1964:87 (in supplement to catalog of Spanish Sphecidae); de Beaumont, 1964c:26 (in Sphecidae Fauna of Switzerland), 1965a:11 (Greece); Diniz, 1965:2 (Portugal: 37 localities); Pulawski, 1965b:260 (structure of gastral segment I); Roberti, Frilli, and Pizzaghi, 1965:109 (Italy: Emilia-Romagna: Bobbio and Marsalia in Piacenza Province); Scobiola-Palade, 1966b:391 (Romania: Tulcea District: Chilia Veche, Tulcea); Balthasar, Hrubant, and Hrubant, 1967:176 (Bulgaria: Slanchev Bryag near Nessebar); Carayon, 1967:744, 746 (France: Vaucluse Department: nocturnal rest site); de Beaumont, 1967a:270 (Turkey; also sp. aff.); Scobiola-Palade, 1967a:161 (Romania: Constanța District: Canaraua Fetei, Hagieni), 1967b:36 (Romania); Benedek, 1968:70 (Hungary, floral records); Kazenas, 1968b:342 (Kazakhstan: Alma Ata, Aktyubinsk, and Kyzyl-Orda oblast's); Scobiola-Palade, 1968b:141 (Romania: Island of Letea in delta of Danube), 1968c:382 (Romania: București, Budești, Cernica, Copăceni); de Beaumont, 1969:81 (Turkey); Schmidt, 1969:160 (Germany: record from Rhein-Main area is tentative); Zangheri, 1969:1699 (Italy: in catalog of flora and fauna of Romagna Region); Islamov, 1970:63 (Uzbekistan: Chirchik Basin); Oehlke, 1970:673 (Taschenberg's 1866 record from Democratic Germany area is tentative); Myartseva, 1971a:77 (in key to *Ammophila* of Turkmenistan); Atanassov, 1972a:192 (Bulgaria: Stara Planina Mountains), 1972b:32, 48, 49 (Bulgaria: Stara Planina Mountains); Balthasar, 1972:429 (in Sphecidae Fauna of Czechoslovakia); Kazenas, 1972b:99 (Kazakhstan); Krombein, 1972b:384 (Greece; prey: a geometrid caterpillar); Myartseva, 1972a:86 (Turkmenistan); Scobiola-Palade, 1972a:148 (Romania: delta of Danube: Caraorman); Simon Thomas, 1972:174 (France: Gironde, Landes, Lot-et-Garonne); Esmaili and Rastegar, 1974:45 (Iran); Kazenas, 1974b:109 (feeding on flowers of *Tamarix* sp., Tamaricaceae, *Statice gmelini* Willd., Plumbaginaceae, *Cynanchum sibiricum* Willd., Asclepiadaceae, *Euphorbia* spp., Euphorbiaceae, in Kazakhstan), 110 (feeding on flowers of *Nitraria schoberi* L. and *Peganum harmala* L., Zygophyllaceae, and *Alhagi pseudalhagi* M.B. 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Bohart and Menke, 1976:152 (in checklist of world Sphecidae); Georghiou, 1977:188 (Cyprus); Kolesnikov, 1977:317 (Russia: Bryansk Oblast); Tyrner, 1977:125 (first record from Czech Republic: Písečný vrch near Bečov); Guichard, 1978:269 (Greece); Kazenas, 1978b:38 (in key to Sphecidae of Kazakhstan and Central Asia); Marion, 1978:85 (France: Nièvre Department); Pulawski, 1978:182 (in key to Sphecidae of European part of USSR); Benedek, 1979:227 (Hungary: Bakony Hills); Islamov and Kazenas, 1979:64 (Uzbekistan: floral records); Radović and Krunić, 1979:unpaginated foldout (nesting in coarse sand and loose soil, foreleg structure, as *Haydeni*); Casolari and Casolari Moreno, 1980:100 (specimens in M. Spinola collection, as *hegdeni*); Dathe, 1980:208 (Russia: northern Caucasus: Teberda); Pagliano, 1980:111 (Italy: Piemonte); Gayubo, 1981a:139 (northern Spain: Sierra de Béjar); Józán, 1981:304 (Hungary: Hortobágy National Park); Gayubo, 1982f:246 (Spain: Cádiz Province); Dollfuss, 1983b:3 (in catalog of Sphecidae of Austria); Gayubo, 1983c:231 (Spain: Salamanca Province); Mingo and Gayubo, 1983:160 (Spain); Schmidt and Westrich, 1983:121 (Greece); Gayubo, 1984c:358 (Portugal: El Algarve Province); Gayubo and Tormos, 1984:11 (Spain: Valencia); Pagliano, 1984:368 (Italy); Brockmann, 1985b:312 (nest closure summary); Chevin and Chevin, 1985:38 (France: Aude); Gayubo, 1985c:167 (Spain: Segovia: Cantaleo; Valladolid: Traspinedo); Józán, 1985b:55 (Hungary south of Lake Balaton), 76 (floral records), 83 (ecological and zoogeographic characteristics); Pagliano, 1985:14 (Italy); Radović, 1985:64 (sting apparatus analyzed, as *heideni*); Scobiola-Palade, 1985:95 (Romania: delta of Danube); Gayubo, 1986b:37 (Spain: Andalucía), 1986c:30 (Spain: Zamora Province), 1986f:999 (strepsipteran parasite); Gayubo and Heras, 1986:31 (Spain: Segovia and Valladolid Provinces; floral records); Gayubo and Sanza, 1986:31 (Spain: Burgos, Segovia, and Soria provinces); Gayubo and Tormos, 1986a:9 (Spain: Castellón de la Plana), 1986b:5 (Spain: Valencia); Islamov, 1986:513 (Uzbekistan: Tashkent Oblast); Józán, 1986:368 (Hungary: Kiskunság National Park); Piek and Spanjer, 1986:179 (in list of Sphecidae with known prey); Steiner, 1986:98 (references to papers on nesting habits); Asís and Jiménez, 1987:25 (Spain: Provincia de Castellón); Gayubo, 1987:108 (Spain: Provincia de Ciudad Real); Scobiola-Palade, 1987:65 (Romania: Dobrogea); Tormos and Jiménez, 1987a:123 (Spain: Valencia Province); Dollfuss, 1988:8, 21 (Austria: Bisamberg near Vienna; Niederösterreich: Oberweiden); H. Kollar, 1988:23 (nesting at foot of loess cliffs); Józán, 1989:100 (Hungary: Tihany Nature Reserve); Pádr in Šedivý, 1989a:166 (in checklist of Czechoslovakian Sphecidae); Scobiola-Palade, 1989:87 (Romania:

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Turrisi, 2007:115 (Italy: Sicilia: Mount Etna: Botanical Garden Nuova Gussonea and vicinity, as *heydeni hydeni*); Vepřek and Straka, 2007:199 (in catalog of Sphecidae of Czech Republic and Slovakia); Yildirim and Ljubomirov, 2007:116 (Turkey: nine localities); Danilov, 2008:346 (Russia: Altayskiy Kray: Barnaul area, as *heydeni heydeni*); Danilov and Tshernyshev, 2008:41 (Russia: Novosibirsk Oblast': Karasuk area); Dvořák, Bogusch, Malenovský, Bezděčka, Bezděčková, Holý, Liška, Macek, Roller, Říha, Smetana, Straka, and Šima, 2008:65 (Czech Republic: Hády Hill near Brno); Gayubo, González, Tormos, and Asís, 2008:136 (Spain: Salamanca: Parque Natural de Las Batuecas – Sierra de Francia); Heneberg, Bogusch, and Řehounek, 2008:unnumbered p. 7 (Czech Republic: sandpits); Kazenas, 2008b:111 (Kazakhstan: foothills of Zailiskiy Alatau: sometimes found on basis of loess cliffs), 2008c:255 (Kazakhstan: village Koktum south of Lake Alakol'); Ljubomirov and Yildirim, 2008:35 (in catalog of Sphecidae of Turkey); Nemkov, 2008b:17 (in catalog of Sphecidae of Asiatic Russia); Pagliano, 2008:511 (specimens in M. Spinola collection, Torino); Baños-Picón, Asís, Gayubo, and Tormos, 2009:310 (Spain: frequency of specimens collected with hand nets and Malaise traps); Danilov, 2009:57 (Russia: Western Siberia: Kulundinskaya Steppe, as *heydeni heydeni*); Gayubo, González, Tormos, and Asís, 2009:362 (Spain: Valladolid: Reserva Natural Riberas de Castronuño – Vega del Duero); González, Gayubo, Asís, and Tormos, 2009:622 (Spain: Salamanca and Zamora provinces: Arribes del Duero Natural Park); Guéorguiev and Ljubomirov, 2009:262 (Bulgaria: Maleshevska Planina, as *heydeni heydeni*); Józán, 2009:164 (Croatia); Nemkov, 2009b:49 (in new catalog of Sphecidae and Crabronidae of Asiatic Russia); Shoreenko, 2009:367 (in list of Sphecidae *sensu lato* of Crimea); Zettel, Wagner, Zimmermann, Wiesbauer, Sorger, Ockermüller, and Seyfert, 2009:10 (Austria: Oberösterreich: Pfaffstätten); Bitsch, 2010:106 (in supplement to vol. II of Faune de France, 1997: France: first records from Loir-et-Cher: La Ferté-Imbault, Saint-Laurent-des-Eaux, and from Loiret: Beaugency); Burguet in Durand and Burguet, 2010:24 (France Département d'Ardèche: Ardèche Gorges); Danilov, 2010b:44 (distribution of western Palearctic type); Ghazi-Soltani, Ebrahimi, Iranipour, and Pour Abad, 2010:798 (Iran: East Azarbaijan: Tabriz: Dand mountains and Khalatpoushan; Jolfa: Shiahroud; Sarab); Mokrousov, 2010a:60 (Russia: Tatarstan: no specific localities), 2010b:100 (Russia: Tatarstan: no specific locality; Rudoiskatel', 2010:147 (Russia: southern Ural Mountains); Shoreenko and Konovalov, 2010:10 (Ukraine); Tüzün and Yüksel, 2010:4469 (Turkey: Niğde Province); van der Smissen, 2010b:383 (France: Ardèche and Vaucluse: locality records); Cruz-Sánchez, Asís, Gayubo, Tormos, and González, 2011:497 (Spain: Salamanca and Zamora provinces: Arribes del Duero Natural Park: effects of wildfire); Field, Ohl, and Kennedy, 2011:734 (in molecular cladistic analysis of Ammophilini); Gogala, 2011:7 (Slovenia); Józán, 2011:178 (in checklist of Sphecidae *sensu lato* of Hungary); Protsenko and Drozdovskaya, 2011:90 (Ukraine: Mikolaiv Oblast': Bugskiy Guard National Park); Schmid-Egger, 2011a:42 (France: Parc National du Mercantour); Boillat, 2012:229 (Switzerland: in checklist of insects of Canton de Genève); Burguet in Durand and Burguet, 2012:2 (France: Puy-de-Dôme: sands Girauds-Faures in Orléat commune); Hellrigl, 2012:128 (Italy: Provincia Autonoma di Bolzano-Alto Adige, as Südtirol); Prismaniy, 2012:46 (Russia: Belgorod Oblast'); Protsenko, Fateryga, Ivanov, and Puzanov, 2012:52 (Ukraine: Crimea; Russia: Krasnodarskiy Kray: Anapa); Shibayev and Polumordvinov, 2012:278 (Russia: Penza Oblast'); Strumia, Pagliano, and Gayubo, 2012:55 (Italy: Toscana: Riserva di San Rossore); Yildirim, 2012:75 (Turkey: Adana, Erzurum, and Kars provinces); Bayındır, Gürbüz, Ljubomirov, and Pohl, 2013:146 (Turkey: Isparta: Kasnak Oak Forest Nature Reserve); Dollfuss, 2013a:387, 396 (in key to *Ammophila* of Palearctic Region and India), 442 (in revision of *Ammophila* of Palearctic Region and India), 2013b:571 (locality records from Armenia, Austria, Bulgaria, China, Croatia, Czech Republic, France, Greece, Hungary, Italy, Iran, Jordan, Kazakhstan, Kosovo, Kyrgyzstan, Moldavia, Mongolia, Portugal, Russia: Runnyi in Rostov District, Serbia, Slovakia, Spain, Syria, Tajikistan, Turkey, Turkmenistan, Uzbekistan, and Yemen); Kazenas, 2013a:34, 35 (color photographs of adult wasps, short information on geographic distribution and nesting habits); Vieira, Oliveira, Brewster, and Gayubo, 2013:15 (Portugal: Douro International Natural Park and Serras de Aire east of Candeeiros Natural Park); Ceccolini and Bartogli, 2014:95 (Italy: Sicilia: San Pantaleo, and Campania: Island of Ischia, as *heydeni heydeni*); Danilov, 2014a:426 (Russia: Siberia: Altayskiy Kray, Novosibirsk Oblast', Omsk Oblast'), 2014b:519, 520 (in key to Sphecidae s.s. of Siberia); Dunford, Turbyville, and Leavengood, 2014:10 (listed as medically important in Afghanistan); Ebrahimi, 2014:6 (Iran: Alborz, Ardebil, Āzarbāijān-e-Sharghi, Esfahān, Ghazvin, Golestān, Hormozgān, Lorestān, Kerman, Māzandarān, and Tehrān provinces); Ghahari, Hayat, Lavigne, and Ostovan, 2014:1390 (prey of asilid fly *Dysmachus bifurcus* (Loew)); Józán, 2014:131 (Croatia: nine localities); Mokrousov and Vafin, 2014:54 (Russia: Republic of Tatarstan); Shayestehfar, Noori, Talebi, and Moniri, 2014:24 (Iran: Isfahan: Golpayegan); Yildirim, 2014:30 (Turkey: distribution by biogeographic provinces, as *heydeni heydeni*); Dollfuss, 2015b:424 (locality records from Albania, France, Greece, Italy, Kyrgyzstan, Syria, and Turkey); Field, Shreeves, Kennedy, Brace, and Gilbert, 2015:1899 (sex-biased parental care and sexual size dimorphism); Gülmez and Can, 2015:12 (usability of ITS2 and 28S-D2 gene regions for species identification); Koçak and Kemal, 2015:277 (in checklist of Hymenoptera of Turkey); Lett,

2015:5 (France: Loir-et-Cher: Gièvre); P. Rosa and Pagliano, 2015:59 (Italy: Lombardia and Piemonte: Parco del Ticino); Shorenko, 2015:311 (in list of Sphecidae *sensu lato* of Crimea); Gülmez and Dizer, 2016:59 (Turkey: Tokat Province); Levärdä and Matache, 2016:39 (in catalog of Sphecidae s.s. of Romania); Mokrousov and Popov, 2016:560 (Russia: Krasnodarskiy Krai); Stolle and Saure, 2016:927 (Germany: in list of Sphecidae *sensu lato* of Sachsen-Anhalt); Yildirim, Ljubomirov, Özbek, and Yüksel, 2016:7 (Turkey: Antalya, Erzurum, Karaman, Manisa, and Mersin provinces); Arens, 2017a:636 (Greece: Peloponnesus); Danilov, 2017b:212 (in catalog of Sphecidae s.s. of Russia); Jahantigh, Rakhshani, Mokhtari, and Ramroodi, 2017:15 (Iran: known from Alborz, Ardabil, East Azerbaijan, Fars, Golestan, Guilan, Hormozgan, Isfahan, Kerman, Lorestan, Markazi, Mazandaran, Qazvin, Sistan-o Baluchistan, and Tehran provinces); Magdalou, 2017:14 (France: Pyrénées-Orientales: Réserves Naturelles Catalanes: Forêt de la Massane); Shorenko, 2017:75 (in Crimea collected in May through September); Can and Gülmez, 2018b:756 (in some males from Turkey, crossvein Irs-m is incomplete, causing partial merging of submarginal cells II and III); Kemal and Koçak, 2018:43 (Turkey: in list of pterygot insects of Van Province); Lett, 2018:202 (France: Loir-et-Cher: Gièvres at 47°16'39"N 1°41'52"E); Shorenko, 2018:126 (Crimea, including localities, habitats, and number of specimens); Ch. Wang, Bashir, Q. Li, and Ma, 2018:298, 301 (in key to *Ammophila* of China); Augul, 2019:493 (Iraq: Wasit Province: Aziziyah: Al Zelja village); Gülmez, 2019:3 (Turkey: Amasya, Ankara, Sivas, and Tokat provinces: no specific localities), 4 (abnormal forewing venation); Shorenko, 2019:211 (among commonest sphecid species in Crimea); Bitsch, Barbier, and Jacobs *in* Bitsch, Barbier, Gayubo, Jacobs, Leclercq, and Schmidt, 2020:92 (in Sphecid Fauna of Europe); Cassar and Mifsud, 2020:164 (in checklist of Sphecidae s.s. of Malta); Danilov, 2020:317 (specimens from Armenia, Kazakhstan, Kyrgyzstan, Russia, both European and Siberia, Tajikistan, and Turkmenistan in Institute of Systematics and Ecology of Animals, Novosibirsk, Russia); Field, Gonzalez-Voyer, and Boulton, 2020:7 (evolution of parental care); Gadallah, 2020d:79 (in list of aculeate wasps of Arabian Peninsula); Maharramov, Mokrousov, and Proshchalykin, 2020:45 (Azarbaijan: Nakichivan Autonomous Republic); Shorenko, 2020:47 (Crimea: Karadag Nature Reserve); Turrisi, Altadonna, Lo Cascio, Nobile, and Selis, 2020:727 (Italy: Aeolian Archipelago: island of Lipari); Can and Gülmez, 2021a:309 (Turkey: many localities); Cross, Baldock, and Wood, 2021:14 (in catalog of Sphecidae *sensu lato* of Portugal); Can, 2022b:1875 (parasite: mite *Leptus* sp., Trombidiformes, Erythraeoidea); Embergenov, Élmurodova, Amirov and Kimyonazarov, 2022:47 (Uzbekistan: Khiva area, Fergana Province); Embergenov, Akhmedov, and Medetov, 2023:24 (Uzbekistan: southern Lake Aral region); Kaplan and Yildirim, 2023:1692 (in checklist of Sphecidae *sensu lato* of Turkey); Medetov, Embergenov, Kholmatov, Elmurodova, Rakhimov, and Tajibaeva, 2024:418 (Uzbekistan: distribution). – ***As Podalonia heydeni***: Bischoff, 1931:8 (new generic assignment, Spain). (original description copied).

Ammophila iberica Ed. André, 1886:69, ♀, ♂ (as *Iberica*, incorrect original capitalization). Syntypes: Portugal: no specific locality (MNHN). Synonymized with *Ammophila heydeni* by Kohl, 1889a:20. – Ed. André, 1888:2* (bibliographic reference); Medina, 1898:153: (Portugal: Mamede and Valpassos); E. Saunders, 1904c:635 (Spain). – ***As Ammophila heydeni* var. *iberica***: Medina, 1894a:259 (new status, Spain: Cazalla); Antiga and Bofill, 1904:4 (Spain: Cataluña Province).

As *Ammophila holosericea*: Vander Linden, 1827:356 (synonymy; Italy, Dalmatia); Eversmann, 1849:364 (Russia: Orenburg area); von Kiesenwetter, 1849:87, footnote (Sicily, southern France); Belke, 1859:71 (Ukraine: Kamieniec Podolski); Imhoff, 1863:90 (Switzerland: Wallis: Saasthal); Schenck, 1861:162 (redescription, Germany: Sachsen = Saxony: no specific locality); A. Costa, 1869a:16 (Italy: Piemonte); Mocsáry, 1874:120 (Siebenbürgen, now Romania: Transylvania: no specific locality); Fabre, 1879:208 (nesting habits), corrected to *Ammophila heydeni* by Berland, 1923a:172; Ferton, 1901a:141 (experiment with prey substitution); Antiga and Bofill, 1904:4 (Spain: Cataluña Province); de Gaulle, 1908:103 (in catalog of French Hymenoptera).

ssp. *rubra* Radoszkowski

Ammophila rubra Radoszkowski, 1876b:132, sex not stated (authorship attributed to Sichel). Syntypes: Corsica, Causcaus, Egypt, and Kazakhstan (Kraków, ZMMU). – Radoszkowski, 1877:3 (Kazakhstan), 1887b:90 (in list of Transcaspien Hymenoptera); Dalla Torre, 1897:407 (in catalog of world Hymenoptera); R. Bohart and Menke, 1976 (as tentative synonym of *Ammophila heydeni* or *quadraticollis*); Dollfuss, 2013a:442 (listed in synonymy of *Ammophila heydeni*). – ***As Ammophila heydeni* var. *rubra***: Kohl, 1906b:367 (new status, in revision of Palearctic Ammophilini); Myartseva, 1963b:59 (Turkmenistan: lower Murgab River), 1965:86 (Turkmenistan: Akibay, Murgab district, and Bayram-Ali district), 1966:48 (preying on caterpillars), 1969: 51 (prey: larvae of noctuid *Mamestra sociabilis irrisor* Ersch., Noctuidae, preimaginal development), 1972a:86 (Turkmenistan). – ***As Ammophila heydeni rubra***: de Beaumont, 1970a:388 (new status, Afghanistan); Kazenas, 1972b:99 (Kazakhstan), 1978b:38 (in key to Sphecidae of Kazakhstan and Central Asia); Embergenov, Élmurodova, Amirov and Kimyonazarov, 2022:47 (Caucasus).

ssp. *rubriventris* A. Costa

Ammophila rubriventris A. Costa, 1864b:111, sex not stated. Syntypes: France: Corse: no specific locality (Napoli). – A. Costa, 1867b:78 and 1867c:23 (in revision of Italian Sphecidae), 1883:57 (Italy: Sardegna: island of Asinara and Terranova), 1884b:32 (Italy: Sardegna: Gennargento); Ed. André, 1886:72 (in revision of Sphecidae of Europe and Algeria), 1888:3* (bibliographic references); Baldini, 1894:48 (Italy: Modena area; determination tentative); Dalla Torre, 1897:407 (in catalog of world Hymenoptera); Ferton, 1908:577 (is a climate induced variety of *Ammophila heydeni*); Mantero, 1911:71 (Italy: Sardegna: Isola dell'Asinara); Ferton, 1923:138 (nest closure), 343 (females occur in Corsica together with *Ammophila heydeni*, males have coloration of *heydeni*); Georghiou, 1977:189 (Cyprus); Dollfuss, 2013a:442 (listed in synonymy of *Ammophila heydeni*). – ***As Ammophila heydeni* var. *rubriventris***: Kohl, 1906b:367 (new status, in revision of Palearctic Ammophilini); Berland, 1925d:30 (in Sphecid Fauna of France). – ***As Ammophila heydeni rubriventris***: Nadig, 1934:33 (new status, France: Corse: Monte d'Oro, Vizzavona; Italy: Sardegna: Gennargentu); Grandi, 1957:386 (Italy: Sardegna), 1959b:287 (Italy: Sardegna: Monte Limbara in Sassari district); Erlandsson, 1974:57 (Italy: Capo Falcone); Esmaili and Rastegar, 1974:45 (Iran); Hamon, Tussac, and Fonfria, 1992:405, 410 (in key to French Ammophilini); Luchetti, 1993:105 (Italy: Sardegna: Maddalena archipelago); Gayubo and Borsato, 1994:202 (Italy: Sardegna); Negrisolò *in* Minelli, Ruffo, and La Posta, 1995b:2 (in catalog of Italian fauna); Drewes, 2003:132 (Cyprus: Amathus); Generani, Pagliano, Scaramozzino, and Strumia, 2003:64 (Italy: Arcipelago Toscano); Pagliano and Negrisolò, 2005:67 (in Sphecid Fauna of Italy).

Ammophila heydeni var. *sarda* Kohl, 1906:367, ♀. Lectotype: ♀, Italy: Sardinia: no specific locality (NHMW), designated by Dollfuss, 2013a:442. Synonymized with *Ammophila heydeni rubriventris* by Pagliano, 1990:60. – ***As Ammophila heydeni sarda***: Nadig, 1934:33 (new status, France: Corse; Vizzavona; Italy: Sardegna: Gennargentu); de Beaumont, 1947b:382 (Cyprus); Pittioni, 1950:20 (Cyprus); Pagliano, 1984:368 (Italy), 1985:14 (Italy); Dollfuss, 1989:7 (type material in NHMW).

102. *holosericea* (Fabricius)

NOTE: This species was misinterpreted until Dollfuss (2013:443) established its identity.

Spheg holosericeus Fabricius, 1793:205, sex not stated (as *holoserica* incorrect original termination). Holotype or syntypes: "Barbaria" = North Africa (type lost, identity cannot be established: van der Vecht, 1961a:40). Neotype: ♀, Morocco: 15 km southeast of Sefrou (OÖLM), designated by Dollfuss, 2013a:443. Records from Europe probably refer to *Ammophila heydeni*. – Fabricius, 1796:155 (in Index to his Entomologia Systematica, 1793); Coquebert, 1801:50 (original description copied), pl. XII Fig 1 (illustration of Fabrician type); Turton, 1801:487 (redescription); Dahlbom, 1845:XX (specimens in collection Fabricius are *Ammophila holosericea*). – ***As Ammophila holosericea***: Germar, 1817:260 (new generic assignment, Dalmatia: Cherso, now Croatia: Cres); Audouin, 1822a:242 (in Dictionnaire classique d'histoire naturelle); Lepeletier de Saint Fargeau and Audinet-Serville, 1828:452 (redescription); Ghiliani, 1842:24 (listed from Italy: Sicilia after Fabricius, as *holoserica*); Dahlbom, 1843:9 (in revision of Sphecidae and Pompilidae), 1845:430 (in key to *Ammophila*); Lepeletier de Saint Fargeau, 1845:378 (in revision of world Hymenoptera); Eversmann, 1849:364 (Russia); Lucas, 1849:275 (Algeria: Alger, Constantine, Oran); F. Smith, 1856:209 (in catalog of Hymenoptera in British Museum); Taschenberg, 1858:61 (in key to Sphecidae of Germany); A. Costa, 1861:33 (in revision of Sphecidae of Kingdom of Naples); Imhoff, 1863:90 (Switzerland: Wallis: Saasthal); Taschenberg, 1866:208 (in revision of Hymenoptera of Germany); A. Costa, 1867b:78 and 1867c:22 (in revision of Italian Sphecidae); Kirchner, 1867:217 (in catalog of European Hymenoptera); Schenck, 1867a:357 (known from Germany); Wierzejski, 1868:117 (Ukraine: Podole Region); Palma, 1869:37 (Italy: Sicilia settentrionale); Taschenberg, 1869:432 (represented in Halle University collection); Aichinger, 1870:321 (Austria: Tirol, now Italy: Trentino–Alto Adige; as *holosericea* Dahlb.); P. Ivanov, 1872:152 (Ukraine: Kharkov Oblast': Kupyansk area; as *holosericea* Vander-Lind.); Dours, 1874:141 (in catalog of Hymenoptera of France); Martinez y Saez, 1874:31 (specimens from Spain: Madrid area, donated to Leon Dufour); Wierzejski, 1874:258 (Ukraine: Podole Region: Dzwynogrod, Skala on Zbrucz River; as *holosericea* Dhlb.); Marquet, 1875:208 (France: Hérault); Radoszkowski, 1876b:131 (Egypt); Fabre, 1879:207 (nesting habits); Girard, 1879:969 (morphology and distribution); Kohl, 1880:184 (common in Italy: Bolzano and Meran according to von Aichinger, 1870); Marquet, 1881:177 (southern France); Yaroshevskiy, 1881:127 (Ukraine: Khar'kiv Oblast': Kupyansk); Magretti, 1884a:249 (Sudan); Ed. André, 1886:70 (in revision of Sphecidae of Europe and Algeria), 1888:2* (bibliographic references); Cuní y Martorell, 1889:64 (Spain: Cataluña: Begas); Chrétien, 1896:411 (preying on caterpillars *Epimecia ustula* Frr., Noctuidae); W. Fox, 1896e:552 (Ethiopia or Somalia: Dabulli); Acloque, 1897:96 (in Sphecid Fauna of France and Algeria); Cuní y Martorell, 1897:331 (Spain: Cataluña: villa de Calella); Dalla Torre, 1897:402 (in catalog of world Hymenoptera); Bingham, 1898a:105 (Yemen: Aden); Antiga and Bofill, 1904:4 (Spain: Cataluña Province); W. Schulz, 1905b:34 (Algeria), 1906:44 (Greece: Crete); Kohl, 1906b:360 (in revision of Palearctic Ammophilini); Ferton, 1923:294 (easily finds nest when carrying prey), 327 (experiments with offering caterpillar to female that

just performed final closure of nest); Berland, 1925d:30 (in Sphecidae Fauna of France); Picard, 1925b:162 (review of observations on stinging sequence, the correct name is probably *heydeni*); Roth, 1928:208 (in revision of North African Ammophilini), 227 (nesting habits), 1929:185 (in revision of Spanish Ammophilini); Giner Marí, 1943a:72 (in Sphecidae Fauna of Spain); Leclercq, 1955h:84 (bibliographic references); Scobiola, 1960b:236 (not occurring in Romania); Ceballos, 1964:87 (in supplement to catalog of Spanish Sphecidae); Radović and Krunic, 1979:unpaginated foldout (nesting in coarse sand and loose soil, foreleg structure); Casolari and Casolari Moreno, 1980:100 (specimens in M. Spinola collection, Torino); Radović, Krunic and Brajković, 1982:28 (Yugoslavia); Radović, 1985:64 (sting apparatus analyzed); Steiner, 1986:98 (references to papers on nesting habits); Bitsch, Barbier, Gayubo, Schmidt, and Ohl, 1997:81 (in Sphecidae Fauna of Western Europe); Pagliano, 2008:511 (specimens in M. Spinola collection, Torino); Dollfuss, 2013a:387, 397 (in key to *Ammophila* of Palearctic Region and India), 443 (in revision of *Ammophila* of Palearctic Region and India, known only from Algeria, Morocco and Tunisia), 2013b:575 (locality records from Morocco and Tunisia); Ben Khedher, Yildirim, Braham, and Ljubomirov, 2020a:304 (in list of Tunisian Sphecidae *sensu stricto*; new record: Tunisia: Nabeul: Haouaria: Gharmen); Gadallah, 2020d:79 (record from Arabian Peninsula by Bingham, 1898 is wrong).

Ammophila sericea Lepeletier de Saint Fargeau and Audinet-Serville, 1828:453. Holotype: ♀, southern France: no specific locality (destroyed). Synonymized with *Ammophila holosericea* by Kohl, 1906:360.

103. *honorei* Alfieri

Ammophila honorei Alfieri, 1946:140, ♀ (as *Honorei*, incorrect original capitalization). Holotype: ♀, Egypte: Sinai: between el Arish and Hassana (originally A. Alfieri collection, now Al Azhar University, Cairo). – de Beaumont and Bytinski-Salz, 1955:40 (Israel, description of ♂); Leclercq, 1955h:87 (bibliographic references); R. Bohart and Menke, 1976:152 (in checklist of world Sphecidae); Guichard, 1991a:338 (Jordan); Roche and Zalut, 1994:114 (Egypt: Sinai Peninsula); Roche, 2007a:16 (in checklist of Egyptian Sphecidae), 2007b:2 (in checklist of Egyptian Ampulicidae, Sphecidae, and Crabronidae); Dollfuss, 2013a:394, 404 (in key to *Ammophila* of Palearctic Region and India), 445 (in revision of *Ammophila* of Palearctic Region and India), 2013b:575 (Jordan: south of Shuna in Jordan valley, Petra), 2015b:424 (Jordan: Al Karak, north of Petra, south of Tafila).

104. *horni* von Schulthess

Ammophila horni von Schulthess, 1927:297, ♂. Holotype: ♂, Sudan: Port Sudan (DEI). – de Beaumont, 1963b:21 (southeastern Egypt; in revision of *Ammophila nasuta* species group); Oehlke and Wudowenz, 1974:423 (holotype in DEI); R. Bohart and Menke, 1976:152 (in checklist of world Sphecidae); Roche, 2007a:17 (in checklist of Egyptian Sphecidae), 2007b:2 (in checklist of Egyptian Ampulicidae, Sphecidae, and Crabronidae); Dollfuss, 2013a:388, 397 (in key to *Ammophila* of Palearctic Region and India), 445 (in revision of *Ammophila* of Palearctic Region and India); Gadallah, 2020d:79 (in list of aculeate wasps of Arabian Peninsula).

105. *hungarica* Mocsáry

Ammophila hungarica Mocsáry, 1883:25, ♀ (as *Hungarica*, incorrect original capitalization). Holotype or syntypes: ♀, Hungary: Lipótmézón near Budapest (TMB). Synonymized with *Ammophila fallax* by Kohl, 1889a:20. – Ed. André, 1886:61 (in revision of Sphecidae of Europe and Algeria), 1888:2* (bibliographic references); Medina, 1894a:259 (Spain: Hornachuelos); Mocsáry, 1900:79 (Hungary); R. Bohart and Menke, 1976:152 (in checklist of world Sphecidae); Pulawski, 1978:181 (in key to Sphecidae of European part of USSR); Leclercq, Gaspar and Verstraeten, 1979:map 1405 (Belgium); Gayubo, 1981a:140 (northern Spain: Sierra de Béjar); Dollfuss, 1983a:75 (endangered in Niederösterreich, Austria), 1983b:3 (in catalog of Sphecidae of Austria); Gayubo, 1983c:233 (Spain: Salamanca Province: Fregeneda, Membribe); Mingo and Gayubo, 1983:160 (Spain); Haeseler, 1985d:279 (tool using behavior); Józán, 1985b:55 (citation of Bajári's 1957 record from Simontornya), 68 (map of distribution in Hungary), 83 (ecological and zoogeographic characteristics); Gayubo, 1986b:37 (Spain: Andalucía); Islamov, 1986:514 (Uzbekistan: Tashkent Oblast'); Dollfuss, 1988:9 (Austria: Bisamberg near Vienna); Gayubo, Asís, and Tormos, 1990a:12 (Spain); Dollfuss, 1991:33 (in key to Sphecidae of North and Central Europe); Pagliano, 1990:61 (in catalog of Italian Sphecidae); Day, 1991:xii (summary of European Endangered Hymenoptera Lists); Gayubo, Borsato, and Osella, 1992:279 (Turkey); Hamon, Tussac, and Fonfria, 1992:408, 411 (in key to French Ammophilini), 412 (distribution in France); Dollfuss, 1994:97 (endangered in Austria); Tormos, Asís, and Gayubo, 1994:187, 197 (Spain: Albacete Province); Haeseler, 1995:603 (nest breaking, prey theft, brood parasitism); Negrisolo *in* Minelli, Ruffo, and La Posta, 1995b:2 (in catalog of Italian fauna); Bitsch, Barbier, Gayubo, Schmidt, and Ohl, 1997:81 (in Sphecidae Fauna of Western Europe); Kazenas, 1998b:170 (in Sphecidae Fauna of Kazakhstan); Gusenleitner, 1999:594 (Austria: locality records); Pauly, 1999:107 (in catalog of Belgian aculeates); Józán, 2000:104 (Hungary: Bakony Mountains); Esenbekova and Kazenas, 2000:13 (southeastern Kazakhstan: 37 km southwest of Taraz, 10 km southwest of Zhanatas); Zettel, 2000:24 (Austria: Spitalberg near Bruckneudorf); Kazenas, 2001b:18 (in checklist of Sphecidae of Kazakhstan and Central Asia), 109 (nesting habits, review of known biology); Kazenas and Esenbekova, 2001:133 (Kazakhstan: Almatinskiy Nature Reserve); Ljubomirov, 2001b:46 (Bulgaria: Mount Vitosha near Sofia); Zettel, Gross, and Mazzucco, 2001:67 (Austria: Wien, collected in the XIXth century, then in 1992 and 2001); Józán, 2002:53 (Hungary: Mecsek Mountains); Kazenas, 2002a:37 (geographic distribution, collecting localities in Kazakhstan); Wurst and Schweigert, 2002:70 (France: Cevennes); Drewes, 2003:132 (Cyprus: Amathus); González, Gayubo, Asís, Tormos, and García, 2003:61 (Spain: Soria: Chavaler); Nieves-Aldrey, Fontal-Cazalla, Garrido-Torres, and Rey del Castillo, 2003:42 (Spain: Madrid: Estación Biogeológica de El Ventorrillo in Sierra de Guadarrama); Gayubo et al. 2004:130 (Spain: Madrid: Estación Biogeológica de El Ventorrillo in Sierra de Guadarrama); Kazenas, 2004b:100 (Kazakhstan: western Tien Shan Mountains); Cruz-Sánchez, Gayubo, González, and Torres, 2005:219 (Spain: Salamanca: San Martín del Castañar); Gülmez and Tüzün, 2005:51 (Turkey: Ankara Province); Jacobs, 2005aa:436 (Bulgaria: Arkutino near Burgas); Pagliano and Negrisolo, 2005:67 (in Sphecidae Fauna of Italy); Standfuss and Standfuss, 2006c:308 (Greece: Thessalia: Magnisia Peninsula at 39°N 23°E); Straka, 2005a:393 (extinct in Czech Republic); Baños-Picón, Gayubo, Asís, and González, 2007:255, 258 (Spain: Zamora: Cabañas de Aliste); Vepřek and Straka, 2007:199 (in catalog of Sphecidae of Czech Republic and Slovakia: known from Moravia and Slovakia only); Gayubo, González, Tormos, and Asís, 2008:136 (Spain: Salamanca: Parque Natural de Las Batuecas – Sierra de Francia); Ljubomirov and Yildirim, 2008:35 (in catalog of Sphecidae of Turkey); Baños-Picón, Asís, Gayubo, and Tormos, 2009:310 (Spain: frequency of specimens collected with hand nets and Malaise traps); González, Gayubo, Asís, and Tormos, 2009:622 (Spain: Salamanca and Zamora provinces: Arribes del Duero Natural Park); Pagliano, 2009:175 (Italy: Liguria: Villanova d'Albenga); Bitsch, 2010:106 (in supplement to vol. II of Faune de France, 1997: recent records from Austria and Bulgaria reported); Danilov, 2010b:44 (distribution of Tethyan type); Cruz-Sánchez, Asís, Gayubo, Tormos, and González, 2011:497 (Spain: Salamanca and Zamora provinces: Arribes del Duero Natural Park: effects of wildfire); Józán, 2011:178 (in checklist of Sphecidae *sensu lato* of Hungary); Protsenko, Fateryga, Ivanov, and Puzanov, 2012:53 (Ukraine: Crimea: near Feodosiya); Dollfuss, 2013a:390, 400 (in key to *Ammophila* of Palearctic Region and India), 446 (in revision of *Ammophila* of Palearctic Region and India), 2013b:575 (locality records from Armenia, Bulgaria, Cyprus, Greece, Iran, Jordan, Kazakhstan, Morocco, Romania, Spain, Syria, Tajikistan, Turkey, Turkmenistan, and Uzbekistan); Danilov, 2014a:426 (Russia: Siberia: Altayskiy Kray, Novosibirsk Oblast', Omsk Oblast'), 2014b:519, 520 (in key to Sphecidae s.s. of Siberia); Dunford, Turbyville, and Leavengood, 2014:10 (listed as medically important in Afghanistan); Kazenas, 2014a:133 (Kazakhstan: Karatau Mountain Range); Yildirim, 2014:30 (Turkey: distribution by biogeographic provinces); Dollfuss, 2015b:424 (locality records from Greece and Jordan); Koçak and Kemal, 2015:277 (in checklist of Hymenoptera of Turkey); Shorenko, 2015:312 (in list of Sphecidae *sensu lato* of Crimea); Haris, 2016:15 (in list of species described by S. Mocsáry from Carpathian Basin); Arens, 2017a:637 (Greece: Peloponnesus); Danilov, 2017b:212 (in catalog of Sphecidae s.s. of Russia); Jahantigh, Rakhshani, Mokhtari, and Ramroodi, 2017:15 (Iran: known from Guilan and Khuzestan provinces); Shorenko, 2017:76 (in Crimea collected in May and June), 2018:126 (Crimea, including localities, habitats, and number of specimens); Augul, 2019:493 (Iraq: Dohuk Province: Amadi District: Deralok); Gülmez, 2019:3 (Turkey: Ankara and Sivas provinces: no specific localities); Bitsch, Barbier, and Jacobs *in* Bitsch, Barbier, Gayubo, Jacobs, Leclercq, and Schmidt, 2020:93 (in Sphecidae Fauna of Europe); Danilov, 2020:317 (specimens from Kyrgyzstan, Russia: Dagestan and Siberia, Tajikistan, Turkmenistan, and Uzbekistan in Institute of Systematics and Ecology of Animals, Novosibirsk, Russia); Maharramov, Mokrousov, and Proshchalykin, 2020:45 (Azarbaijan: Nakchivan Autonomous Republic); Cross, Baldock, and Wood, 2021:14 (in catalog of Sphecidae *sensu lato* of Portugal); Kaplan and Yildirim, 2022a:55 (Turkey: Bingöl and Diyarbakır provinces), 2023:1692 (in checklist of Sphecidae *sensu lato* of Turkey); Medetov, Embergenov, Kholmatov, Elmurodova, Rakhimov, and Tajibaeva, 2024:418 (Uzbekistan: distribution); Pytel-Huta and Franchuk, 2024:90 (Ukraine: Rivno Nature Reserve).

Ammophila turcica Mocsáry, 1883:29, ♂ (as *Turcica*, incorrect original capitalization). Holotype or syntypes ♂, Turkey: Brussa, now Bursa (TMB). Synonymized with *Ammophila fallax* by Kohl, 1906:315. – Ed. André, 1886:63 (in revision of Sphecidae of Europe and Algeria), 1888:2 (bibliographic references).

Ammophila hispanica Mocsáry, 1883:28, ♀. Holotype or syntypes: ♂, Spain: Malaga (TMB). Synonymized with *Ammophila fallax* by Kohl, 1889a:20. – Ed. André, 1886:63 (in revision of Sphecidae of Europe and Algeria), 1888:2* (bibliographic references).

Ammophila fallax Kohl, 1884a:380, ♀, ♂. Lectotype: ♀, Turkey: Amasia, now Amasya (NHMW), designated by Menke in Bohart and Menke, 1976:152. Synonymized with *Ammophila hungarica* by Menke in R. Bohart and Menke, 1976:152. – Ed. André, 1886:62 (in revision of Sphecidae of Europe and Algeria), 1888:2* (bibliographic references); Kohl, 1893a:36 (Austria: Niederösterreich: Bisamberg); Schletterer, 1894:30 (Istria Peninsula, now part of Croatia, Slovenia, and Italy); Dalla Torre, 1897:399 (in catalog of world Hymenoptera); Kohl, 1906b:315 (in revision of Palearctic Ammophilini); Schmiedeknecht, 1907:245 (in key to Hymenoptera of Central Europe); Graeffe, 1911:48 (Italy: Trieste area); Berland, 1925d:31 (in Sphecidae Fauna of France, not yet found in France); Roth, 1928:185 (in revision of North African Ammophilini), 1929:177 (in revision of Spanish Ammophilini); Berland, 1930b:163 (France: Bouche-du-Rhône Department); Schmiedeknecht, 1930:706 (in keys to Hymenoptera of North and Central Europe); Dusmet y Alonso, 1931:7 (Portugal); Maidl, 1934:64 (Greece: Aegean Islands: Mytilene); Zavadil, Šusterka, and Baťa, 1937:213 (in catalog of Sphecidae of Czechoslovakia); Giner Marí, 1943a:70 (in Sphecidae Fauna of Spain); Balthasar, 1945:115 (Czech Republic: southeastern Morava Region); de Beaumont, 1947b:382 (Cyprus); Šnoflák in Zavadil and Šnoflák, 1948:100 (in key to Sphecidae of Czechoslovakia); de Andrade, 1949:6 (Portugal, Cyprus); de Beaumont, 1950f:396 (Morocco); Pittioni, 1950:19 (Cyprus); Leclercq, 1955h:75 (bibliographic references); Vogrin, 1955:31 (Yugoslavia); Ceballos, 1956:359 (in catalog of Hymenoptera of Spain); Bajári, 1957a:13 (in key to Hungarian Sphecidae); Grandi, 1957:386 (Italy: Abruzzi); Balthasar, 1958:339 (Slovakia: Gbelce); de Beaumont, 1959a:6 (Italy); Diniz, 1959:26 (Portugal: five localities); Noskiewicz and Pulawski, 1960:38 (in key to Polish Sphecidae, not yet found in Poland); Leclercq, 1961f:148 (Belgium: Limbourg: Lommel); Ceballos, 1964:87 (in supplement to catalog of Spanish Sphecidae); de Beaumont, 1964c:26 (in Sphecidae Fauna of Switzerland, not recorded from Switzerland), 1965a:11 (Greece); Diniz, 1965:2 (Portugal: Carcavelos, Coimbra, Estoril, Gois, Lisboa, Viseu); Pulawski, 1965b:260 (structure of gastral segment I); de Beaumont, 1967a:265 (Turkey); Kazenas, 1968b:342 (Kazakhstan: Alma Ata Oblast'); de Beaumont, 1969:80 (Turkey), 1970a:387 (Afghanistan), 1970c:2 (Iran: Khuzestan); Balthasar, 1972:428 (in Sphecidae Fauna of Czechoslovakia); Kazenas, 1972b:98 (Kazakhstan: Alma Ata, Podgornoye in Ketmen' Range); Erlandsson, 1974:57 (Spain: Málaga: Fuengirola); Georghiou, 1977:188 (Cyprus); Kazenas, 1978b:35 (in key to Sphecidae of Kazakhstan and Central Asia); Dollfuss, 1989:7 (lectotype in NHMW); Pádr in Šedivý, 1989a:166 (in checklist of Czechoslovakian Sphecidae); Guichard, 1991a:338 (Jordan); Embergenov, Élmurodova, Amirov and Kimyonazarov, 2022:47 (Uzbekistan: Zhizzak Province: Zomin District: Beshbulok village).

106. *hurdi* Menke

Ammophila hurdi Menke, 1964a:12, ♀, ♂. Holotype: ♂, USA: California: Alameda County: Tesla = Corral Hollow Creek about 10 mi. east of Livemore (CIS according to original description, now CAS). – R. Bohart and Menke, 1976:152 (in checklist of world Sphecidae); Krombein, 1979b:1591 (in catalog of North American Hymenoptera); Stevens and Menke, 2014:220 (Arizona: Grand Canyon ecoregion); Menke, 2020:116 (in revision of North and Central American *Ammophila*).

107. *iliensis* Kazenas

Ammophila tsunekii Kazenas, 1978a:661, ♀, ♂, junior primary homonym of *Ammophila tsunekii* Menke, 1976. Holotype: ♀, Kazakhstan: Ili River Valley 15 km east of Ayak-kalkan at 43°52'N 78°54'E (ZIN). – Danilov, 2016:355 (holotype preserved in Zoological Institute, Sankt-Petersburg, Russia).

Ammophila iliensis Kazenas, 1998b:172. Substitute name for *Ammophila tsunekii* Kazenas, 1978. – Kazenas, 2008a:98 (southeastern Kazakhstan: Ili River valley: Barokhudzir, Kalkan); Danilov, 2010b:45 (distribution of Tethyan type); Dollfuss, 2013a:388, 397 (in key to *Ammophila* of Palearctic Region and India), 447 (in revision of *Ammophila* of Palearctic Region and India, original description translated from Russian into English).

Ammophila iliensis Kazenas, 2001b:18. Unnecessary substitute name for *Ammophila tsunekii* Kazenas, 1978 (in checklist of Sphecidae of Kazakhstan and Central Asia, the original reference to 1985 paper is in error).

Ammophila iliensis Kazenas, 2002a:38. Unnecessary substitute name for *Ammophila tsunekii* Kazenas, 1978.

108. *imitator* Menke

Ammophila imitator 1965c:1, nomen nudum. Objective synonym of *Ammophila imitator* Menke, 1966b.

Ammophila imitator Menke, 1966b:37, ♂. Holotype: ♂, USA: Arizona: Cochise County: 6 mi. east of Douglas (originally CIS, now CAS). – R. Bohart and Menke, 1976:152 (in checklist of world Sphecidae); Krombein, 1979b:1591 (in catalog of North American Hymenoptera); Menke, 1986c:37 (Arizona: Cochise County: west of Naco); Amarante, 2002:67 (in catalog of Neotropical Sphecidae); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:669 (in checklist of Mexican Sphecidae); Stevens and Menke, 2014:220 (Arizona: unknown from Grand Canyon ecoregion); Menke, 2020:117 (in revision of North and Central American *Ammophila*).

109. *induta* Kohl

Ammophila induta Kohl, 1901d:158, ♀. Lectotype: ♀, Turkmenistan: Repetek (NHMW), designated by Dollfuss, 2013a:448. – Kohl, 1906b:345 (in revision of Palearctic Ammophilini); Kazenas, 1968b:342 (Kazakhstan: Alma Ata Oblast'); R. Bohart and Menke, 1976:153 (in checklist of world Sphecidae); Kazenas, 1978b:37 (in key to Sphecidae of Kazakhstan and Central Asia); Dollfuss, 1989:7 (type material in NHMW); Kazenas, 2001b:18 (in checklist of Sphecidae of Kazakhstan and Central Asia), 2002a:37 (geographic distribution, Kazakhstan: Chelkar in Bolshiye Barsuki sands); Danilov, 2010b:45 (distribution of Tethyan type); Dollfuss, 2013a:389, 399 (in key to *Ammophila* of Palearctic Region and India), 448 (in revision of *Ammophila* of Palearctic Region and India); Medetov, Embergenov, Kholmatov, Elmurodova, Rakhimov, and Tajibaeva, 2024:418 (Uzbekistan: distribution).

110. *infesta* F. Smith

Ammophila infesta F. Smith, 1873a:190, ♀, ♂. Syntypes: Japan: Hyogo (BMNH). – Dalla Torre, 1897:403 (in catalog of world Hymenoptera); Pérez, 1905a:25 (central Japan: no specific locality); Matsumura, 1911:118 (in Thousand insects of Japan); Matsumura and Uchida, 1926:41 (Okinawa); Gussakovskij, 1932:4 (Russia: Primorskiy Krai); Yasumatsu, 1934c:63 (Japan: Island of Yakushima); Baba, 1935:84 (Japan: Island of Sado); Yasumatsu, 1935a:7, 22 (China: Jehol Region); Iwata, 1936a:121 (nesting habits); Masaki, 1936:259 (Korea); Yasumatsu, 1937c:67 (Japan: Island of Tsushima); Gussakovskij, 1938:3 (China: Kiangsu Province); Yasumatsu, 1938e:345 (China: Changsha in Yangtze Basin), 1939e:12 (China: Manchuria: Changchun); Yasumatsu, 1940a:92 (China: Hopei: Kalgan); nec Yasumatsu, 1942b:103 (= *Ammophila sabulosa nipponica*); Yasumatsu, 1942c:104 (China: Beijing); Iwata, 1955:28 (egg size, number of oocytes); Miyamoto, 1959:34 (visiting flowers of *Torilis anthriscus* Gmel., Apiaceae), 36 (visiting flowers of *Astilbe japonica* Miq., Saxifragaceae); Nambu, 1968b:26 (Japan: Saitama Prefecture); Tsuneki, 1962e:70 (*Ammophila infesta* in Iconographia Insectorum Japonicorum, Ed. II is actually *Ammophila sabulosa infesta*); R. Bohart and Menke, 1976:628 (in checklist of world Sphecidae, as full species); Tsuneki, 1982b:1 (Korea; reversed to full species status), 1982g:56 (known from the Ryukyu archipelago); Paik, 1985:197 (in list of Sphecidae of Korea); Tsuneki, 1991:199 (Korea); Hashimoto, 1996:342 (skeletal muscular modifications of anterior abdominal segments); Yamane, Ikudome, and Terayama, 1999:479 (Japan: in Identification Guide to Sphecidae of Nansei = Ryukyu Islands); Sudo, Tsuyuki, Ito, and Tani, 2001:1109 (wing apparatus and flapping behavior); Mizota, 2002:69 (Japan: Miyagi Prefecture: Kinkazan Island); Haneda, 2003:3 (Japan: Nagasaki Prefecture: Tsushima); Haneda and Inoue, 2003:50 (Japan: Fukui Prefecture: Katsumi in City of Obama); Haneda, Nosaka, Tano, Kurokawa, and Murota, 2004:30 (Japan: Gifu Prefecture); Suda, 2004:35 (Japan: Yamanashi Prefecture); Haneda, Inoue, Nozaka, Tano, Kurokawa, H. Murota, and T. Murota, 2005:63 (Japan: Fukui Prefecture: Mount Monju); Haneda, Nozaka, Tano, Kurokawa, and Murota, 2005:43 (Japan: Gifu Prefecture); Kinota, Haneda, and Tano, 2005: 29 (Japan: Hokkaido); Negoro, Haneda, and Tano, 2005:44 (Japan: Toyama Prefecture); Haneda, Nozaka, Tano, Kurokawa and Murota, 2006a:18 (Japan: Toyama Prefecture); Hua, 2006:275 (in list of Chinese insects, geographic distribution); Nagase, 2006b:2 (specimen collected by First Scientific Expedition to Manchoukou, 1933, now part of eastern China); Terayama and Tano, 2006:7, 15, 18 (in key to Japanese Ampulicidae and Sphecidae); Nemkov, 2008b:17 (in catalog of Sphecidae of Asiatic Russia); Ohkusa and Tajima, 2008:74 (Japan: central Honshu: Aichi Prefecture); Nemkov, 2009b:49 (in new catalog of Sphecidae and Crabronidae of Asiatic Russia), 2009c:235 (Russia: Primorskiy Krai: Lazovskiy Nature Reserve); Danilov, 2010b:45 (distribution of eastern Palearctic type); Ohkusa and Tajima, 2010:11 (Japan: Island of Honshu: Shiga Prefecture); Dollfuss, 2013a:390, 400 (in key to *Ammophila* of Palearctic Region and India), 449 (in revision of *Ammophila* of Palearctic Region and India), 2013b:576 (Japan: locality records); Danilov, 2014b:519, 520 (in key to Sphecidae s.s. of Siberia, not yet found in Siberia); Kim, Yeo, and Kim, 2014:274 (in key to *Ammophila* of South Korea), 277 (in revision of Sphecidae *sensu stricto* of South Korea); Jacobs and Liebig, 2018:134 (Russia: Primorskiy Krai: Anisimovka and Poshiga); Danilov, 2020:317 (specimen from Russia: Primorskiy Krai in Institute of Systematics and Ecology of Animals, Novosibirsk, Russia). – **As *Spheg infesta***: Okamoto, 1924:203 (new generic assignment, Korea: Island of Quelpart, now Island of Cheju). – **As *Ammophila sabulosa infesta***: Tsuneki, 1962b:25, 26 (in key to Ammophilini of Japan and Korea), 1962c:29 (new status); Iwata, 1963b:196 (Japan: prey record); Tsuneki and Shimoyama, 1963:48 (Japan: Towada Prefecture); Tano, 1964:38 (Japan: Kyushu: Island of Yakushima); Tsuneki, 1967e:2 (China: Manchuria; also Harbin: *sabulosa infesta* forma B), 1967g:44 (Japan: Mount Hyonosen; forma A), 1967j:10, 12 (in key to Ammophilini of East Asia), 20 (comparison of lowland and montane populations, the former named *Ammophila sabulosa nipponica* on p. 23); Fukuda, 1968:26 (Japan); Haneda, 1968a:45 (Japan), 1968b:56 (Japan: Nagano Prefecture: Ina District); Itami, 1968a:16 (Japan: Yamagata Prefecture: foot of Mount Iide); Nambu, 1968b:26 (Japan:

Saitama Prefecture); Nishino, 1968:24 (Japan); Tsuneki, 1968j:1 (comparison of lowland and montane populations, the former is *Ammophila sabulosa nipponica*); Haneda, 1969:69 (Japan: Yamanashi Prefecture); T. Iida, 1969a:272 (description of mature larva); Itami, 1969:46 (Japan: Niigata Prefecture); Tsuneki, 1969e:24 (Japan: specimens in Osaka Museum of Natural History), 1970b:9 (central Japan); Tano, 1971:82 (Japan: Shikoku: Mount Tsurugi); Yamada, 1971:34 (Japan: Aichi Prefecture); Nambu, 1972e:90 (Japan: Saitama Prefecture), 1973a:152 (Japan: Saitama Prefecture); Suda, 1973:123 (Yamanashi Prefecture); Tsuneki, 1974a:360 (Korea); Kim, Yoon, and Kim, 1975:21 (Korea); Nambu, 1975b:70 (Japan: Saitama Prefecture); R. Bohart and Menke, 1976:153 (in checklist of world Sphecidae); Tsuneki, 1982b:14 (known from Korea), 1982g:56 (known from Ryukyu archipelago); Sk. Yamane and Ikudome, 1990:102 (Japan: distribution in Ryukyu Islands); Q. Li, J. Li, and J. Yang, 1994:290 (China: in revision of *Ammophila* of Shandong Province); Nemkov *in* Nemkov, Kazenas, Budrys, et Antropov, 1995:387 (in key to Sphecidae of Russian Far East); Ohl and Linde, 2003:149 (number of ovarioles); Q. Li and J. He, 2004:1119 (in hymenopterous fauna of Zhejiang Province, China); Q. Li and L. Yang, 2005:883 (China: Gansu: Quinling Range and South Mountains); Q. Li, 2006:141 *in* X. Chen and J. He (description, habits, distribution, illustration of habitus); Ohkusa and Tajima, 2008:74 (Japan: central Honshu: Aichi Prefecture); Nemkov, 2012c:434 (in catalog of Sphecidae of Russian Far East); J.-K. Kim, 2014:417 (in catalog of Sphecidae *sensu lato* of Korean Peninsula); Danilov, 2017b:212 (in catalog of Sphecidae s.s. of Russia); Ma, Q. Li, Wang, Jiang, and Lu, 2018:854 (China: Shanxi: Qinling Mountains); Ma, Zhang, Ch. Li, Ji, and Q. Li, 2018:485 (China: Shanxi: Lishan National Nature Reserve); Ch. Wang, Bashir, Q. Li, and Ma, 2018:299, 301 (in key to *Ammophila* of China).

Ammophila marginalis Pérez, 1905a:151, ♀. Holotype or syntypes: ♀, Japan: Yokohama (MNHN). Synonymized with *Ammophila sabulosa infesta* by Menke *in* Bohart and Menke, 1976:153. – Pérez, 1905a:25 (Japan: Yokohama); Kohl, 1906b:373 (original description copied).

111. *insignis* F. Smith

Ammophila insignis F. Smith, 1856:213, ♀, ♂. Syntypes: Gambia: no specific locality (BMNH or OXUM). – W. Fox, 1896e:552 (Ethiopia or Somalia: Turfer); Dalla Torre, 1897:403 (in catalog of world Hymenoptera); Bingham, 1898a:105 (Yemen: Aden); Schouteden, 1930:95 (Zaire, as *insignis* var.); Berland, 1950b:295 (Niger: Aïr area); Leclercq, 1955h:82 (bibliographic references, locality records from Zaire and elsewhere), 1961b:55 (Zaire); Diniz, 1964c:110 (Angola: Lunda: Posto Cacombo at Upper Cuílo); R. Bohart and Menke, 1976:152 (in checklist of world Sphecidae); Weaving, 1988:327-349 (prey selection), 1989a:1-16 (South Africa; nesting habits: nests are mass provisioned), 1989b:847-871 (nests in vertical banks, animal burrows, and caves); Dollfuss, 2013a:387, 396, 397 (in key to *Ammophila* of Palearctic Region and India), 450 (in revision of *Ammophila* of Palearctic Region and India), 2013b:576 (locality records from Algeria, Israel, Jordan, Oman, and Yemen), 2015a:311, 316 (in key to Sub-Saharan *Ammophila*), 344 (in revision of Sub-Saharan *Ammophila*), 2015b:424 (locality records from Benin, Central African Republic, Ethiopia, Kenya, Malawi, Mozambique, Namibia, Oman, Senegal, South Africa, Tanzania,); Jahantigh, Rakhshani, Mokhtari, and Ramroodi, 2017:15 (Iran: known from West Azerbaijan Province); Gadallah, 2020d:79 (in list of aculeate wasps of Arabian Peninsula); Olszewski and Danilov, 2020:193 (United Arab Emirates: Wadi Wurayah); Gadallah and Abu El-Ghiet, 2024:91 (Saudi Arabia: Jazan Province: Jazan). – **As *Sphex insignis***: R. Turner, 1929b:555 (new generic assignment, variation).

Ammophila egregia var. *promontorii* Kohl, 1894:342, nomen nudum (Mozambique: Delagoa Bay, now Maputo Bay).

Ammophila transvaalensis Cameron, 1910b:134, ♂. Holotype or syntypes: ♂, South Africa: Transvaal, now Gauteng, Limpopo, and Mpumalanga provinces: no specific locality (TMP). Synonymized with *Ammophila insignis* by Leclercq, 1955:82 – **As *Sphex egregia* race *transvaalensis***: Arnold, 1920:53 (new generic assignment, new status, original description copied), 1928b:270 (in revision of southern African *Ammophila*) 1930:17 (in checklist of Afrotropical Sphecidae), 1935a:503 (South Africa: Kalahari). – **As *Ammophila insignis* var. *transvaalensis***: Giordani Soika, 1939c:105 (new subspecific generic assignment, Eritrea: Adi Ugri).

Sphex egregia race *promontorii* Arnold, 1920:43, ♀, ♂ (authorship attributed to Kohl). Syntypes: Zimbabwe and South Africa: no specific localities (SAM). Synonymized with *Sphex egregia transvaalensis* by Arnold, 1928b:270. – **As *Sphex insignis* race *promontorii***: Scott *in* Arnold, 1933a:370 (new subspecific generic assignment, Ethiopia: Maraquo).

Ammophila egregia Mocsáry, 1881b:327, ♀, ♂. Syntypes: Lebanon: Beirut (TMB). Synonymized with *Ammophila insignis* by R. Turner, 1929:555 and Dollfuss, 2013a:451 (as new synonym). – Ed. André, 1886:75 (in revision of Sphecidae of Europe and Algeria), 1888:3* (bibliographic references); Dalla Torre, 1897:399 (in catalog of world Hymenoptera); Kohl, 1906b:361 (in revision of Palearctic *Ammophilini*); Brauns, 1911a:238 (South Africa); Arnold, 1931:207 (Turner's synonymy reported); Guiglia, 1939c:184 (Libya: Tassili des Ajjer: Wadi Tagiuresa; as *egregia* var.; redescription), 1942b:229 (Libya; as *egregia* var.); Alfieri, 1946:137 (in revision of Egyptian *Ammophila*); de Beaumont and Bytinski-Salz, 1955:39 (Israel); de Beaumont, 1956a:179 (Chad: Tibesti). – **As *Sphex egregia***: R. Turner, 1929b:555 (new generic assignment, as new synonym of *Ammophila insignis*); Schouteden, 1930:95 (Zaire). – **As *Ammophila insignis* *egregia***: R. Bohart and Menke, 1976:152 (new status, in checklist of world Sphecidae); Guichard, 1980:224 (Oman), 1988a:128 (Arabian Peninsula), 1991a:338 (Jordan); Roche and Zalat, 1994:114 (Egypt: Sinai Peninsula); Gadallah and Assery, 2004a:217 (Saudi Arabia: in key to Sphecidae of Jeddah Region.), 224 (in catalog of Sphecidae of Saudi Arabia: south of Jeddah), 2004b:1396 (skeletal parts of sting apparatus); Roche, 2007a:20 (in checklist of Egyptian Sphecidae, redescription), 2007b:2 (in checklist of Egyptian Ampulicidae, Sphecidae, and Crabronidae); Sakenin, Samin, Bagriacik, and Rastegar, 2011:1 (Iran: West Azarbaijan: Mahabad); Schmid-Egger, 2011b:597 (first record from United Arab Emirates: Wadi Wurayah); Gadallah, Al Dhafer, Aldryhim, Fadl, and Elgharbawy, 2013:360 (in new catalog of Sphecidae of Saudi Arabia).

Sphex egregia race *litoralis* Arnold, 1920:45, ♀, ♂. Syntypes: South Africa: Eastern Cape Province: coastal area: no specific locality (SAM). Synonymized with *Ammophila insignis* by Dollfuss, 2015a:345. – Arnold, 1928b:271 (in revision of southern African *Ammophila*). – **As *Sphex egregia* *litoralis***: Marshall, 1997:3 (new status, reference to original description). – **As *Ammophila insignis* *litoralis***: R. Bohart and Menke, 1976:152 (new status, in checklist of world Sphecidae); Gess, 1981:19 (South Africa: Hilton Farm 18 km west-northwest of Grahamstown; nesting in friable soils); Dollfuss, 1990:122 (Central African Republic); S. Gess, 1996:303 (floral records); S. Gess and F. Gess, 2003:97 (South Africa: visiting flowers of *Phyllopodium cuneifolium* (L. f.) Benth., Scrophulariaceae, and *Lycium* sp., Solanaceae).

Ammophila insignis Smith subsp. *litoralis* Arnold var. *nigricollis* Arnold, 1960a:83, ♀. Holotype: ♀, South Africa: Natal: Drakensberg Mountains: Little Berg Summits (SAMC). Synonymized with *Ammophila insignis litoralis* by Bohart and Menke, 1976:152.

112. *insolata* F. Smith

Ammophila insolata F. Smith, 1858b:14, ♀, ♂. Syntypes: Indonesia: Celebes, now Sulawesi: no specific locality (OXUM). – F. Smith, 1863a:34 (Indonesia), 1863b:134 (known from Sulawesi and Timor), 1871a:359 (in catalog of Oriental Aculeata); Dalla Torre, 1897:403 (in catalog of world Hymenoptera); von Schulthess, 1935:304 (Indonesia: Flores: Endeh, Todabeloe); van der Vecht, 1957c:370 (Lesser Sunda Islands: locality records); R. Bohart and Menke, 1976:152 (in checklist of world Sphecidae, as *insolita*); Dollfuss, 2013b:576 (Indonesia: West Timor: Buraen: 50 km south of Kupang; Sumba: 5 km west of Lewas), 2015b:425 (Indonesia: West Timor: Buraen: 50 km south of Kupang). – **As *Sphex insolata***: F. Smith, 1863b:134 (new generic assignment, known from Sulawesi).

ssp. *argyropleura* van der Vecht

Ammophila insolata argyropleura van der Vecht, 1957c:371, ♀, ♂. Holotype: ♀, Indonesia: Island of Sumba: Lokojengo (Basel). – R. Bohart and Menke, 1976:152 (in checklist of world Sphecidae).

ssp. *auricollis* van der Vecht

As *Ammophila atripes*: von Schulthess, 1935:304 (Indonesia: Timor), corrected to *Ammophila insolata auricollis* by van der Vecht, 1957c:372. *Ammophila insolata auricollis* van der Vecht, 1957c:372, ♀, ♂. Holotype: ♀, Indonesia: Timor: Baun (RMNH). – R. Bohart and Menke, 1976:152 (in checklist of world Sphecidae).

ssp. *ruficoxa* van der Vecht

Ammophila insolata ruficoxa van der Vecht, 1957c:372, ♀, ♂. Holotype: ♀, Indonesia: Island of Kisar: no specific locality (RMNH). – R. Bohart and Menke, 1976:152 (in checklist of world Sphecidae).

113. *instabilis* F. Smith

Ammophila instabilis F. Smith, 1856:214, ♀. Syntypes: Australia: Western Australia: Swan River; Northern Territory: Port Essington (BMNH). – Froggatt, 1892:209 (in catalog of Australian Hymenoptera); Dalla Torre, 1897:403 (in catalog of world Hymenoptera); R. Turner, 1908:466 (synonymy); R. Bohart and Menke, 1976:152 (in checklist of world Sphecidae); Cardale, 1985:229 (in catalog of Australian Sphecidae).

Ammophila impatiens F. Smith, 1868b:247, ♀, actually ♂. Holotype or syntypes: ♂, Australia: Western Australia: Champion Bay, now Geraldton (BMNH). Synonymized with *Ammophila instabilis* by R. Turner, 1908:466. – Froggatt, 1892:209 (in catalog of Australian Hymenoptera); Dalla Torre, 1897:403 (in catalog of world Hymenoptera).

114. *juncea* Cresson

Ammophila juncea Cresson, 1865b:460, ♂. Holotype: ♂, USA: no specific locality (ANSP). – Cresson, 1887:274 (in catalog of North American Hymenoptera); Ashmead, 1890:34 (in checklist of Hymenoptera of Colorado); Dalla Torre, 1897:403 (in catalog of world Hymenoptera); Ashmead, 1899d:354 (in checklist of North American Sphecidae); Melander, 1903:157 (diagnostic characters), 161 (in key to North American *Ammophilini*), 163 (bibliographic references, geographic distribution); Cresson, 1916:94 (holotype in ANSP); Murray *in* Muesebeck,

Krombein, and Townes, 1951:975 (in catalog of North American Hymenoptera); Evans and Lin, 1956a:147 (description of larva); nec Evans, 1959d:461 (= *Ammophila cleopatra*); Evans and Linsley, 1960:32 (Arizona: regular member of sleeping aggregations at Southwest Research Station.); Evans, 1963:62 (nest closure); Horning and Barr, 1970:104 (USA: Idaho: Craters of the Moon National Monument); R. Bohart and Menke, 1976:152 (in checklist of world Sphecidae); Krombein, 1979b:1591 (in catalog of North American Hymenoptera); Menke, 1983b:21 (Nebraska: Cherry County: Nenzel area, and Dawes County: southeast of Crawford); Brockmann, 1985b:312 (nest closure summary); Menke, 1986c:35 (Utah: San Juan County: southeast of Natural Bridges National Monument), 1994f:21, 22 (Utah: Wind Whistle Campground in Monticello area); Spofford, Kurczewski, and Downes, 1989:258 (reference to publication on nest parasite *Senotainia littoralis* Allen, a miltogrammine fly); Weissmann and Kondratieff, 1999:77 (Colorado: Great Sand Dunes National Monument); Amarante, 2002:67 (in catalog of Neotropical Sphecidae); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:669 (in checklist of Mexican Sphecidae); Menke, 2020:95 (in revision of North and Central American *Ammophila*); Buck and Bennett, 2025:223 (in checklist of Sphecidae sensu lato of Canada, Alaska, and Greenland: first record from Canada: British Columbia: no specific locality). – **As *Sphex junceus***: Mickel, 1918b:404 (new generic assignment, in catalog of Nebraskan Sphecidae); Fernald, 1934:129 (in revision of North American and West Indian *Ammophila*); Dreisbach, 1944:269, 270 (in key to *Ammophila* of Michigan), 273 (Michigan: locality records); Krombein, 1958f:192 (in supplement to catalog of North American Hymenoptera: description of larva by Evans and Lin, 1956a, reported).

Ammophila montezuma Cameron, 1888a:13, ♂. Holotype or syntypes: ♂, Mexico: northern Sonora: no specific locality (BMNH). Synonymized with *Ammophila juncea* by Menke, 1965c:1. – Dalla Torre, 1897:405 (in catalog of world Hymenoptera); Ashmead, 1899d:354 (in checklist of North American Sphecidae); Melander, 1903:161 (in key to North American Ammophilini), 164 (bibliographic references, geographic distribution); Fernald, 1931a:449 (as new synonym of *Sphex placidus*).

115. *kalaharica* (Arnold)

Sphex kalaharicus Arnold, 1935a:502, ♀, ♂. Syntypes: Namibia: Damara Pan (TMP). – **As *Ammophila kalaharica***: Leclercq, 1955h:82 (new generic assignment, bibliographic references, South Africa: Bothaville); R. Bohart and Menke, 1976:152 (in checklist of world Sphecidae); Dollfuss, 2015a:312, 316 (in key to Sub-Saharan *Ammophila*), 346 (in revision of Sub-Saharan *Ammophila*; Botswana, South Africa), 2015b:425 (locality records from Namibia and South Africa).

116. *karenae* Menke

Ammophila karenae Menke, 1964a: , ♀, ♂. Holotype: ♂, USA: California: Inyo County: 13 mi. south of Olancha (CIS according to original description, not in CAS now). – Hurd and Linsley, 1975:116 (Arizona: Cochise County: Benson; on flowers of *Larrea tridentata* (De Candolle) Coville, Zygophyllaceae); R. Bohart and Menke, 1976:152 (in checklist of world Sphecidae); Krombein, 1979b:1591 (in catalog of North American Hymenoptera); Menke, 1986c:23 (Arizona: Coconino County: Moenkopi Wash near Tuba City); Menke, 1994d:15 (California: Monterey County: Parkfield area); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:669 (in checklist of Mexican Sphecidae); Stevens and Menke, 2014:220 (Arizona: Grand Canyon ecoregion); Ratzlaff, 2016:28 (first record from Canada: British Columbia: Southern Interior), 39 (British Columbia: Ashcroft, Lilloet District, Osoyoos); Menke, 2020:71 (in revision of North and Central American *Ammophila*); Buck and Bennett, 2025:223 (in checklist of Sphecidae sensu lato of Canada, Alaska, and Greenland: Canada: British Columbia, first records from Alberta: no specific locality).

117. *kennedyi* (Murray)

Ammophila vulgaris Cresson, 1865b:458, ♀, ♂, junior primary homonym of *Ammophila vulgaris* W. Kirby, 1798. Lectotype: USA: Colorado Territory: no specific locality (ANSP), designated by Cresson, 1916:95. – Cresson, 1873:210 (Texas), 1875:714 (Colorado, Nevada, New Mexico) Cresson, 1876:208 (Colorado: Middle Park, Iowa: Davenport, Utah: Spring Lake), 1887:274 (in catalog of North American Hymenoptera); Ashmead, 1890:34 (in checklist of Hymenoptera of Colorado); C. Robertson, 1892:103 (visiting flowers of *Mentha canadensis* L., Lamiaceae), 105 (visiting flowers of *Pycnanthemum lanceolatum* Ph., Lamiaceae), 106 (visiting flowers of *Pycnanthemum muticum* Pers., Lamiaceae), 115 (visiting flowers of *Blephilia hirsuta* Benth., Lamiaceae), 1894:453 (visiting flowers of *Eupatorium serotinum* Michx., Asteraceae), 455 (visiting flowers of *Solidago missouriensis* Nutt. and *S. canadensis* Linnaeus, Asteraceae), 457 (visiting flowers of *Solidago nemoralis* Ait., Asteraceae), 460 (visiting flowers of *Aster paniculatus* Lam., Asteraceae), 461 (visiting flowers of *Erigeron philadelphicus* Linnaeus, Asteraceae), 472 (visiting flowers of *Coreopsis palmata* Nutt., Asteraceae); Dalla Torre, 1897:411 (in catalog of world Hymenoptera); Ashmead, 1899d:354 (in checklist of North American Sphecidae); J. Smith, 1900:524 (in list of insects of New Jersey); Melander, 1903:157 (diagnostic characters), 160 (in key to North American Ammophilini), 163 (bibliographic references, geographic distribution); G. Peckham and E. Peckham, 1905:18 (common in sandy areas of Milwaukee); Snow, 1906:133 (Arizona: Humphrey's Peak, Oak Creek 20 mi. southwest of Flagstaff); Hart, 1907:255 (Illinois); Rohwer, 1917a:241 (California: Tahoe); Viereck, 1903a:68 (New Mexico: Beulah); Johnson and Ledig, 1918:24 (California: Claremont); Salt, 1927:182 (styloped specimen; Illinois: Carlinville, Florida: Inverness). – **As *Sphex vulgaris***: H. Smith, 1908b:330 (new generic assignment, in revision of Nebraskan Sphecidae); J. Smith, 1910:677 (in new list of insects of New Jersey); Rohwer, 1916b:682 (in catalog of Hymenoptera of Connecticut); Mickel, 1918b:404 (in catalog of Nebraskan Sphecidae); Rohwer *in* Viereck, 1925:682 (in key to Sphecidae of Connecticut); G. Carpenter, 1930b:293 (nest closure); Fernald, 1931a:447 (as new synonym of *Sphex arvensis*).

Sphex kennedyi Murray, 1938:36. Substitute name for *Ammophila vulgaris* Cresson, 1865. – Dreisbach, 1944:269, 270 (in key to *Ammophila* of Michigan), 273 (Michigan: locality records); Spencer and Wellington, 1948:10 (British Columbia). – **As *Ammophila kennedyi***: Strickland, 1947:129 (new generic assignment, Canada: Alberta: Vermilion); Murray *in* Muesebeck, Krombein, and Townes, 1951:975 (in catalog of North American Hymenoptera); K. Cooper, 1953:34 (Massachusetts: Island of Penikese); Horning and Barr, 1970:104 (USA: Idaho: Craters of the Moon National Monument); R. Bohart and Menke, 1976:152 (in checklist of world Sphecidae); Krombein, 1979b:1591 (in catalog of North American Hymenoptera); Menke, 1983b:21 (Nebraska: Hooker County: Mullen area, Cherry County: Valentine and Nenzel areas, and Dawes County: north and southeast of Crawford); Brockmann, 1985b:312 (nest closure summary); O'Brien, 1989b:211 (distribution in Michigan); Spofford, Kurczewski, and Downes, 1989:258 (nest parasite: *Senotainia rubriventris* Macquart, a miltogrammine fly); Kurczewski and Acciavatti, 1990:60 (New York: Cayuga County); Spofford and Kurczewski, 1990:747 (nest parasite: *Senotainia rubriventris* Macquart, Sarcophagidae), 1992:996 (species of miltogrammine nest parasites listed), 1005 (post-larvipositional counter-cleptoparasitic behavior: clean burrow); Blades and Maier, 1996:71 (Canada: British Columbia: Osoyoos - Mount Kobau area at 119°40'W 49°05'N); Buck, 2004:24 (Canada: in checklist of Sphecidae of Ontario); Field, Ohl, and Kennedy, 2011:734 (in molecular cladistic analysis of Ammophilini); Stevens and Menke, 2014:220 (Arizona: Grand Canyon ecoregion); Dollfuss, 2015b:425 (Michigan: Mecosta County and Midland County no specific localities); Ratzlaff, 2016:28 (Canada: British Columbia: from Krombein, 1979); Lechner, 2019: 153 (Iowa: Sioux City, parasitized by strepsipteran *Paraxenos lugubris* Pierce); Field, Gonzalez-Voyer, and Boulton, 2020:7 (evolution of parental care); Menke, 2020:98 (in revision of North and Central American *Ammophila*); Buck and Bennett, 2025:223 (in checklist of Sphecidae sensu lato of Canada, Alaska, and Greenland: Canada: Alberta, British Columbia, Manitoba, New Brunswick, Nova Scotia, Ontario, Prince Edward Island, Quebec, Saskatchewan: no specific locality).

118. *kenyensis* Dollfuss

Ammophila kenyensis Dollfuss, 2015a:348, ♂. Holotype: ♂, Kenya: west of Mwingi (OÖLM). – Dollfuss, 2015a:315 (in key to Sub-Saharan *Ammophila*).

119. *kondarensis* Danilov

Ammophila kondarensis Danilov, 2018:323, ♀, ♂. Holotype: ♀, Tajikistan: Kondara at 38°48'N 68°48'E (ZIN). – Danilov, 2020:317 (specimen from Tajikistan and Uzbekistan in Institute of Systematics and Ecology of Animals, Novosibirsk, Russia)

120. *kowalczyki* Olszewski

Ammophila kowalczyki Olszewski *in* Olszewski and Danilov, 2020:190, ♀, ♂. Holotype: ♂, Iran: Kerman: Gohargaz at 30.43753°N 57.21039°E, alt. 2020 m (BMNH).

121. *laeviceps* F. Smith

Ammophila laeviceps F. Smith, 1873c:259, ♀. Holotype or syntypes: ♀, Chile: Santiago (BMNH). – Dalla Torre, 1897:403 (in catalog of world Hymenoptera, as *leviceps*); R. Bohart and Menke, 1976:152 (in checklist of world Sphecidae); Sielfeld, 1980b:72 (in checklist of Chilean Sphecidae); Amarante, 2002:67 (in catalog of Neotropical Sphecidae); Menke, 2004:770 (redescription), 771 (may be a synonym of *Ammophila rufipes*); Rasmussen and Asenjo, 2009:15 (in checklist of Crabronidae of Peru); Dollfuss, 2015b:426 (locality records from Argentina and Chile); Chiappa, Mandujano, and Passi, 2020:145 (nesting habits, description of larva).

Ammophila chilensis Reed, 1894:621, ♀, ♂. Syntypes: Chile: central provinces: no specific locality (CAS). Synonymized with *Ammophila laeviceps* by Bohart and Menke, 1976:143 (tentatively) and Menke, 2004:770 (definitely). – Gazulla and Ruiz Pereira, 1929:299 (Chile: Hacienda de "Las Mercedes"); Chiappa, 2012:8 (Chile: Región de Valparaíso: no specific locality). – **As *Sphex chilensis***: Soukup, 1943:265 (new generic assignment, Peru).

? *Ammophila chilensis* var. *ruficollis* Reed, 1894:622, sex not stated, junior primary homonym of *Ammophila ruficollis* F. Morawitz, 1890.

Syntypes: sex unknown, Chile: central provinces: no specific locality (MCZ); Menke, 2004:771 (redescription of syntype).— **As tentative synonym of *Ammophila laeviceps***: Bohart and Menke, 1976:142 (in checklist of world Sphecidae).

122. *laevicollis* Ed. André

Ammophila laevicollis Ed. André, 1886:77, ♀ (as *Laevicollis*, incorrect original capitalization). Syntypes: Spain, southern France: no specific locality (not in MNHN, see Dollfuss, 2013a:451). — Ed. André, 1888:3* (in catalog of Sphecidae of Europe and Algeria, as new species); Dalla Torre, 1897:403 (in catalog of world Hymenoptera, as *levicollis*); Morice, 1900a:68 (Algeria: Biskra); Kohl, 1906b:350 (in revision of Palearctic Ammophilini); Pérez, 1907:495 (Oman: Dibba); de Gaulle, 1908:103 (in catalog of French Hymenoptera); Magretti, 1906:13 (Eritrea); Ferton, 1921:347 (Algeria: Nemours, now Ghazaouet; prey and nest), 1923:141 (prey and nest); Berland, 1925d:31 (in Sphecidae Fauna of France); Picard, 1925b:163 (nest construction precedes hunting); Roth, 1928:196 (in revision of North African Ammophilini), 1928:196 (in revision of Spanish Ammophilini); Berland, 1930b:163 (France: Bouche-du-Rhône Department); Dusmet y Alonso, 1931:7 (Portugal: Évora, Porto); Nadig, 1933:100 (Morocco: Marrakech); Giner Marí, 1934a:130 (Spain); Giner Marí, 1943a:73 (in Sphecidae Fauna of Spain); de Andrade, 1949:6 (Portugal); Hertzog, 1954:99 (France: Bouches-du-Rhône: Camargue); Leclercq, 1955h:85 (bibliographic references); Hertzog, 1956:147 (presence of psammophore on head and forelegs); Morel, Nouvel, and Ribaut, 1956:336 (France: Département des Pyrénées-Orientales); Ceballos, 1956:360 (in catalog of Hymenoptera of Spain); Diniz, 1959:27 (Portugal: 10 localities); Suárez, 1959:52 (Spain: Almería Province); de Beaumont, 1962b:18 (Spain), 1963b:16 (in revision of *Ammophila nasuta* species group); Ceballos, 1964:87 (in supplement to catalog of Spanish Sphecidae); Diniz, 1965:2 (Portugal: 25 localities); R. Bohart and Menke, 1976:152 (in checklist of world Sphecidae); Marion, 1978:85 (France); Casolari and Casolari Moreno, 1980:100 (specimens in M. Spinola collection, Torino); Gayubo, 1981a:141 (northern Spain: Sierra de Béjar), 1982f:246 (Spain: Cádiz Province) Gayubo, 1983c:233 (Spain: Salamanca Province); Mingo and Gayubo, 1983:161 (Spain); Gayubo, 1984c:358 (Portugal: El Algarve Province); Gayubo and Tormos, 1984:11 (Spain: Valencia); Pagliano, 1984:368 (Italy); Gayubo, 1985c:167 (Spain: Valladolid: Traspinedo); Pagliano, 1985:15 (Italy); Gayubo, 1986b:37 (Spain: Andalucía), 1986c:30 (Spain: Zamora Province); Gayubo and Heras, 1986:32 (Spain: Segovia and Valladolid Provinces; floral records); Gayubo and Sanza, 1986:31 (Spain: Burgos); Gayubo and Tormos, 1986a:10 (Spain: Castellón de la Plana), 1986b:6 (Spain: Valencia), 1986f:999 (prey: geometrid larva); Piek and Spanjer, 1986:179 (in list of Sphecidae with known prey); Asís and Jiménez, 1987:25 (Spain: Castellón Province); Gayubo, 1987:108 (Spain: Ciudad Real Province); Tormos and Jiménez, 1987a:123 (Spain: Valencia), 1987b:316 (Spain: Valencia Province: Dehesa de El Saler); Asís, Gayubo, and Tormos, 1990b:240 (description of mature larva); Gayubo, Asís, and Tormos, 1990a:12 (Spain); Gayubo, Borsato, and Osella, 1992:280 (Spain); Hamon, Tussac, and Fonfria, 1992:405, 410 (in key to French Ammophilini); Gayubo, Tormos, and Asís, 1993b:308 (parasitized by *Paraxenos sphecidarum* Dufour, Strepsiptera); Torregrosa, Gayubo, Tormos, and Asís, 1993:11 (Spain: Alicante Province); Tormos, Asís, and Gayubo, 1994:187, 197 (Spain: Albacete Province); Tormos, Asís, and Gayubo, 1995:157 (nesting habits); Kuhlmann, 1996:219 (Portugal: Serra de Estrela); Bitsch, Barbier, Gayubo, Schmidt, and Ohl, 1997:83 (in Sphecidae Fauna of Western Europe); González, Gayubo, and Torres, 1998:72, 73 (Spain: Valladolid Province), 1999:354 (Spain: Valladolid: Viana de Cega); Gayubo, González, and Torres, 2000:184 (Spain: Salamanca Province); Drewes, 2003:132 (Spain: Tarragona area); Gayubo, Nieves-Aldrey, González, Tormos, Rey del Castillo, and Asís, 2004:108 (Spain: Madrid: Monte de El Pardo); Pagliano and Negrisoló, 2005:68 (in Sphecidae Fauna of Italy); Magdalou, 2006b:109 (France: Pyrénées-Orientales: Mas-Larrieu Nature Reserve near Argelès-sur-Mer), 2006c:7 (France: Pyrénées-Orientales: Réserve Naturelle du Mas-Larrieu); Gayubo, González, Tormos, and Asís, 2008:136 (Spain: Salamanca: Parque Natural de Las Batuecas – Sierra de Francia); Baños-Picón, Asís, Gayubo, and Tormos, 2009:310 (Spain: frequency of specimens collected with hand nets and Malaise traps); Gayubo, González, Tormos, and Asís, 2009:362 (Spain: Valladolid: Reserva Natural Riberas de Castronuño – Vega del Duero); González, Gayubo, Asís, and Tormos, 2009:622 (Spain: Salamanca and Zamora provinces: Arribes del Duero Natural Park); Bitsch, 2010:106 (in supplement to vol. II of Faune de France, 1997: biological observations by Ferton, 1921, reported; France: first records from département d’Hérault: Ceilhes-et-Rocozels, and from Var: Aiguines, Cotignac); Cruz-Sánchez, Asís, Gayubo, Tormos, and González, 2011:497 (Spain: Salamanca and Zamora provinces: Arribes del Duero Natural Park: effects of wildfire); Field, Ohl, and Kennedy, 2011:734 (in molecular cladistic analysis of Ammophilini); Dollfuss, 2013a:387, 398 (in key to *Ammophila* of Palearctic Region and India), 451 (in revision of *Ammophila* of Palearctic Region and India), 2013b:577 (locality records from France, Portugal, and Spain), 2015b:426 (France: département d’Hérault: 10 km south of Montpellier); Field, Shreeves, Kennedy, Brace, and Gilbert, 2015:1899 (sex-biased parental care and sexual size dimorphism); Magdalou, 2017:14 (France: Pyrénées-Orientales: Réserves Naturelles Catalanes: Mas Larrieu); Bitsch, Barbier, and Jacobs *in* Bitsch, Barbier, Gayubo, Jacobs, Leclercq, and Schmidt, 2020:94 (in Sphecidae Fauna of Europe); Field, Gonzalez-Voyer, and Boulton, 2020:7 (evolution of parental care); Gadallah, 2020d:79 (in list of aculeate wasps of Arabian Peninsula); Olszewski and DaCross, Baldock, and Wood, 2021:15 (in catalog of Sphecidae *sensu lato* of Portugal); nilov, 2020:193 (Spain: Valencia: Pinet dunes).

123. *laevigata* F. Smith

Ammophila laevigata F. Smith, 1856:215, ♀. Syntypes: India: Tamil Nadu: Madras; Gujarat: no specific locality (BMNH). — de Saussure, 1867:23 (redescription, Sri Lanka); F. Smith, 1871a:359 (in catalog of Oriental Aculeata); Cameron, 1889c:93 (in list of Sphecidae of Oriental Region); de Saussure, 1892:436 (Madagascar); Bingham, 1896a:437 (in list of Aculeata of Sri Lanka: Pundaloya, bibliographic references), 1897:231 (redescription); Dalla Torre, 1897:403 (in catalog of world Hymenoptera, as *levigata*); Maxwell-Lefroy, 1909:203 (India: nesting in ground, preying on caterpillar and spiders, spiders in error); Dutt, 1912:202 (India: Pusa); Strand, 1915:97 (Sri Lanka); Arnold, 1945:86 (de Saussure's 1982 record from Madagascar is unreliable); R. Bohart and Menke, 1976:152 (in checklist of world Sphecidae); Krombein, 1984a:3 (Sri Lanka, nesting habits); S. Gupta, 1995:85 (India: Uttar Pradesh, as *laevigata*); van Vondel, 1995:29 (specimens from India in Natuurmuseum Rotterdam); Wu and Zhou, 1996a:51 (in revision in Economic Insect Fauna of China); Jha and Farooqi, 1994:8 (description and illustration of male genitalia); Jonathan, Ray, and Kundu, 2000:185 (India: Meghalaya: East Garo Hills: Dainadubi); Hua, 2006:275 (in list of Chinese insects, geographic distribution); Dollfuss, 2013a:388, 396 (in key to *Ammophila* of Palearctic Region and India), 452 (in revision of *Ammophila* of Palearctic Region and India), 2013b:577 (locality records from Laos, Nepal, India, Thailand, and Vietnam); Job and Olakkengil, 2014:14 (India: Kerala: Thrissur District); Dollfuss, 2015b:426 (locality records from Laos and Thailand); Pham, Kumar and Danilov, 2015:1584 (in list of Sphecidae *sensu lato* of Vietnam); Sheikh, Thomas, Bandari, and Jubiraj, 2017:287 (India: Madhya Pradesh: Jabalpur District: Dumna Nature Park; diagnostic characters); Ch. Wang, Bashir, Q. Li, and Ma, 2018:298, 301 (in key to *Ammophila* of China); Pham, Truong, Th.T. Nguyen, Th.H. Nguyen, Q. Nguyen, and Th.M. Nguyen, 2019:73 (Vietnam: Hanoi and vicinity); Danilov, 2020:317 (specimens from Thailand in Institute of Systematics and Ecology of Animals, Novosibirsk, Russia).

Ammophila laevigata ab. *bicellularis* Strand, 1915:97, ♂. Holotype: ♂, Sri Lanka: Vurelia (DEI). Synonymized with *Ammophila laevigata* by R. Bohart and Menke, 1976:152. — Strand, 1927:253 (in list of species described by the author); Oehlke and Wudowenz, 1974:421 (holotype in DEI).

124. *laminituberalis* Ch. Wang and Ma

Ammophila laminituberalis Ch. Wang and Ma *in* Ch.Wang, Bashir, Q. Li, and Ma, 2018:294, ♂. Holotype: ♂, China: Xinjiang: Fukang City at 44°9'N 87°59'E (Entomological Museum of China Agricultural University, Beijing, China). — Ch.Wang, Bashir, Q. Li, and Ma, 2018:301 (in key to *Ammophila* of China).

125. *lampei* Strand

Ammophila chilensis var. *nigripes* Reed, 1894:622, ♀, junior primary homonym of *Ammophila nigripes* F. Smith, 1856. Holotype: ♀, Chile: Valparaíso (MCZ).

Ammophila lampei Strand, 1910b:13, ♀ (as *Lampeii*, incorrect original capitalization). Lectotype: ♀, Bolivia (as “Peru”): Guaqui (Städtisches Mus. Wiesbaden), designated by Menke, 1964b:150. Synonymized with *Ammophila nigripes* Reed by Menke, 1964b:150. — Strand, 1927:253 (in list of species described by author); R. Bohart and Menke, 1976:152 (in checklist of world Sphecidae); Sielfeld, 1980b:72 (in checklist of Chilean Sphecidae); Ch. Porter, 1987:43 (Chile: Tarapacá Region); Amarante, 2002:67 (in catalog of Neotropical Sphecidae); Rasmussen and Asenjo, 2009:15 (in checklist of Crabronidae of Peru); Chiappa, 2012:8 (Chile: Región de Valparaíso: no specific locality). *Sphex peruvianus* Rohwer, 1913:453, ♀. Holotype: ♀, Peru: Cuzco (USNM). Synonymized with *Ammophila lampei* Strand by Menke, 1964b:150. — Soukup, 1943:265 (Peru).

126. *lativalvis* Gussakovskij

Ammophila lativalvis Gussakovskij, 1928a:9, ♀, ♂. Syntypes: Uzbekistan: Ak-mechet near Khiva at 41°18'N 60°30'E, Ravat near Khiva area at 41°23'N 60°15'E (ZIN). — R. Bohart and Menke, 1976:152 (in checklist of world Sphecidae); Kazenas, 1978b:38 (in key to Sphecidae of Kazakhstan and Central Asia), 1998b:173 (in Sphecidae Fauna of Kazakhstan), 2001b:18 (in checklist of Sphecidae of Kazakhstan and Central Asia), 110 (nesting behavior), 2002a:38 (geographic distribution, collecting localities in Kazakhstan); Danilov, 2010b:45 (distribution of Tethyan type); Dollfuss, 2013a:389, 399 (in key to *Ammophila* of Palearctic Region and India), 454 (in revision of *Ammophila* of Palearctic Region and India); Danilow, 2016:349 (syntypes preserved in Zoological Institute, Sankt-Petersburg, Russia); Medetov, Embergenov, Kholmatov, Elmurodova, Rakhimov, and Tajibaeva, 2024:418 (Uzbekistan: distribution).

127. *leclercqi* Menke

Ammophila yarrowi Leclercq, 1961c:211, ♀, junior primary homonym of *Ammophila yarrowi* Cresson, 1876. Holotype: ♀, Spain: Badajoz Province: Merida (BMNH). – Ceballos, 1964:87 (in supplement to catalog of Spanish Sphecidae).

Ammophila leclercqi Menke, 1964b:154. Substitute name for *Ammophila yarrowi* Leclercq, 1961. – Bitsch, Barbier, Gayubo, Schmidt, and Ohl, 1997:85 (in Sphecidae Fauna of Western Europe); Dollfuss, 2013a:390 (in key to *Ammophila* of Palearctic Region and India), 455 (in revision of *Ammophila* of Palearctic Region and India); Bitsch, Barbier, and Jacobs *in* Bitsch, Barbier, Gayubo, Jacobs, Leclercq, and Schmidt, 2020:94 (in Sphecidae Fauna of Europe).

128. *leoparda* (Fernald)

Sphex urnarius leopardus Fernald, 1934:125, ♀, ♂. Holotype: ♀, USA: Georgia: no specific locality (ANSP). – **As *Sphex leopardus***: Murray, 1938:29 (full species status); Dreisbach, 1944:269, 270 (in key to *Ammophila* of Michigan), 273 (Michigan: locality records). – **As *Ammophila leoparda***: Murray *in* Muesebeck, Krombein, and Townes, 1951:975 (new generic assignment, in catalog of North American Hymenoptera); R. Bohart and Menke, 1976:152 (in checklist of world Sphecidae); Krombein, 1979b:1592 (in catalog of North American Hymenoptera); O'Brien, 1989b:211 (distribution in Michigan); Menke, 2020:100 (in revision of North and Central American *Ammophila*).

129. *linda* Menke

Ammophila linda Menke, 2020:72, ♀, ♂. Holotype: ♂, USA: California: Los Angeles County: Tanbark Flat (UCD).

130. *longicypeata* Dollfuss

Ammophila longicypeata Dollfuss, 2015a:350, ♂. Holotype: ♂, Namibia: Karibib District: 55 km southwest of Usakos (CAS). – Dollfuss, 2015a:315 (in key to Sub-Saharan *Ammophila*).

131. *macra* Cresson

Ammophila macra Cresson, 1865b:460, ♂. Lectotype: ♂, Colorado Territory: no specific locality (ANSP), designated by Cresson, 1916:94. – Cresson, 1887:274 (in catalog of North American Hymenoptera); Ashmead, 1890:34 (in checklist of Hymenoptera of Colorado); W. Fox, 1894c:101 (Mexico: Baja California); Dalla Torre, 1897:404 (in catalog of world Hymenoptera); Ashmead, 1899d:354 (in checklist of North American Sphecidae); Snow, 1906:133 (Arizona: Oak Creek 20 mi. southwest of Flagstaff); Menke, 1965c:2 (restored from synonymy); Evans, 1970:486 (Wyoming: Jackson Hole); Horning and Barr, 1970:104 (USA: Idaho: Craters of the Moon National Monument); R. Bohart and Menke, 1976:152 (in checklist of world Sphecidae); Krombein, 1979b:1592 (in catalog of North American Hymenoptera); Menke, 1983b:21 (Nebraska: Cherry County: Nenzel area); Brockmann, 1985b:312 (nest closure summary); Parks, 1986:34 (California: Torrey Pines State Reserve); Weissmann and Kondratieff, 1999:77 (Colorado: Great Sand Dunes National Monument); Stevens and Menke, 2014:220 (Arizona: Grand Canyon ecoregion); Ratzlaff, 2016:28 (Canada: British Columbia: from Menke, 1965); Menke, 2020:119 (in revision of North and Central American *Ammophila*); Buck and Bennett, 2025:223 (in checklist of Sphecidae sensu lato of Canada, Alaska, and Greenland: Canada: Alberta, British Columbia, Manitoba, Saskatchewan: no specific locality). – **As *Sphex macrus***: Fernald, 1926:91 (new generic assignment, as new synonym of *Ammophila procera*), 1931a:448 and 1933:44 (as junior synonym of *Ammophila procera*).

132. *malickyi* Dollfuss

Ammophila malickyi Dollfuss, 2015a:350, ♂. Holotype: ♂, Zimbabwe: 20 km west of Gwanda (OÖLM). Paratypes: Angola, Ethiopia, Kenya, Namibia, South Africa, Zambia. – Dollfuss, 2015a:317 (in key to Sub-Saharan *Ammophila*), 2015b:426 (locality records from Ethiopia, Kenya, South Africa, Zambia, and Zimbabwe).

133. *marshi* Menke

Ammophila marshi Menke, 1964a:13, ♀, ♂. Holotype: ♂, USA: California: Tuolumne County: Strawberry (UCD). – R. Bohart and Menke, 1976:152 (in checklist of world Sphecidae); Krombein, 1979b:1592 (in catalog of North American Hymenoptera); Rosenheim, 1987a:740 (California: Nevada County: Sagehen Creek near Hobart Mills), 1990b:241 (aerial prey caching as defence against ants); Field, Ohl, and Kennedy, 2011:734 (in molecular cladistic analysis of Ammophilini); Field, Shreeves, Kennedy, Brace, and Gilbert, 2015:1899 (sex-biased parental care and sexual size dimorphism); Field, Gonzalez-Voyer, and Boulton, 2020:7 (evolution of parental care); Menke, 2020:120 (in revision of North and Central American *Ammophila*).

134. *mcclayi* Menke

Ammophila mcclayi Menke, 1964a:24, ♀, ♂. Holotype: ♂, USA: California: Kern County: Woody (CIS according to original description, not in CAS now). – R. Bohart and Menke, 1976:152 (in checklist of world Sphecidae); Krombein, 1979b:1592 (in catalog of North American Hymenoptera); Rust, Menke, and Miller, 1985:46 (California: Channel Islands), 52 (prey); Parks, 1986:34 (California: Torrey Pines State Reserve); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:669 (in checklist of Mexican Sphecidae); Stevens and Menke, 2014:220 (Arizona: Grand Canyon ecoregion); Ratzlaff, 2016:28 (first record from Canada: British Columbia: Southern Interior), 39 (British Columbia: Chopaka); Menke, 2020:58 (in revision of North and Central American *Ammophila*); Buck and Bennett, 2025:223 (in checklist of Sphecidae sensu lato of Canada, Alaska, and Greenland: Canada: British Columbia: no specific locality).

135. *mediata* Cresson

Ammophila mediata Cresson, 1865b:459, ♀, ♂. Lectotype: ♀, USA: Colorado Territory: no specific locality (ANSP), designated by Cresson, 1916:94. – Cresson, 1887:274 (in catalog of North American Hymenoptera); Ashmead, 1890:34 (in checklist of Hymenoptera of Colorado); Dalla Torre, 1897:404 (in catalog of world Hymenoptera); Melander, 1903:162 (in key to North American Ammophilini), 163 (bibliographic references, geographic distribution); Fernald, 1931a:447 (as new synonym of *Sphex arvensis*); Murray *in* Muesebeck, Krombein, and Townes, 1951:976 (in catalog of North American Hymenoptera); Evans, 1970:486 (Wyoming: Jackson Hole); Horning and Barr, 1970:104 (USA: Idaho: Craters of the Moon National Monument); Steiner, 1973:26 (Canada: Northwest Territories, Yukon Territory); R. Bohart and Menke, 1876:152 (in checklist of world Sphecidae); Krombein, 1979b:1592 (in catalog of North American Hymenoptera); Finnamore, 1982:32 (in Sphecidae Fauna of southern Quebec); Oak Creek 20 mi. southwest of Flagstaff, USA: M. O'Brien and A. O'Brien, 1988:75 (nesting habits); O'Brien, 1989b:211 (distribution in Michigan); Blades and Maier, 1996:71 (Canada: British Columbia: Osoyoos - Mount Kobau area at 119°40'W 49°05'N); Finnamore, 1997:884 (Canada: Yukon); Buck, 2004:24 (Canada: in checklist of Sphecidae of Ontario); Field, Ohl, and Kennedy, 2011:734 (in molecular cladistic analysis of Ammophilini); Stevens and Menke, 2014:220 (Arizona: Grand Canyon ecoregion); Field, Shreeves, Kennedy, Brace, and Gilbert, 2015:1899 (sex-biased parental care and sexual size dimorphism); Ratzlaff, 2016:28 (Canada: British Columbia: from Krombein, 1979 and Buck, 2004); Field, Gonzalez-Voyer, and Boulton, 2020:7 (evolution of parental care); Menke, 2020:74 (in revision of North and Central American *Ammophila*); Buck and Bennett, 2025:223 (in checklist of Sphecidae sensu lato of Canada, Alaska, and Greenland: first record from Alaska: no specific locality, Canada: Alberta, British Columbia, Labrador, New Brunswick, Northwest Territories, Ontario, Quebec, Saskatchewan, Yukon Territory, first records from Manitoba and New Scotia: no specific locality). – **As *Sphex mediatius***: Murray, 1938:24 (new generic assignment, redescription); Dreisbach, 1944:269 (in key to *Ammophila* of Michigan), 273 (Michigan: locality records); Strickland, 1947:129 (Canada: Alberta: Cypress Hills, Waterton); Spencer and Wellington, 1948:10 (British Columbia).

136. *menghaiana* Q. Li and C. Yang

Ammophila menghaiana Q. Li and C. Yang, 1989:34, ♀, ♂. Holotype: ♀, China: Yunnan Province: Menghai County: no specific locality (Beijing Agricult. Univ.). – Hua, 2006:275 (in list of Chinese insects, geographic distribution); Dollfuss, 2013a:455 (in revision of *Ammophila* of Palearctic Region and India, original description translated from Chinese into English); Ch. Wang, Bashir, Q. Li, and Ma, 2018:298, 301 (in key to *Ammophila* of China).

137. *menkei* Dollfuss

Ammophila menkei Dollfuss, 2013a:456, ♂. Holotype: ♂, Tunisia: 56 km south of Tataouine (OÖLM). – Dollfuss, 2013a:398 (in key to *Ammophila* of Palearctic Region and India), 2013b:577 (Tunisia: 56 km south of Tataouine); Ben Khedher, Yildirim, Braham, and Ljubomirov, 2020a:305 (in list of Tunisian Sphecidae *sensu stricto*).

138. *meridionalis* Kazenas

Ammophila meridionalis Kazenas, 1980f:49, ♂. Holotype: ♂, Tajikistan: 10 km northeast of Garavuty on Vakhsh River at 37°38'N 68°31'E (ZIN). – Kazenas, 2001b:18 (in checklist of Sphecidae of Kazakhstan and Central Asia); Dollfuss, 2013a:396 (in key to *Ammophila* of Palearctic Region and India), 457 (in revision of *Ammophila* of Palearctic Region and India); Mokrousov and Gromenko, 2015:125 (Uzbekistan: Talimardzhan vodokhranilishche at 38°26'3" N, 65°35'37" E); Danilow, 2016:355 (holotype preserved in Zoological Institute, Sankt-Petersburg, Russia); Medetov, Embergenov, Kholmatov, Elmurodova, Rakhimov, and Tajibaeva, 2024:418 (Uzbekistan: distribution).

139. mescalero Menke

Ammophila mescalero Menke, 1965c:1, nomen nudum. Objective synonym of *Ammophila mescalero* Menke, 1966b.

Ammophila mescalero Menke, 1966b:33, ♀, ♂. Holotype: ♂, Mexico: Puebla: Cacaloapán (UCD). – R. Bohart and Menke, 1976:152 (in checklist of world Sphecidae); Krombein, 1979b:1592 (in catalog of North American Hymenoptera); Menke, 1986c:36 (Arizona: Gila County: Carrizo), 37 (Arizona: Cochise County: Naco), 1994f:21 (Arizona: Snowflake); Amarante, 2002:67 (in catalog of Neotropical Sphecidae); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:669 (in checklist of Mexican Sphecidae); Stevens and Menke, 2014:220 (Arizona: Grand Canyon ecoregion); Menke, 2020:101 (in revision of North and Central American *Ammophila*).

140. mexica Menke

Ammophila mexica Menke, 2020:58, ♀, ♂. Holotype: ♀, Mexico: Morelos: Cuernavaca (UCD).

141. mimica Menke

Ammophila mimica Menke, 1965c:1, nomen nudum. Objective synonym of *Ammophila mimica* Menke, 1966b.

Ammophila mimica Menke, 1966b:36, ♀, ♂. Holotype: ♂, USA: California: San Bernardino County: Cronise Valley (originally CIS, now CAS). – R. Bohart and Menke, 1976:152 (in checklist of world Sphecidae); Krombein, 1979b:1592 (in catalog of North American Hymenoptera); Stevens and Menke, 2014:220 (Arizona: Grand Canyon ecoregion); Menke, 2020:122 (in revision of North and Central American *Ammophila*).

142. mitlaensis Alfieri

Ammophila mitlaensis Alfieri, 1961:139, ♀. Holotype: ♀, Egypt: Sinai: Wadi Mitla (originally A. Alfieri collection, Cairo, now USNM, but Al Azhar University, Cairo, according to Roche 2007a:21). – R. Bohart and Menke, 1976:152 (in checklist of world Sphecidae); Roche and Zalut, 1994:114 (Egypt: Sinai Peninsula); Roche, 2007a:21 (in checklist of Egyptian Sphecidae, redescription), 2007b:2 (in checklist of Egyptian Ampulicidae, Sphecidae, and Crabronidae); Dollfuss, 2013a:390, 400 (in key to *Ammophila* of Palearctic Region and India), 458 (in revision of *Ammophila* of Palearctic Region and India), 2013b:577 (Israel: locality records).

143. modesta Mocsáry

Ammophila modesta Mocsáry, 1883:28, ♀. Holotype or syntypes: ♀, Spain: Granada (TMB). – Ed. André, 1886:66 (in revision of Sphecidae of Europe and Algeria), 1888:2* (bibliographic references); Medina, 1894a:259 (Spain: Hornachuelos); Dalla Torre, 1897:404 (in catalog of world Hymenoptera); Antiga and Bofill, 1904:4 (Spain: Cataluña Province); Dusmet y Alonso, 1906:7 (Spain); Kohl, 1906b:344 (in revision of Palearctic Ammophilini); Dusmet y Alonso, 1915:86 (Spain: Aragón); Roth, 1929:181 (in revision of Spanish Ammophilini), 188 (abnormal wing venation); Bischoff, 1933:6 (Spain: Sierra Morena: Santa Helena); Giner Marí, 1943a:71 (in Sphecid Fauna of Spain); de Andrade, 1949:7 (Portugal); Ceballos, 1956:360 (in catalog of Hymenoptera of Spain); Nouvel and Ribaut, 1958:8 (first record from France: Pyrénées-Orientales: Banyuls-sur-Mer); Diniz, 1959:27 (Portugal: Torre da Marinha); Suárez, 1959:52 (Spain: Almería Province); Ceballos, 1964:87 (in supplement to catalog of Spanish Sphecidae); Diniz, 1965:2 (Portugal: 10 localities); Esmaili and Rastegar, 1974:46 (Iran); R. Bohart and Menke, 1976:152 (in checklist of world Sphecidae); Gayubo, 1981a:141 (northern Spain: Sierra de Béjar); Gayubo, 1983c:234 (Spain: Salamanca Province: Fregeneda, Saucelle); Gayubo and Tormos, 1984:11 (Spain: Valencia); Gayubo, 1986b:37 (Spain: Andalucía); Gayubo and Sanza, 1986:32 (Spain: Segovia); Gayubo and Tormos, 1986a:10 (Spain: Castellón de la Plana), 1986b:6 (Spain: Valencia); Tormos and Jiménez, 1987a:123 (Spain: Valencia); Gayubo, Asís, and Tormos, 1990a:13 (Spain); Hamon, Tussac, and Fonfria, 1992:408, 411 (in key to French Ammophilini), 412 (in France collected only in Banyuls-sur-Mer); Bitsch, Barbier, Gayubo, Schmidt, and Ohl, 1997:85 (in Sphecid Fauna of Western Europe); Gayubo, González, Tormos, and Asís, 2008:136 (Spain: Salamanca: Parque Natural de Las Batuecas – Sierra de Francia); Baños-Picón, Asís, Gayubo, and Tormos, 2009:310 (Spain: frequency of specimens collected with hand nets and Malaise traps); González, Gayubo, Asís, and Tormos, 2009:622 (Spain: Salamanca and Zamora provinces: Arribes del Duero Natural Park); Bitsch, 2010:106 (in supplement to vol. II of Faune de France, 1997: recent records from Spain reported); Dollfuss, 2013a:390, 400 (in key to *Ammophila* of Palearctic Region and India), 459 (in revision of *Ammophila* of Palearctic Region and India), 2013b:577 (Spain: locality records); Vieira, Oliveira, Brewster, and Gayubo, 2013:15 (Portugal: Serras de Aire east of Candeeiros Natural Park); Dollfuss, 2015b:427 (Greece: Chalkidiki: west of Nikiti); Jahantigh, Rakhshani, Mokhtari, and Ramroodi, 2017:15 (Iran: known from unspecified province); Bitsch, Barbier, and Jacobs *in* Bitsch, Barbier, Gayubo, Jacobs, Leclercq, and Schmidt, 2020:91 (in Sphecid Fauna of Europe); Cross, Baldock, and Wood, 2021:15 (in catalog of Sphecidae *sensu lato* of Portugal);

144. moenkopi Menke

Ammophila moenkopi Menke, 1967a:3, ♀, ♂. Holotype: ♂, USA: Arizona: Coconino County: 4.5 mi. east of Moenkopi (originally Arizona State Univ., now USNM). – R. Bohart and Menke, 1976:152 (in checklist of world Sphecidae); Krombein, 1979b:1592 (in catalog of North American Hymenoptera); Menke, 1994f:21 (Utah: Calf Creek Falls State Park); Stevens and Menke, 2014:220 (Arizona: Grand Canyon ecoregion); Menke, 2020:74 (in revision of North and Central American *Ammophila*).

145. monachi Menke

Ammophila monachi Menke, 1965c:1, nomen nudum. Objective synonym of *Ammophila monachi* Menke, 1966b.

Ammophila monachi Menke, 1966b:34, ♀, ♂. Holotype: ♂, USA: Nevada: Mineral County: Mount Montgomery (UCD). – R. Bohart and Menke, 1976:152; Krombein, 1979b:1592 (in catalog of North American Hymenoptera); Menke, 2020:122 (in revision of North and Central American *Ammophila*).

146. mongolensis Tsuneki

Ammophila mongolensis Tsuneki, 1971k:163, ♀, ♂. Holotype: ♂, Mongolia: Central Aymag: 3 km east of Somon Nalajah (TMB). – R. Bohart and Menke, 1976:152 (in checklist of world Sphecidae); Nemkov *in* Nemkov, Kazenas, Budrys, et Antropov, 1995:387 (in key to Sphecidae of Russian Far East); Nemkov, 2008b:17 and 2009b:50 (in new catalog of Sphecidae and Crabronidae of Asiatic Russia); Dollfuss, 2013a:394, 403 (in key to *Ammophila* of Palearctic Region and India), 460 (in revision of *Ammophila* of Palearctic Region and India), 2013b:578 (locality records from China, Kazakhstan, Kyrgyzstan, Mongolia, Tajikistan, and Turkey); Danilov, 2014a:426 (Russia: Siberia: Altay Republic, Buryatia, Khakasiya, Sakha (= Yakutia), Zabaikal'skiy Kray), 2014b:520, 521 (in key to Sphecidae s.s. of Siberia); Mokrousov and Gromenko, 2015:125 (Uzbekistan: Karshi at 38°53'18" N, 65°49'54" E); Danilov, 2017b:212 (in catalog of Sphecidae s.s. of Russia); Jacobs and Liebig, 2018:134 (Russia: Buryat Republic: East Sayan: 30 km northwest of Mondy); Ch. Wang, Bashir, Q. Li, and Ma, 2018:300, 302 (in key to *Ammophila* of China); Akulov, Proshchalykin, and Mokrousov, 2020:46 (Russia: central Krasnoyarsk Kray); Danilov, 2020:317 (specimens from Kazakhstan, Kyrgyzstan, and Russia: Siberia in Institute of Systematics and Ecology of Animals, Novosibirsk, Russia); Can and Gülmez, 2021a:309 (Turkey: Giresun: Şebinkarahisar); Mokrousov and Proshchalykin, 2021a:319 (first record from European Russia: Dagestan: near Kufa village 6 km northwest of Rutul at 41.565178°N 47.362029°E); Kaplan and Yildirim, 2023:1692 (in checklist of Sphecidae *sensu lato* of Turkey); Medetov, Embergenov, Kholmatov, Elmurodova, Rakhimov, and Tajibaeva, 2024:418 (Uzbekistan: distribution).

147. murrayi Menke

Ammophila murrayi Menke, 1964a:14, ♀, ♂. Holotype: ♂, USA: California: Los Angeles County: Tanbark Flat in San Gabriel Mountains (UCD). – R. Bohart and Menke, 1976:152 (in checklist of world Sphecidae); Krombein, 1979b:1592 (in catalog of North American Hymenoptera); Menke, 1994d:15 (California: Monterey County: Parkfield area), 2020:124 (in revision of North and Central American *Ammophila*).

148. namibiensis Dollfuss

Ammophila namibiensis Dollfuss, 2015a:351, ♀, ♂. Holotype: ♂, Namibia: Karibib District: 17 km west of Usakos (CAS). – Dollfuss, 2015a:310, 313 (in key to Sub-Saharan *Ammophila*), 2015b:427 (Namibia: Karibib District: 15 km west of Karibib).

149. nancy Menke

Ammophila nancy Menke, 2007:32, ♀, ♂. Holotype: ♂, USA: Arizona: Cochise County: Geronimo Trail east of Douglas (USNM). Paratypes: California, Nevada, New Mexico, Texas, Baja California Sur, and Sonora. – Stevens and Menke, 2014:220 (Arizona: Grand Canyon ecoregion); Menke, 2020:75 (in revision of North and Central American *Ammophila*).

150. nasalis Provancher

Ammophila nasalis Provancher, 1895:111, ♂. Holotype or syntypes: ♂, USA: California: Los Angeles (Laval Univ.). – Melander, 1903:160 (in key to North American Ammophilini), 164 (bibliographic references, geographic distribution); not listed by Gahan and Rohwer, 1917-1918; Murray *in* Muesebeck, Krombein, and Townes, 1951:976 (in catalog of North American Hymenoptera); Powell, 1964b:251 (review of observations by Hicks, 1935); Menke, 1965b:259 (identity of *Sphex craspedotus* of Hicks, 1935); R. Bohart and Menke, 1976:151 (in checklist of world Sphecidae); Gwynne, 1977:335 (nesting behavior); Krombein, 1979b:1592 (in catalog of North American Hymenoptera); Miller, Pearce, and O'Neill, 2009:3 (known to be parasitized by *Paraxenos lugubris* (Pierce), Strepsiptera); Menke, 2020:142 (in revision of North and Central American *Ammophila*). – **As *Sphex nasalis***: Fernald, 1934:77 (new generic assignment, in revision of North American and West Indian *Ammophila*).

Spheg craspedotus Fernald, 1934:96, ♀. Holotype: ♀, USA: California: Los Angeles County: no specific locality (USNM). Synonymized with *Ammophila nasalis* by Murray *in* Muesebeck, Krombein, and Townes, 1951:976. – Hicks, 1935:97 (nesting habits).

151. *nasuta* Lepeletier de Saint Fargeau

Ammophila nasuta Lepeletier de Saint Fargeau, 1845:380, ♀, ♂. Lectotype: ♀, Algeria: Oran (M. Spinola collection, Turin), designated by Menke *in* Bohart and Menke, 1976:152. – Lucas, 1849:275 (Algeria: La Calle, Oran; original description copied with modifications); F. Smith, 1856:211 (in catalog of Hymenoptera in British Museum); Walker, 1871:17 (Djibouti: Tajura; Eritrea: Rafla Bay; Africa: Red Sea coast: Island of Akeek, Massowah); Kirchner, 1867:217 (in catalog of European Hymenoptera); Dours, 1874:141 (in catalog of Hymenoptera of France); Ed. André, 1886:78 (in revision of Sphecidae of Europe and Algeria), 1888:3* (bibliographic references); Acloque, 1897:96 (in Sphecidae Fauna of France and Algeria); Dalla Torre, 1897:405 (in catalog of world Hymenoptera); Medina, 1898:153 (Portugal: Foz do Douro); Antiga and Bofill, 1904:4 (Spain: Cataluña Province); W. Schulz, 1905b:33 (Algeria); Graeffe, 1906:456 (Tunisia: Tunis area); Kohl, 1906b:351 (in revision of Palearctic Ammophilini); Morice, 1911:73 (Algeria: Alger); Innes Bey, 1912:110 (specimens recorded by Walker, 1871, now destroyed by dermestids, were collected at Tadjurah); Roth, 1920a:15 (color variation), 1920b:86 (this variation was already observed by Lepeletier de Sait Fargeau); Roth, 1924:123 (Algeria: Nemours, now Ghazaouet); von Schulthess, 1926b:209 (Tunisia); Roth, 1928:197 (in revision of North African Ammophilini), 223 (habitat); Bischoff, 1933:6 (Morocco); nec Alfieri, 1946:136 (= *Ammophila pseudonasuta*); de Beaumont, 1955:56 (effects of stylopisation); Leclercq, 1955h:85 (bibliographic references); Ceballos, 1956:360 (in catalog of Hymenoptera of Spain); Bradley, 1957:39 (Lepeletier de Saint Fargeau's specimens in Turin); Diniz, 1959:27 (Portugal: no specific locality); de Beaumont, 1963b:9, 12 (in revision of *Ammophila nasuta* species group); R. Bohart and Menke, 1976:152 (in checklist of world Sphecidae); Pagliano, 2008:512 (lectotype in M. Spinola collection, Torino); Dollfuss, 2013a:387, 398 (in key to *Ammophila* of Palearctic Region and India), 461 (in revision of *Ammophila* of Palearctic Region and India), 2013b:578 (Algeria: Sidi Feeredj); Madl, 2018:943 (in catalog of Hymenoptera of Djibouti); Ben Khedher, Yildirim, Braham, and Ljubomirov, 2020a:305 (in list of Tunisian Sphecidae *sensu stricto*; new record: Tunisia: Sidi Bouzid: Maknassy).

152. *nearctica* Kohl

Ammophila nearctica Kohl, 1889a:18, ♂. Lectotype: ♂, USA: Washington: no specific locality (NHMW), designanted by Menke, 1965c:1 and 2020:126 (Washington: Ellensburg), for the secod time. – Dalla Torre, 1897:405 (in catalog of world Hymenoptera); Ashmead, 1899d:354 (in checklist of North American Sphecidae); Melander, 1903:162 (in key to North American Ammophilini), 164 (bibliographic references, geographic distribution); Fernald, 1931a:449 (as new synonym of *Spheg politus*); Murray *in* Muesebeck, Krombein, and Townes, 1951:976 (in catalog of North American Hymenoptera); R. Bohart and Menke, 1976:152 (in checklist of world Sphecidae); Krombein, 1979b:1592 (in catalog of North American Hymenoptera); Rust, Menke, and Miller, 1985:46 (California: Channel Islands); Dollfuss, 1989:7 (lectotype in NHMW); Menke, 1994d:15 (California: Monterey County: Parkfield area); Stevens and Menke, 2014:220 (Arizona: unknown from Grand Canyon ecoregion).

153. *nefertiti* Menke

Ammophila nefertiti Menke, 1964a:16, ♀, ♂. Holotype: ♂, USA: California: Lassen County: 10.6 mi. north of Lichtfield (CIS according to original description, now CAS). – R. Bohart and Menke, 1976:152 (in checklist of world Sphecidae); Krombein, 1979b:1592 (in catalog of North American Hymenoptera); Stevens and Menke, 2014:220 (Arizona: unknown from Grand Canyon ecoregion); Menke, 2020:140 (in revision of North and Central American *Ammophila*).

154. *nemkovi* Danilov

Ammophila nemkovi Danilov, 2018:325, ♀. Holotype: ♀, Uzbekistan: Qashqadarya Province: near Kamashi at 38°49'N 66°27'E (ZIN). – Medetov, Embergenov, Kholmatov, Elmurodova, Rakhimov, and Tajibaeva, 2024:418 (Uzbekistan: distribution)

155. *nigri* Dollfuss

Ammophila nigri Dollfuss, 2015a:353, ♂. Holotype: Niger: Dosso Region: 15 km south of Dosso at 12°53.5'N 3°10.1'E (CAS) – Dollfuss, 2015a:315 (in key to Sub-Saharan *Ammophila*).

156. *nigricans* Dahlbom

Ammophila nigricans Dahlbom, 1843:14, ♂. Holotype or syntypes: ♂, USA: South Carolina: no specific locality (Lund). – Dahlbom, 1845:430 (in key to *Ammophila*); F. Smith, 1856:223 (in catalog of Hymenoptera in British Museum); Cresson, 1863:319 (in catalog of North American Hymenoptera), 1887:274 (in catalog of North American Hymenoptera); Dalla Torre, 1897:405 (in catalog of world Hymenoptera); Ashmead, 1899d:354 (in checklist of North American Sphecidae); Melander, 1903:157 (diagnostic characters), 161 (in key to North American Ammophilini), 163 (bibliographic references, geographic distribution); Murray *in* Muesebeck, Krombein, and Townes, 1951:976 (in catalog of North American Hymenoptera); Evans, 1959d:465 (nesting behavior); Kurczewski and Kurczewski, 1963:147 (Pennsylvania: Presque Isle State Park); R. Bohart and Menke, 1976:152 (in checklist of world Sphecidae); Krombein, 1979b:1592 (in catalog of North American Hymenoptera); Finnamore, 1982:33 (in Sphecidae Fauna of Southern Quebec); Steiner, 1986:98 (references to papers on nesting habits); O'Brien, 1989b:212 (distribution in Michigan); Kurczewski and Acciavatti, 1990:60 (New York: Cayuga County); Ahlstrom, 1995:107 (in checklist of insects of North Carolina); Kurczewski, 1998d:250 (pine barrens in upstate New York); Buck, 2004:24 (Canada: in checklist of Sphecidae of Ontario), 29 (distribution within Ontario), 34 (first record from Ontario: list of localities); McCravy, Bara, Hessler, Luxmore, Stinebaker, and Jenkins, 2009:113 (Illinois: Hancock County: Alice L. Kibbe Life Science Station); Field, Ohl, and Kennedy, 2011:734 (in molecular cladistic analysis of Ammophilini); Dollfuss, 2015b:427 (locality records from Florida, Kansas, Nebraska, and Ohio); Field, Shreeves, Kennedy, Brace, and Gilbert, 2015:1899 (sex-biased parental care and sexual size dimorphism); Lechner, 2019: 153 (Iowa: Sioux City, parasitized by strepsipteran *Paraxenos lugubris* Pierce); Field, Gonzalez-Voyer, and Boulton, 2020:7 (evolution of parental care); Menke, 2020:59 (in revision of North and Central American *Ammophila*); Buck and Bennett, 2025:223 (in checklist of Sphecidae *sensu lato* of Canada, Alaska, and Greenland: Canada: Ontario: no specific locality). – **As *Spheg nigricans***: H. Smith, 1908b:330 (new generic assignment, in revision of Nebraskan Sphecidae); Mickel, 1918b:402 (in catalog of Nebraskan Sphecidae); Britton, 1920:340 (in checklist of insects of Connecticut); Rau, 1926:211 (Missouri: Wickes: sheltered clay bank); Fernald, 1934:98 (in revision of North American and West Indian *Ammophila*); Peckham, 1934b:259 (nest and prey); Brimley, 1938:444 (North Carolina: statewide); Rau, 1938b:541 (sleeping habits); Dreisbach, 1944:269, 270 (in key to *Ammophila* of Michigan), 273 (Michigan: locality records); Strandtmann, 1945a:310 (nest and prey); Piek and Spanjer, 1986:189 (in list of Sphecidae with known prey).

Ammophila intercepta Lepeletier de Saint Fargeau, 1845:378, ♀ (authorship attributed to Klug). Holotype or syntypes: ♀, North: no specific America locality (M. Spinola collection, Torino). Tentatively synonymized with *Ammophila nigricans* by by Murray *in* Muesebeck, Krombein, and Townes, 1951:976, and definitely by Menke, 1965c:1 and by R. Bohart and Menke, 1976:152. – F. Smith, 1856:223 (in catalog of Hymenoptera in British Museum); Cresson, 1863:318 (in catalog of North American Hymenoptera), 1873:210 (Texas); Patton, 1879d:353 (USA: northwestern Kansas); Cresson, 1887:274 (in catalog of North American Hymenoptera); C. Robertson, 1892:105 (visiting flowers of *Pycnanthemum lanceolatum* Ph., Lamiaceae), 106 (visiting flowers of *Pycnanthemum muticum* Pers., Lamiaceae), 107 (visiting flowers of *Pycnanthemum linifolium* Ph., Lamiaceae), 114 (visiting flowers of *Blephilia ciliata* Raf., Lamiaceae), 116 (visiting flowers of *Lophanthus nepetoides* Benth.), 1894:453 (visiting flowers of *Eupatorium serotinum* Michx., Asteraceae), 455 (visiting flowers of *Solidago missouriensis* Nutt., Asteraceae), 460 (visiting flowers of *Aster paniculatus* Lam., Asteraceae), 464 (visiting flowers of *Parthenium integrifolium* Linnaeus, Asteraceae), 467 (visiting flowers of *Rudbeckia hirta* Linnaeus, Asteraceae), 469 (visiting flowers of *Lepachys pinnata* Torr. and Gray, Asteraceae), 470 (visiting flowers of *Helianthus strumosus* Linnaeus), 472 (visiting flowers of *Verbesina helianthoides* Michx. and of *Coreopsis palmata* Nutt.), 473 (visiting flowers of *Coreopsis aristosa* Michx., Asteraceae), 475 (visiting flowers of *Helenium autumnale* Linnaeus, Asteraceae), 1896:72 (visiting flowers of *Polygonum pennsylvanicum* Linnaeus, Polygonaceae); Dalla Torre, 1897:403 (in catalog of world Hymenoptera); Ashmead, 1899d:354 (in checklist of North American Sphecidae); Bridwell, 1899:209 (Kansas: no specific locality); J. Smith, 1900:524 (in list of insects of New Jersey); Casolari and Casolari Moreno, 1980:100, 101 (specimens in M. Spinola collection, Torino); Pagliano, 2008:512 (holotype in M. Spinola collection, Torino), 515 (specimens in M. Spinola collection, Torino). – **As *Spheg intercepta* [sic]**: J. Smith, 1910:677 (new generic assignment, in new list of insects of New Jersey).

157. *nigrifrons* Dollfuss

Ammophila nigrifrons Dollfuss, 2015a:354, ♂. Holotype: ♂, South Africa: Western Cape Province: South Lamberts Bay (OÖLM). Paratypes: Botswana, Namibia, Zimbabwe. – Dollfuss, 2015a:316 (in key to Sub-Saharan *Ammophila*), 2015b:427 (locality records from Botswana, Namibia, South Africa, and Zimbabwe).

158. *nigrina* F. Morawitz

Ammophila nigrina F. Morawitz, 1889a:128, ♀. Holotype: ♀, China: Gansu: Sigu [= Gansu: Gannan Prefecture: Zhugqu County at 33°38'N 104°20'E] (ZIN). – Dalla Torre, 1897:405 (in catalog of world Hymenoptera); Kohl, 1906b:320 (as new synonym of *Ammophila campestris*), 321 (as a variety of *Ammophila campestris*), 373 (original description copied); Dollfuss, 2013a:394 (in key to *Ammophila* of Palearctic Region and India), 462 (valid species, in revision of *Ammophila* of Palearctic Region and India); Danilov, 2016:337 (holotype preserved in Zoological Institute, Sankt-Petersburg, Russia).

159. nitida Fischer de Waldheim

Ammophila nitida Fischer de Waldheim, 1834:2, sex not stated. Holotype or syntypes: southern Russia: no specific locality (depository unknown). – F. Smith, 1856:210 (in catalog of Hymenoptera in British Museum); Kirchner, 1867:217 (in catalog of European Hymenoptera); Dalla Torre, 1897:405 (in catalog of world Hymenoptera); Kohl, 1906b:374 (original description copied); R. Bohart and Menke, 1976:152 (in checklist of world Sphecidae).

160. novita (Fernald)

Sphex novitus Fernald, 1934:147, ♀, ♂. Holotype: ♀, “L. Cal.” [Lower California] = Mexico: Baja California: no specific locality (ANSP). – **As *Ammophila novita***: Murray *in* Muesebeck, Krombein, and Townes, 1951:976 (new generic assignment, in catalog of North American Hymenoptera); Hurd and Linsley, 1975:116 (Arizona: Yuma County: 24.5 mi. north of Yuma; on flowers of *Larrea tridentata* (De Candolle) Coville, Zygophyllaceae); R. Bohart and Menke, 1976:152 (in checklist of world Sphecidae); Krombein, 1979b:1592 (in catalog of North American Hymenoptera); Alcock, 1984:1 (nesting habits; prey capture preceds nest digging); Amarante, 2002:67 (in catalog of Neotropical Sphecidae); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:669 (in checklist of Mexican Sphecidae); Amarante, 2005a:14 (correction to his 2002 catalog); Stevens and Menke, 2014:220 (Arizona: unknown from Grand Canyon ecoregion); Menke, 2020:127 (in revision of North and Central American *Ammophila*).

161. obliquestriolae Yang and Li

Ammophila obliquestriolae Yang and Li, 1989:106, ♂. Holotype, ♂, China: Shaanxi Province: Ganquan County: Quingquan (Beijing Agricult. Univ.). – Hua, 2006:275 (in list of Chinese insects, geographic distribution); Dollfuss, 2013a:462 (in revision of *Ammophila* of Palearctic Region and India, original description translated from Chinese into English); Ch.Wang, Bashir, Q. Li, and Ma, 2018: 302 (in key to *Ammophila* of China).

162. occipitalis F. Morawitz

Ammophila occipitalis F. Morawitz, 1890:583, ♀, ♂. Lectotype: ♂, Turkmenistan: Tedjen at 37°23'N 60°30'E (NHMW), designated by Dollfuss, 2013a:463. – F. Morawitz, 1891a:203 (Russia: Astrakhan Governorate: Ryn Peski); Dalla Torre, 1897:405 (in catalog of world Hymenoptera); Kohl, 1906b:322 (in revision of Palearctic *Ammophilini*); Morice, 1921:822 (Iraq: Amara); Gussakovskij, 1933b:274 (Iran); Kazenas, 1968b:342 (Kazakhstan: Aktyubinsk and Gur'yev, now Atyraū, oblast's); Myartseva, 1971a:77 (in key to *Ammophila* of Turkmenistan), 1972a:86 (Turkmenistan); Kazenas, 1974b:109 (feeding on flowers of *Tamarix* sp., Tamaricaceae, in Kazakhstan); R. Bohart and Menke, 1976:153 (in checklist of world Sphecidae); Kazenas, 1978b:35 (in key to Sphecidae of Kazakhstan and Central Asia); Pulawski, 1978:181 (in key to Sphecidae of European part of USSR); Nazarova and Shomirsaidov, 1997:23 (Tajikistan: fruit tree orchards in Vakhsh River valley); Kazenas, 1998b:175 (in Sphecid Fauna of Kazakhstan); Nazarova, 1998:40 (Tajikistan: Tigrovaya Balka Nature Reserve); Kazenas, 2001b:18 (in checklist of Sphecidae of Kazakhstan and Central Asia), 110 (nest parasites), 2002a:38 (geographic distribution, collecting localities in Kazakhstan); Kazenas, 2004b:100 (Kazakhstan: western Tien Shan Mountains), 2004d:28 (Kazakhstan: northern Caspian region); Danilov, 2009:57 (Russia: Western Siberia: Kulundinskaya Steppe), 2010b:44 (distribution of Tethyan type); Kazenas, 2012b:168 (Kazakhstan: Korgalzhin State Nature Reserve); Dollfuss, 2013a:391, 401 (in key to *Ammophila* of Palearctic Region and India), 463 (in revision of *Ammophila* of Palearctic Region and India), 2013b:578 (locality records from Iran, Jordan, Turkmenistan, and Uzbekistan); Kazenas, 2014a:133 (Kazakhstan: Karatau Mountain Range); Danilov, 2016:337 (paralectotype preserved in Zoological Institute, Sankt-Petersburg; Russia: Dagestan), 2017b:212 (in catalog of Sphecidae s.s. of Russia); Danilov and Mokrousov, 2017a:110 (Russia: Dagestan); Jahantigh, Rakhshani, Mokhtari, and Ramroodi, 2017:16 (Iran: known from Kerman and Sistan-o Baluchestan provinces); Augul, 2019:493 (recorded from Iraq by Derwesh, 1965, as *Sphex occipitalis* and *Eremochares occipitalis*); Danilov, 2020:317 (specimen from Turkmenistan in Institute of Systematics and Ecology of Animals, Novosibirsk, Russia). – **As *Sphex occipitalis***: Derwesh, 1965:71 (new generic assignment, Iraq: no specific locality); Medetov, Embergenov, Kholmatov, Elmurodova, Rakhimov, and Tajibaeva, 2024:418 (Uzbekistan: distribution).

Ammophila ruficollis F. Morawitz, 1890:586, ♀. Holotype: Turkmenistan: Tedjen at 37°23'N 60°30'E (ZIN). Synonymized with *Ammophila occipitalis* by Dollfuss, 2013a:463. – Dalla Torre, 1897:407 (in catalog of world Hymenoptera); Kohl, 1906b:374 (original description copied); R. Bohart and Menke, 1976:153 (in checklist of world Sphecidae); Kazenas, 1978b:36 (in key to Sphecidae of Kazakhstan and Central Asia), 2001b:18 (in checklist of Sphecidae of Kazakhstan and Central Asia); Danilov, 2016:338 (holotype preserved in Zoological Institute, Sankt-Petersburg, Russia).

163. ohli Dollfuss

Ammophila ohli Dollfuss, 2013a: 464, ♀. Holotype: ♀, Uzbekistan: Zeravshan Mountains: Aman-Kutan Pass (OÖLM). – Dollfuss, 2013a:391 (in key to *Ammophila* of Palearctic Region and India).

164. pachythoracalis Yang and Q. Li

Ammophila pachythoracalis Yang and Q. Li, 1989:107, ♂ (spelled *pachymoracalia* in English summary, p. 110). Holotype: ♂, China: Shaanxi Province: Ganquan County: Quingquan (Beijing Agricult. Univ.). – Hua, 2006:275 (in list of Chinese insects, geographic distribution); Dollfuss, 2013a:465 (in revision of *Ammophila* of Palearctic Region and India, original description translated from Chinese into English); Ch.Wang, Bashir, Q. Li, and Ma, 2018: 302 (in key to *Ammophila* of China).

165. pakistana Dollfuss

Ammophila pakistana Dollfuss, 2013a:466, ♂. Holotype: ♂, Pakistan: Quetta (BMNH). – Dollfuss, 2013a:396 (in key to *Ammophila* of Palearctic Region and India).

166. parapolita (Fernald)

Sphex parapolitus Fernald, 1934:51, ♀, ♂. Holotype: ♀, USA: California: Felton in Santa Cruz Mountains (Cornell Univ.). – Strickland, 1947:129 (Canada: Alberta: Medicine Hat, Wainwright). – **As *Ammophila parapolita***: Murray *in* Muesebeck, Krombein, and Townes, 1951:976 (new generic assignment, in catalog of North American Hymenoptera); R. Bohart and Menke, 1976:153 (in checklist of world Sphecidae); Krombein, 1979b:1592 (in catalog of North American Hymenoptera); Rust, Menke, and Miller, 1985:46 (California: Channel Islands); Menke, 1994d:15 (California: Monterey County: Parkfield area); Menke, 2020:128 (in revision of North and Central American *Ammophila*).

167. parapuncticeps Dollfuss

Ammophila parapuncticeps Dollfuss, 2015a:355, ♀, ♂. Holotype: ♂, South Africa: Western Cape Province: Greytown: Riviersonderend River (OÖLM). – Dollfuss, 2015a:312, 313, 318 (in key to Sub-Saharan *Ammophila*), 2015b:427 (locality records from South Africa).

168. parkeri Menke

Ammophila parkeri Menke, 1964a:23, ♀, ♂. Holotype: ♂, USA: California: Nevada County: Boca (UCD). – Powell, 1964b:243 (nesting site, prey: geometrid caterpillar); Horning and Barr, 1970:104 (USA: Idaho: Craters of the Moon National Monument); R. Bohart and Menke, 1976:153 (in checklist of world Sphecidae); Krombein, 1979b:1592 (in catalog of North American Hymenoptera); Rust, Menke, and Miller, 1985:46 (California: Channel Islands); Piek and Spanjer, 1986:179 (in list of Sphecidae with known prey); Steiner, 1986:98 (references to papers on nesting habits); Menke, 1994d:15 (California: Monterey County: Parkfield area); Stevens and Menke, 2014:220 (Arizona: Grand Canyon ecoregion); Danilov, 2014:355 (a pair of paratypes preserved in Zoological Institute, Sankt-Petersburg, Russia); Menke, 2020:102 (in revision of North and Central American *Ammophila*).

169. peckhami (Fernald)

Sphex peckhami Fernald, 1934:93, ♂. Holotype: ♂, Mexico: Meadow Valley (USNM). – **As *Ammophila peckhami***: Murray *in* Muesebeck, Krombein, and Townes, 1951:976 (new generic assignment, in catalog of North American Hymenoptera); R. Bohart and Menke, 1976:153 (in checklist of world Sphecidae); Krombein, 1979b:1592 (in catalog of North American Hymenoptera); Amarante, 2002:67 (in catalog of Neotropical Sphecidae); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:669 (in checklist of Mexican Sphecidae); Stevens and Menke, 2014:220 (Arizona: Grand Canyon ecoregion); Menke, 2020:76 (in revision of North and Central American *Ammophila*).

Sphex willistoni Fernald, 1934:91, ♀. Holotype: ♀, Mexico: Meadow Valley (USNM). Synonymized with *Sphex peckhami* by Menke, 1966b:1 and 1967a:3

170. peringueyi (Arnold)

Sphex peringueyi Arnold, 1928:269, ♀ (as *Peringueyi*, incorrect original capitalization). Holotype: ♀, South Africa: Western Cape Province: Tradouw Pass in Swellendam District (SAM). – Arnold, 1930:17 (in checklist of Afrotropical Sphecidae). – **As *Ammophila peringueyi***: Leclercq, 1955h:87 (new generic assignment, bibliographic references); R. Bohart and Menke, 1976:153 (in checklist of world Sphecidae); Dollfuss, 2015a:311 (in key to Sub-Saharan *Ammophila*), 357 (in revision of Sub-Saharan *Ammophila*).

171. *persica* Dollfuss

Ammophila persica Dollfuss, 2013a:466, ♂. Holotype: ♂, Iran: Kohgiluyeh and Boyer-Ahmad: Kuh Gol near Sisakut at 30.84°N 51.53°E (OÖLM). – Dollfuss, 2013a:401 (in key to *Ammophila* of Palearctic Region and India), 2013b:578 (Iran: Kohgiluyeh and Boyer-Ahmad: Kuh Gol near Sisakut); Jahantigh, Rakhshani, Mokhtari, and Ramroodi, 2017:16 (Iran: known from Kohgiluyeh-va Boyerahmad Province).

172. *pevtsovi* Danilov

Ammophila pevtsovi Danilov, 2015a:541, ♀. Holotype: ♀, China: Xinjian: Hetian: Ka Lhasa Yicun village at 36°46'N 83°48'E (ZIN). – Danilov, 2016:358 (holotype preserved in Zoological Institute, Sankt-Petersburg, Russia); Ch. Wang, Bashir, Q. Li, and Ma, 2018:300 (in key to *Ammophila* of China).

173. *picipes* Cameron

Ammophila picipes Cameron, 1888a:11, ♂. Lectotype: ♂, Mexico: Yucatán: Temax (BMNH), designated by Menke, 1996e:194 (as holotype, Article 74b). – Dalla Torre, 1897:406 (in catalog of world Hymenoptera, as *piceipes*); Ashmead, 1899d:354 (in checklist of North American Sphecidae); Melander, 1903:162 (in key to North American Ammophilini), 164 (bibliographic references, geographic distribution); Fernald, 1934:158 (original description copied); R. Bohart and Menke, 1976:153 (in checklist of world Sphecidae); Krombein, 1979b:1592 (in catalog of North American Hymenoptera); Hanson and Menke, 1995:637 (known from Costa Rica); Menke, 1996e:192 (in key to Ammophilini of Costa Rica), 194 (in revision of Ammophilini of Costa Rica); Menke and Parker, 1996:186 (Costa Rica: population largest during dry season); Amarante, 2002:67 (in catalog of Neotropical Sphecidae); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:669 (in checklist of Mexican Sphecidae); Horta Vega, Pinson Domínguez, Barrientos Lozano, and Correa Sandoval, 2007: 47 (Mexico: Tamaulipas); Stevens and Menke, 2014:220 (Arizona: unknown from Grand Canyon ecoregion); Vanoye-Eligio, Meléndez-Ramírez, Ayala, Navarro-Alberto, and Delfín-González, 2015:995 (Mexico: in list of Sphecidae *sensu lato* of Yucatán); Menke, 2020:103 (in revision of North and Central American *Ammophila*).

Ammophila alticola Cameron, 1888a:10, ♂. Lectotype: ♂, Panama: Volcán de Chiriquí (BMNH), designated by Menke, 1996e:194 (as holotype, Article 74b). Synonymized with *Ammophila picipes* by Menke, 1965c:1 and by Bohart and Menke, 1976:153. – Dalla Torre, 1897:395 (in catalog of world Hymenoptera); Ashmead, 1899d:354 (in checklist of North American Sphecidae); Melander, 1903:162 (in key to North American Ammophilini), 164 (bibliographic references, geographic distribution).

Ammophila volcanica Cameron, 1888a:17, ♀. Lectotype: ♀, Panama: Volcán de Chiriquí (BMNH), designated by Menke, 1996e:194 (as holotype, Article 74b). Synonymized with *Ammophila picipes* by Menke, 1965c:1 and by Bohart and Menke, 1976:153. – Dalla Torre, 1897:411 (in catalog of world Hymenoptera); Ashmead, 1899d:354 (in checklist of North American Sphecidae); Melander, 1903:162 (in key to North American Ammophilini, as *voltanica*), 164 (bibliographic references, geographic distribution, as *voltanica*); Murray *in* Muesebeck, Krombein, and Townes, 1951:977 (in catalog of North American Hymenoptera); Linsley, 1962:156 (sleeping aggregations). – **As *Sphex volcanicus***: Fernald, 1934:54 (new generic assignment, in revision of North American and West Indian *Ammophila*).

Ammophila chiriquensis Cameron, 1888a:18, ♀. Lectotype: ♀, Panama: Volcán de Chiriquí (BMNH), designated by Menke, 1996e:194 (as holotype, Article 74b). Synonymized with *Ammophila picipes* by Dalla Torre, 1897:395 and by Menke, 1966f:1 (as new synonym). – Dalla Torre, 1897:397 (in catalog of world Hymenoptera, here listed as valid species); Ashmead, 1899d:354 (in checklist of North American Sphecidae); Melander, 1903:161 (in key to North American Ammophilini), 164 (bibliographic references, geographic distribution); Fernald, 1934:134 (in revision of North American and West Indian *Ammophila*); Murray *in* Muesebeck, Krombein, and Townes, 1951:975 (in catalog of North American Hymenoptera).

174. *pictipennis* Walsh

Ammophila pictipennis Walsh, 1869:164 (June), ♀, ♂. Syntypes: USA: southern Illinois and Colorado: no specific locality (depository?). – Cresson, 1873:210 (Texas); Riley, 1873:149 (.); Cresson, 1876:208 (Iowa: Davenport), 1887:274 (in catalog of North American Hymenoptera); C. Robertson, 1892:105 (visiting flowers of *Pycnanthemum lanceolatum* Ph., Lamiaceae), 106 (visiting flowers of *Pycnanthemum muticum* Pers., Lamiaceae), 114 (visiting flowers of *Blephilia ciliata* Raf., Lamiaceae); Viereck, 1893e:132 (New Jersey: Riverton; New York: Staten Island); C. Robertson, 1894:455 (visiting flowers of *Solidago missouriensis* Nutt., Asteraceae), 457 (visiting flowers of *Solidago nemoralis* Ait., Asteraceae); 462 (visiting flowers of *Erigeron strigosus* Muhl., Asteraceae), 467 (visiting flowers of *Rudbeckia hirta* Linnaeus, Asteraceae), 469 (visiting flowers of *Lepachys pinnata* Torr. and Gray, Asteraceae), 472 (visiting flowers of *Verbesina helianthoides* Michx. and Nutt., Asteraceae); Ashmead, 1899d:354 (in checklist of North American Sphecidae); W. Fox, 1895c:266 (Mexico: Baja California Sur); Dalla Torre, 1897:406 (in catalog of world Hymenoptera); Bridwell, 1899:209 (Kansas: Baldwin); J. Smith, 1900:524 (in list of insects of New Jersey); Rohwer, 1916b:686 (in catalog of sphecids of Connecticut); Salt, 1927:182 (stylopized specimens; Virginia: Falls Church and Great Falls); Fernald, 1931a:449 (as new synonym of *Sphex placidus*); Menke, 1965c:2 (restored from synonymy); R. Bohart and Menke, 1976:153 (in checklist of world Sphecidae); Krombein, 1979b:1593 (in catalog of North American Hymenoptera); Brockmann, 1985b:312 (nest closure summary); Steiner, 1986:98 (references to papers on nesting habits); O'Brien, 1989b:212 (distribution in Michigan); Spofford, Kurczewski, and Downes, 1989:256, 260 (references to publications on nest parasites *Hilarella hilarella* (Zetterstedt), a miltogrammine fly, and undetermined Miltogrammini), 258 (nest parasite: *Senotainia rubriventris* Macquart, a miltogrammine fly); Kurczewski and Acciavatti, 1990:60 (New York: Cayuga County); Spofford and Kurczewski, 1990:747 (nest parasite: *Senotainia rubriventris* Macquart, Sarcophagidae), 1992:996 (species of miltogrammine parasites listed), 1002 (counter-cleptoparasitic behavior: diversionary flight), 1005 (post-larvipositional counter-cleptoparasitic behavior: clean burrow); Ahlstrom, 1995:107 (in checklist of insects of North Carolina); Kurczewski, 1998d:250 (pine barrens in upstate New York); Amarante, 2002:67 (in catalog of Neotropical Sphecidae); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:669 (in checklist of Mexican Sphecidae); Buck, 2004:24 (Canada: in checklist of Sphecidae of Ontario), 29 (distribution within Ontario), 35 (first record from Canada: Ontario: list of localities); Miller, Pearce, and O'Neill, 2009:3 (known to be parasitized by *Paraxenos lugubris* (Pierce), Strepsiptera); Ardila-Garcia, Umphrey, and Gregory, 2010:339 (genome size dataset); Ohl and Spahn, 2010:52 (in cladistic analysis of Ampulicidae); Field, Ohl, and Kennedy, 2011:734 (in molecular cladistic analysis of Ammophilini); Kathirithamby, Lechner, McMahon, Bryson, and Johnston, 2012:466 (stylopization by *Paraxenos lugubris* Pierce); Field, Shreeves, Kennedy, Brace, and Gilbert, 2015:1899 (sex-biased parental care and sexual size dimorphism); Lechner, 2019:151-154 (Iowa: Sioux City, parasitized by up to six strepsipterans *Paraxenos lugubris* Pierce); Field, Gonzalez-Voyer, and Boulton, 2020:7 (evolution of parental care); Menke, 2020:59 (in revision of North and Central American *Ammophila*); Buck and Bennett, 2025:223 (in checklist of Sphecidae *sensu lato* of Canada, Alaska, and Greenland: Canada: Ontario, first records from New Brunswick and Quebec: no specific locality). – **As *Ammophila extremitata* var. *pictipennis***: Melander, 1903:161 (new status, in key to North American Ammophilini). – **As *Sphex extremitata* var. *pictipennis***: Viereck, 1903d:121 (new generic assignment, Maryland: no specific locality); Rohwer, 1916b:681, 682 (in catalog of Hymenoptera of Connecticut); Rohwer *in* Viereck, 1925:681, 682 (in key to Sphecidae of Connecticut). – **As *Sphex pictipennis***: Rau and Rau, 1918:207 (nesting habits); Rau, 1922:23 (USA: Missouri: Saint Louis, preying on caterpillars); J.Ch. Bradley, 1928:1012 (in catalog of New York Sphecidae); G. Carpenter, 1930b:296 (nest closure); Hendrickson, 1930:159 (Iowa); Peckham, 1934b:259 (mimicked by fly *Systrophus macer* Loew, Bombyliidae); Rau, 1938b:541 (sleeping habits).

Ammophila anomala Taschenberg, 1869:434 (Dec.), ♀, ♂. Lectotype: ♀, USA: Illinois: no specific locality (Halle), designated by Menke *in* Bohart and Menke, 1976:153. Synonymized with *Ammophila pictipennis* by Menke, 1965c:1. – Dalla Torre, 1897:395 (in catalog of world Hymenoptera); Ashmead, 1899d:354 (in checklist of North American Sphecidae); Fernald, 1931a:449 (as new synonym of *Ammophila placida*).

? *Sphex nigropilosus* Rohwer, 1912:465, ♀. Holotype: ♀, Mexico: Dictricto Federal: no specific locality (USNM). – Fernald, 1931a:449 (as new synonym of *Sphex placidus*, also misspelled as *longispinus*); R. Bohart and Menke, 1976:153 (in checklist of world Sphecidae, as tentative synonym of *Ammophila pictipes*).

175. *pilimarginata* Cameron

Ammophila pilimarginata Cameron, 1912a:429, [♂]. Holotype or syntypes: ♂, Guiana: Demerara: no specific locality (BMNH). – Richards, 1937a:102 (as synonym of *Ammophila fragilis*); R. Bohart and Menke, 1976:153 (in checklist of world Sphecidae); Amarante, 2002:67 (in catalog of Neotropical Sphecidae, listed in error as synonym of *Ammophila gracilis*), 2005a:14 (correction to his 2002 catalog).

176. *placida* F. Smith

Ammophila placida F. Smith, 1856:221, ♂. Holotype or syntypes: ♂, USA: California: no specific locality (BMNH). – Cresson, 1863:319 (in catalog of North American Hymenoptera), 1887:274 (in catalog of North American Hymenoptera); Dalla Torre, 1897:406 (in catalog of world Hymenoptera); Ashmead, 1899d:354 (in checklist of North American Sphecidae); Melander, 1903:160 (in key to North American Ammophilini), 163 (bibliographic references, geographic distribution); Murray *in* Muesebeck, Krombein, and Townes, 1951:976 (in catalog of North American Hymenoptera); K. Cooper, 1953:34 (Massachusetts: Island of Penikese); Evans, 1959b:148 (description of larva), 1959d:456 (nesting behavior); Menke, 1965b:260 (own observations of Evans, 1959d:456, refer to this species, but authors he cited dealt with *Ammophila pictipennis*); R. Bohart and Menke, 1976:153 (in checklist of world Sphecidae); Krombein, 1979b:1593 (in catalog of North American Hymenoptera); Brockmann, 1985b:312 (nest closure summary); Rust, Menke, and Miller, 1985:46 (California: Channel

Islands); Spofford, Kurczewski, and Downes, 1989:256, 257 (references to publications on nest parasites *Hilarella hilarella* (Zetterstedt) and *Opsidia* sp., miltogrammine flies); Amarante, 2002:67 (in catalog of Neotropical Sphecidae); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:669 (in checklist of Mexican Sphecidae); Stevens and Menke, 2014:220 (Arizona: Grand Canyon ecoregion); Dollfuss, 2015b:427 (locality records from Colorado, Florida, and Michigan); Ratzlaff, 2016:28 (Canada: British Columbia: from Spencer and Wellington, 1948); Menke, 2020:61 (in revision of North and Central American *Ammophila*); Buck and Bennett, 2025:223 (in checklist of Sphecidae sensu lato of Canada, Alaska, and Greenland: Canada: Alberta, Manitoba, Saskatchewan: no specific locality). – **As *Sphex guerinii placidus***: Fernald, 1934:59 (new status, in revision of North American and West Indian *Ammophila*). – **As *Sphex placidus***: Fernald, 1931a:449 (new generic assignment, synonymy); Krombein, 1936:98 (New York: Buffalo; floral records); Brimley, 1938:444 (North Carolina: statewide); Rau, 1938b:541 (sleeping habits, as *placidens*); Strandtmann, 1945a:310 (nest and prey); Spencer and Wellington, 1948:10 (Canada: British Columbia); Krombein and Evans, 1954:233 (Florida), 1955:233 (Florida). – **As *Sphex placidus placidus***: Britton, 1938:149 (in addition to checklist of insects of Connecticut); Fernald, 1943a:290 (Florida); Dreisbach, 1944:270 (in key to *Ammophila* of Michigan), 274 (Michigan: locality records).

As *Sphex xanthopterus* (corrected to *Ammophila placida* by Menke, 1965b:258); Hicks, 1932c:193 (new generic assignment, nesting habits), 1933c:49 (nest parasite: *Paniscus* sp., Ichneumonidae), and 1934a:39 (prey capture and stinging).

177. *platensis* Brèthes

Ammophila platensis Brèthes, 1909b:62, ♀. Holotype: ♀, origin unknown, probably Uruguay: no specific locality (Mus. Montevideo). – R. Bohart and Menke, 1976:153 (in checklist of world Sphecidae); Genise, 1990:26 (type material in MACN); Amarante, 2002:67 (in catalog of Neotropical Sphecidae).

178. *poecilocnemis* Morice

Ammophila poecilocnemis Morice, 1900a:67, ♀, ♂. Lectotype: ♂, Algeria: Biskra (OXUM), designated by Dollfuss, 2013a:67. – Kohl, 1906b:358 (in revision of Palearctic Ammophilini); Morice, 1911:74 (Algeria: Biskra); Storey, 1916:107 (Egypt: widely distributed); von Schulthess, 1926b:209 (Tunisia); Roth, 1928:208 (in revision of North African Ammophilini); Maidl, 1933b:122 (Morocco); Giner Marí, 1945b:362 (Morocco: Western Sahara), 1945e:220 (Morocco: Western Sahara), 1947:19 (Morocco: Western Sahara); Leclercq, 1955h:84 (bibliographic references); de Beaumont, 1956a:180 (Chad: Tibesti; specimen studied has one midtibial spur), 1958b:56 (Tassili des Ajjer; Sahara between Tunisia and Western Sahara); R. Bohart and Menke, 1976:153 (in checklist of world Sphecidae); Guichard, 1988a:128 (Saudi Arabia); Gadallah and Assery, 2004a:224 (in catalog of Sphecidae of Saudi Arabia); Roche, 2007a:21 (in checklist of Egyptian Sphecidae, redescription), 2007b:2 (in checklist of Egyptian Ampulicidae, Sphecidae, and Crabronidae); Field, Ohl, and Kennedy, 2011:734 (in molecular cladistic analysis of Ammophilini); Schmid-Egger, 2011b:599 (United Arab Emirates: Jebel Hafit south of al-Ain, Wadi Bih, Wadi Hayl, Wadi al-Helo, Wadi Maidaq, Wadi Shawkah, Wadi Wurayah), 600 (color photograph of female); Dollfuss, 2013a:387, 397 (in key to *Ammophila* of Palearctic Region and India), 467 (in revision of *Ammophila* of Palearctic Region and India), 2013b:578 (locality records from Jordan, Morocco, Tunisia, and Yemen); Gadallah, Al Dhafer, Aldryhim, Fadl, and Elgharbawy, 2013:360 (in new catalog of Sphecidae of Saudi Arabia); Schmid-Egger, 2014:621 (United Arab Emirates); Ben Khedher, Yildirim, Braham, and Ljubomirov, 2020a:305 (in list of Tunisian Sphecidae sensu stricto); Gadallah, 2020d:80 (in list of aculeate wasps of Arabian Peninsula); Gadallah and Abu El-Ghiet, 2024:91 (Saudi Arabia: Jazan Province: Abu Arish).

179. *polita* Cresson

Ammophila polita Cresson, 1865b:458, ♀. Lectotype: ♀, USA: Colorado Territory: no specific locality (ANSP), designated by Cresson, 1916:94. – Cresson, 1887:274 (in catalog of North American Hymenoptera); Ashmead, 1890:34 (in checklist of Hymenoptera of Colorado); Dalla Torre, 1897:406 (in catalog of world Hymenoptera); Ashmead, 1899d:354 (in checklist of North American Sphecidae); G. Peckham and E. Peckham, 1900:91 (nesting habits); Melander, 1903:160 (in key to North American Ammophilini), 163 (bibliographic references, geographic distribution); G. Peckham and E. Peckham, 1905:18 (common in sandy areas of Milwaukee), 50 (prey carrying, nest); G. Carpenter, 1930b:292 (nest closure); Murray in Muesebeck, Krombein, and Townes, 1951:976 (in catalog of North American Hymenoptera); R. Bohart and Menke, 1976:153 (in checklist of world Sphecidae); Krombein, 1979b:1593 (in catalog of North American Hymenoptera); Rust, Hanks and Bechtel, 1983:406 (Nevada: Churchill County: Blow Sand Mountains); Piek and Spanjer, 1986:179 (in list of Sphecidae with known prey); Wcislo, 1998:181 (proportions of antennae in relations to parasitic/non-parasitic behavior); Stevens and Menke, 2014:220 (Arizona: Grand Canyon ecoregion); Menke, 2020:129 (in revision of North and Central American *Ammophila*); Buck and Bennett, 2025:223 (in checklist of Sphecidae sensu lato of Canada, Alaska, and Greenland: Canada: Alberta, British Columbia, first record from Saskatchewan: no specific locality). – **As *Sphex politus***: Mickel, 1918b:404 (new generic assignment, in catalog of Nebraskan Sphecidae); Fernald, 1931a:449 (*Ammophila nearctica* Kohl is a synonym), 1934:49 (in revision of North American and West Indian *Ammophila*); Dreisbach, 1944:268, 270 (in key to *Ammophila* of Michigan); Strickland, 1947:129 (Canada: Alberta: Lethbridge); Spencer and Wellington, 1948:10 (British Columbia).

180. *procera* Dahlbom

Ammophila procera Dahlbom, 1843:15, sex not stated (authorship attributed to Klug). Lectotype: southern North America: no specific locality (Lund), designated by Menke, 1996e:194 (as holotype, Article 74b). – Dahlbom, 1845:430 (in key to *Ammophila*); F. Smith, 1856:224 (in catalog of Hymenoptera in British Museum); Cresson, 1863:319 (in catalog of North American Hymenoptera); Taschenberg, 1869:434 (Illinois; description of coloration); Patton, 1879d:353 (USA: northwestern Kansas); Cresson, 1887:274 (in catalog of North American Hymenoptera); C. Robertson, 1892:105 (visiting flowers of *Pycnanthemum lanceolatum* Ph., Lamiaceae), 106 (visiting flowers of *Pycnanthemum muticum* Pers., Lamiaceae), 114 (visiting flowers of *Blephilia ciliata* Raf., Lamiaceae); Dalla Torre, 1897:406 (in catalog of world Hymenoptera); Ashmead, 1899d:354 (in checklist of North American Sphecidae); Bridwell, 1899:209 (Kansas: no specific locality); J. Smith, 1900:524 (in list of insects of New Jersey: “probable in New Jersey”); Melander, 1903:158 (diagnostic characters), 159, 160 (in key to North American Ammophilini), 163 (bibliographic references, geographic distribution); Viereck, 1903d:121 (Maryland: Chestertown); Hartman, 1905:11 (nesting habits); Hart, 1907:255 (Illinois); G. Carpenter, 1930b:295, 298 (nest closure); Murray in Muesebeck, Krombein, and Townes, 1951:976 (in catalog of North American Hymenoptera); Evans and Lin, 1956a:145 (description of larva); Evans, 1958e:451 (behavioral evolution), 1959d:451 (nesting behavior); Evans and Linsley, 1960:32 (Arizona: casual member of sleeping aggregation at Southwest Research Station); Linsley, 1962:156 (sleeping aggregations); Evans, 1963c:62 (nest closure); Powell, 1964b:242 (review of Tilden, 1953, observations); Menke, 1965b:260 (*Sphex procerus* of Hicks, 1935, is *Ammophila procera*); Evans, 1975a:264 (slow colonizer of new habitats); Horning and Barr, 1970:105 (USA: Idaho: Craters of the Moon National Monument); Hurd and Linsley, 1975:116 (Arizona: eight sites, southern California: one site, New Mexico: six sites; on flowers of *Larrea tridentata* (De Candolle) Coville, Zygophyllaceae); R. Bohart and Menke, 1976:153 (in checklist of world Sphecidae); Krombein, 1979b:1593 (in catalog of North American Hymenoptera); Casolari and Casolari Moreno, 1980:100 (specimens in M. Spinola collection, Torino); Finnamore, 1982:34 (in Sphecidae Fauna of Southern Quebec); Menke, 1983b:20 (Nebraska: Thomas County: Halsey area), 21 (Nebraska: Cherry County: Valentine area and Nenzel area, and Dawes County: southeast of Crawford); Brockmann, 1985b:312 (nest closure summary); Piek and Spanjer, 1986:179 (in list of Sphecidae with known prey); Steiner, 1986:99 (references to papers on nesting habits); Rosenheim, 1987:740 (California: Nevada County: Sagehen Creek near Hobart Mills); O'Brien, 1989b:213 (distribution in Michigan); Spofford, Kurczewski, and Downes, 1989:256, 260, 261 (references to publications on nest parasites *Metopia lateralis* (Macquart) and *Senotainia vigilans* Allen, miltogrammine flies, and undetermined Miltogrammini); Menke, 1994f:20 (New Mexico: Zuni; Utah: Monticello area); Ahlstrom, 1995:107 (in checklist of insects of North Carolina); Hanson and Menke, 1995:637 (known from Costa Rica); Blades and Maier, 1996:71 (Canada: British Columbia: Osoyoos - Mount Kobau area at 119°40'W 49°05'N); Menke, 1996e:192 (in key to Ammophilini of Costa Rica), 194 (in revision of Ammophilini of Costa Rica); Kurczewski, 1998d:250 (pine barrens in upstate New York); Meagher and Mitchell, 1999:368 (collected in pheromone- and synthetic floral volatile-baited traps); Weissmann and Kondratieff, 1999:77 (Colorado: Great Sand Dunes National Monument); Amarante, 2002:67 (in catalog of Neotropical Sphecidae); Buck, 2004:24 (Canada: in checklist of Sphecidae of Ontario); Amarante, 2005a:14 (correction to his 2002 catalog); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:669 (in checklist of Mexican Sphecidae); Horta Vega, Pinson Domínguez, Barrientos Lozano, and Correa Sandoval, 2007:47 (Mexico: Tamaulipas); Pagliano, 2008:512 (specimens in M. Spinola collection, Torino, including lectotype); Field, Ohl, and Kennedy, 2011:734 (in molecular cladistic analysis of Ammophilini); Stevens and Menke, 2014:220 (Arizona: Grand Canyon ecoregion); Dollfuss, 2015b:428 (locality records from Colorado, Kentucky, Nebraska, and Mexico); Ratzlaff, 2016:28 (Canada: British Columbia: from Spencer and Wellington, 1948 and Buck, 2004); Field, Gonzalez-Voyer, and Boulton, 2020:7 (evolution of parental care); Menke, 2020:130 (in revision of North and Central American *Ammophila*); Buck and Bennett, 2025:223 (in checklist of Sphecidae sensu lato of Canada, Alaska, and Greenland: Canada: Alberta, British Columbia, Manitoba, Ontario, Quebec, Saskatchewan, first records from New Brunswick: no specific locality). – **As *Sphex procerus***: H. Smith, 1908b:328 (new generic assignment, in revision of Nebraskan Sphecidae); J. Smith, 1910:676 (in new list of insects of New Jersey, as *procera*); Faull, 1913:384 (Canada: Toronto region, as *procera*); Rohwer, 1916b:681, 682 (in catalog of Hymenoptera of Connecticut); Mickel, 1918b:402 (in catalog of Nebraskan Sphecidae); Rau and Rau, 1918:215, 226, 237 (nesting habits); Britton, 1920:340 (in checklist of insects of Connecticut); Rau, 1922:24 (Missouri: Silica, Wickes, digging nest); Criddle, 1924:121 (nesting habits, as *procera*); Rohwer in Viereck, 1925:681, 682 (in key to Sphecidae of Connecticut, as *procera*); Fernald, 1926:8 (influence of climate on

coloration); Rau, 1926:211 (Missouri: Wickes: sheltered clay bank; preying on noctuid caterpillars); J.Ch. Bradley, 1928:1012 (in catalog of New York Sphecidae); Hendrickson, 1930:159 (Iowa); Fernald, 1934:44 (in revision of North American and West Indian *Ammophila*); Peckham, 1934b:259 (floral records); Brimley, 1938:444 (North Carolina: Robeson and Wake counties); Fernald, 1943b:135 (first record from Florida); Dreisbach, 1944:268, 269 (in key to *Ammophila* of Michigan), 274 (Michigan: locality records); Strickland, 1947:129 (Canada: Alberta.); Spencer and Wellington, 1948:10 (British Columbia); Krombein, 1950a:268 (North Carolina: Dare County); G. Bohart and Knowlton, 1953:100 (mating, prey, nesting behavior); Krombein, 1953a:285 (nesting habits), 296 (visiting foliage of *Quercus marilandica* Muenchh.), 297 (visiting foliage of *Liquidambar styraciflua* L.), 298 (visiting flowers of *Monarda punctata* L., Lamiaceae, and *Cephalanthus occidentalis* L., Rubiaceae), 333 (North Carolina), 1953b:118 (nest, prey), 123 (visiting foliage of *Quercus virginiana* Mill.), 124 (visiting flowers of *Pluchea* sp., Asteraceae), 133 (North Carolina: Kill Devil Hills); Krombein and Evans, 1954:234 (Florida); Krombein, 1955d:151 (cocoon), 1958c:104 (prey, prey carrying, nest), 1958f:192 (in supplement to catalog of North American Hymenoptera: list of known prey, description of larva by Evans and Lin, 1956a, reported); Wray, 1967:123 (North Carolina: Kill Devils Hills); L. Davis, 1978:217 (North Carolina: Kill Devil Hills, data from Krombein, 1953a); D. Thomas, 2000:194 (nest excavation).

Ammophila procera Lepeletier de Saint Fargeau, 1845:376, ♀ (authorship attributed to Klug), junior primary homonym of *Ammophila procera* Dahlbom, 1843. Lectotype: ♀, North America: no specific locality (Torino), designated by Menke, 1996e:194 (as holotype, Article 74b). Synonymized with *Ammophila procera* Dahlbom by Menke, 1965c:1 and by Bohart and Menke, 1976:153. – Amarante, 2005a:14 (correction to his 2002 catalog).

Ammophila saeva F. Smith, 1856:222, ♀. Lectotype: ♀, USA: California: no specific locality (BMNH), designated by Menke, 1965c:1 and Menke in Bohart and Menke, 1976:153. Synonymized with *Ammophila procera* by Fernald, 1931a:448 (as *Sphex saevus*). – Cresson, 1863:319 (in catalog of North American Hymenoptera), 1887:274 (in catalog of North American Hymenoptera); W. Fox, 1894c:101 (Mexico: Baja California); Dalla Torre, 1897:409 (in catalog of world Hymenoptera); Ashmead, 1899d:354 (in checklist of North American Sphecidae); Melander, 1903:160 (in key to North American Ammophilini); Murray in Muesebeck, Krombein, and Townes, 1951:976 (in catalog of North American Hymenoptera), 163 (bibliographic references, geographic distribution); Tilden, 1953:211 (nesting behavior). – **As *Sphex saevus***: Rohwer, 1917a:241 (new generic assignment, California: Calaveras County).

Ammophila gryphus F. Smith, 1856:222, ♀, ♂ (as *Gryphus*, incorrect original capitalization). Lectotype: ♀, USA: Florida: Charleston (BMNH), designated by Menke, 1965c:1 and Menke in Bohart and Menke, 1976:153. Synonymized with *Ammophila procera* by Dalla Torre, 1897:406. – Cresson, 1863:318 (in catalog of North American Hymenoptera), 1865b:459 (coloration), 1873:209 (Texas); Provancher, 1883b:615 (in revision of Canadian Hymenoptera); Cresson, 1887:274 (in catalog of North American Hymenoptera); Ashmead, 1890:34 (in checklist of Hymenoptera of Colorado); Pergande, 1892:256 (nest closure, prey); C. Robertson, 1894:452 (visiting flowers of *Eupatorium purpureum* Linnaeus, Asteraceae), 457 (visiting flowers of *Solidago nemoralis* Ait., Asteraceae), 460 (visiting flowers of *Aster paniculatus* Lam., Asteraceae), 472 (visiting flowers of *Verbena helianthoides* Michx., Asteraceae, and of *Coreopsis palmata* Nutt., Asteraceae), 473 (visiting flowers of *Coreopsis tripteris* Linnaeus, Asteraceae), 475 (visiting flowers of *Helenium autumnale* Linnaeus, Asteraceae); Pergande, 1895:168 (prey carrying); J. Smith, 1900:524 (in list of insects of New Jersey); Howard, 1901:pl. V fig. 15 (..); Harrington, 1902:224 (Canada: Ontario: Ottawa); Snow, 1906:133 (Arizona: Oak Creek 20 mi. southwest of Flagstaff); G. Carpenter, 1930b:293, 298 (nest closure); Wheeler and Wheeler, 1924:486 (use of pebble for tamping during nest closure).

Ammophila barbata F. Smith, 1873c:260, ♀. Syntypes: ♀, Mexico: no specific locality (BMNH). Synonymized with *Ammophila procera* by Fernald, 1931a:448 (as *Sphex procerus*). – Cameron, 1888a:7 (Mexico, diagnostic characters); Dalla Torre, 1897:396 (in catalog of world Hymenoptera); Ashmead, 1899d:354 (in checklist of North American Sphecidae); Melander, 1903:159 (in key to North American Ammophilini), 163 (bibliographic references, geographic distribution); Fernald, 1926:91 (probably a synonym of *Ammophila procera*).

Ammophila ceres Cameron, 1888a:8, ♂. Holotype: ♂, Guatemala: San Gerónimo (BMNH); Menke in Bohart and Menke, 1976:153 unnecessarily designated it as lectotype. Synonymized with *Ammophila procera* by Fernald, 1926:91 (as *Sphex procerus*). – Dalla Torre, 1897:397 (in catalog of world Hymenoptera); Ashmead, 1899d:354 (in checklist of North American Sphecidae); Melander, 1903:159 (in key to North American Ammophilini), 163 (bibliographic references, geographic distribution).

Ammophila championi Cameron, 1888a:9, ♀. Lectotype: ♀, Guatemala: San Gerónimo (BMNH), designated by Menke, 1965c:1. Synonymized with *Ammophila procera* by Fernald, 1926:91 (as *Sphex procerus*). – Dalla Torre, 1897:397 (in catalog of world Hymenoptera, as *championii*); Ashmead, 1899d:354 (in checklist of North American Sphecidae); Melander, 1903:160 (in key to North American Ammophilini), 163 (bibliographic references, geographic distribution); Heithaus, 1979:193 (Costa Rica: Guanacaste: Hacienda las Ciruelas 30.5 km northwest of Cañas).

Ammophila striolata Cameron, 1888a:10, ♀. Holotype or syntypes: ♀, Mexico: Durango: Ventana (BMNH). Synonymized with *Ammophila procera* by Fernald, 1926:90 (as *Sphex procerus*). – Dalla Torre, 1897:410 (in catalog of world Hymenoptera); Ashmead, 1899d:354 (in checklist of North American Sphecidae); Melander, 1903:160 (in key to North American Ammophilini), 164 (bibliographic references, geographic distribution).

181. *producticollis* Morice

Ammophila producticollis Morice, 1900a:67, ♀, ♂ (♂ = *Ammophila gracillima*). Syntypes: Algeria: Biskra (OXUM). – Kohl, 1906b:347 (in revision of Palearctic Ammophilini); Morice, 1911:73 (Algeria: Biskra); von Schulthess, 1926b:208 (Tunisia, Algeria: Laghouat); Roth, 1928:195 (in revision of North African Ammophilini); Alfieri, 1946:131 (in revision of Egyptian *Ammophila*); Berland, 1950b:295 (Niger: Air area); de Beaumont, 1951e:264 (Morocco); de Beaumont and Bytinski-Salz, 1955:36 (Israel); Leclercq, 1955h:86 (bibliographic references); de Beaumont 1956a:176 (Chad: Tibesti); R. Bohart and Menke, 1976:153 (in checklist of world Sphecidae); Kazenas, 1978b:37 (in key to Sphecidae of Kazakhstan and Central Asia); Guichard, 1988a:128 (Saudi Arabia); Roche and Zalat, 1994:114 (Egypt: Sinai Peninsula); Kazenas, 2001b:18 (in checklist of Sphecidae of Kazakhstan and Central Asia); Gadallah and Assery, 2004a:224 (in catalog of Sphecidae of Saudi Arabia); Roche, 2007a:22 (in checklist of Egyptian Sphecidae, redescription), 2007b:2 (in checklist of Egyptian Ampulicidae, Sphecidae, and Crabronidae); Dollfuss, 2013a:389, 399 (in key to *Ammophila* of Palearctic Region and India), 468 (in revision of *Ammophila* of Palearctic Region and India), 2013b:579 (locality records from Jordan, Kyrgyzstan, Tunisia, and Yemen); Gadallah, Al Dhafer, Aldryhim, Fadl, and Elgharbawy, 2013:360 (in new catalog of Sphecidae of Saudi Arabia); Jahantigh, Rakhshani, Mokhtari, and Ramroodi, 2017:16 (Iran: known from southern Iran); Ben Khedher, Yildirim, Braham, and Ljubomirov, 2020a:305 (in list of Tunisian Sphecidae *sensu stricto*); Danilov, 2020:317 (specimen from Turkmenistan in Institute of Systematics and Ecology of Animals, Novosibirsk, Russia); Gadallah, 2020d:80 (in list of aculeate wasps of Arabian Peninsula); Medetov, Embergenov, Kholmatov, Elmurodova, Rakhimov, and Tajibaeva, 2024:418 (Uzbekistan: distribution).

Ammophila divina Kohl, 1901d:157, ♀. Holotype: ♀, origin unknown, could be Egypt, Kordofan, Middle East, Mesopotamia, south Iran, or Siberia (NHMW). Synonymized with *Ammophila producticollis* by Kohl, 1906b:347.

Ammophila argentina Gussakovskij, 1930c:202, ♀, ♂. Syntypes: Turkmenistan: Ashkhabad, and Uzbekistan: Karakul (ZIN). Synonymized with *Ammophila producticollis* by Pulawski in Bohart and Menke, 1976:153. – Kazenas, 1978b:38 (in key to Sphecidae of Kazakhstan and Central Asia); Nazarova, 1998:40 (Tajikistan: Tigrovaya Balka Nature Reserve); Danilov, 2016:346 (syntypes preserved in Zoological Institute, Sankt-Petersburg, Russia).

182. *proxima* (F. Smith)

Coloptera proxima F. Smith, 1856:225, ♀. Holotype or syntypes: ♀, Guinea: no specific locality (BMNH or OXUM). – **As *Ammophila proxima***: Dalla Torre, 1897:406 (new generic assignment, in catalog of world Hymenoptera); Leclercq, 1955h:94 (bibliographic references); R. Bohart and Menke, 1976:153 (in checklist of world Sphecidae).

183. *pruinosa* Cresson

Ammophila pruinosa Cresson, 1865b:455, ♀, ♂. Lectotype: ♀, USA: Colorado Territory: no specific locality (ANSP), designated by Cresson, 1916:94. – Cresson, 1875:713 (Colorado, Nevada, New Mexico), 1887:274 (in catalog of North American Hymenoptera); Ashmead, 1890:34 (in checklist of Hymenoptera of Colorado); W. Fox, 1894c:101 (Mexico: Baja California); Dalla Torre, 1897:406 (in catalog of world Hymenoptera); Ashmead, 1899d:354 (in checklist of North American Sphecidae); Melander, 1903:160 (in key to North American Ammophilini), 163 (bibliographic references, geographic distribution); Snow, 1906:133 (Arizona); Johnson and Ledig, 1918:24 (California: Claremont); Fernald, 1931a:448 (as new synonym of *Sphex breviceps*); Murray in Muesebeck, Krombein, and Townes, 1951:976 (in catalog of North American Hymenoptera); Evans, 1959b:149 (description of larva), 1959d:466 (Hicks' biological observations on *Sphex breviceps* probably apply to *pruinosa*); Evans and Linsley, 1960:32 (Arizona: regular member of sleeping aggregation at Southwest Research Station); Linsley, 1962:156 (sleeping aggregations; may be *Ammophila breviceps*); Powell, 1964b:251 (nest construction, transport, prey: noctuid and geometrid caterpillars); R. Bohart and Menke, 1976:153 (in checklist of world Sphecidae); C. Ward et al., 1977:56 (associated with mesquite (*Prosopis glandulosa* Torr.), Fabaceae); Krombein, 1979b:1594 (in catalog of North American Hymenoptera); Rust, Hanks and Bechtel, 1983:406 (Nevada: Churchill County: Sand Mountain); Brockmann, 1985b:312 (nest closure summary); Menke, 1986c:35 (Arizona: Coconino County: Moenkopi Wash near Tuba City, and Navajo County: Hopi Reservation), 36 (Arizona: Cochise County: 3 mi. east of Willcox), 37 (Arizona: Cochise County: north of Apache, west of Naco), 1994d:15 (California: Monterey County: Parkfield area); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:669 (in checklist of Mexican Sphecidae); Ohl and

Linde, 2003:149 (number of ovarioles); Menke, 2007:36 (in review of *Ammophila pruinosus* complex); Miller, Pearce, and O'Neill, 2009:3 (known to be parasitized by *Paraxenos lugubris* (Pierce), Strepsiptera); Stevens and Menke, 2014:220 (Arizona: Grand Canyon ecoregion); Menke, 2020:77 (in revision of North and Central American *Ammophila*); Buck and Bennett, 2025:223 (in checklist of Sphecidae sensu lato of Canada, Alaska, and Greenland: first record from Canada: Alberta: no specific locality). – **As *Sphex pruinosus***: Mickel, 1918b:404 (new generic assignment, in catalog of Nebraskan Sphecidae). – **As *Sphex breviceps pruinosus***: Fernald, 1934:87 (new status, in revision of North American and West Indian *Ammophila*).

184. *pseudodolichodera* Dollfuss

Ammophila pseudodolichodera Dollfuss, 2015a:358, ♀, ♂. Holotype: ♂, Namibia: Oshikoto Region: 25 km southeast of Tsumeb (OÖLM). Paratypes: Burkina Faso, Kenya, Zambia. – Dollfuss, 2015a:312 (in key to Sub-Saharan *Ammophila*), 2015b:428 (Namibia: Oshikoto Region: 25 km southeast of Tsumeb).

185. *pseudoheydeni* Q. Li and He

Ammophila pseudoheydeni Q. Li and He, 2000d:337, ♀, ♂. Holotype: ♀, China: Xinjiang: Wulumuqi at 43.8°N 87.6°E (Zhejiang Agricultural Univ.). – Dollfuss, 2013a:470 (in revision of *Ammophila* of Palearctic Region and India, original description translated from Chinese into English); Ch. Wang, Bashir, Q. Li, and Ma, 2018:298, 301 (in key to *Ammophila* of China).

186. *pseudokalaharica* Dollfuss

Ammophila pseudokalaharica Dollfuss, 2015a:359, ♀, ♂. Holotype: ♂, South Africa: KwaZulu-Natal: Mbazwana (OÖLM). Paratypes: Mozambique. – Dollfuss, 2015a:312, 316 (in key to Sub-Saharan *Ammophila*), 2015b:428 (locality records from Mozambique and Namibia).

187. *pseudonasuta* Bytinski-Salz

As *Ammophila nasuta*: Alfieri, 1946:136 (in revision of Egyptian *Ammophila*), corrected to *Ammophila pseudonasuta* by Bytinski-Salz in de Beaumont and Bytinski-Salz, 1955:37.

Ammophila pseudonasuta Bytinski-Salz in de Beaumont and Bytinski-Salz, 1955:37, ♂. Holotype: ♂, Israel: Bat Yam (originally H. Bytinski-Salz collection, now Tel Aviv Univ.). – de Beaumont, 1963b:17 (in revision of *Ammophila nasuta* species group); R. Bohart and Menke, 1976:153 (in checklist of world Sphecidae); Roche and Zalut, 1994:114 (Egypt: Sinai Peninsula); Roche, 2007a:18 (in checklist of Egyptian Sphecidae), 2007b:2 (in checklist of Egyptian Ampulicidae, Sphecidae, and Crabronidae); Dollfuss, 2013a:398 (in key to *Ammophila* of Palearctic Region and India), 471 (in revision of *Ammophila* of Palearctic Region and India), 2013b:579 (Israel: Nizzanim 8 km north-northeast of Ashqelon at 31°45'N 34°37'E).

188. *pubescens* Curtis

Ammophila pubescens Curtis, 1828-1829:122 (nomen nudum).

Ammophila pubescens Curtis, 1836:explanation of pl. 604, ♀, ♂ (as junior synonym of *Ammophila campestris*, but available according to Article 11.6.1 of the Code). Syntypes: Great Britain: no specific locality (depository?). – Richards, 1946:235 (in key to distinguish it from *Ammophila campestris*; synonymy); Leclercq, 1948:204 (nomenclatural history, diagnostic characters, Belgium: Bruxelles and Campine areas); de Beaumont, 1951h:32 (Switzerland: Neuchâtel area); Leininger, 1953:18 (Germany: Baden-Württemberg); Nouvel and Ribaut, 1953:176 (France: Hautes-Pyrénées: Campan, Cauterets); de Beaumont, 1955c:56 (effects of stylopization); Fahlander, 1957:63 (Sweden); Grandi, 1957:386 (Italy); Zirngiebl, 1957:185 (Germany: Rheinland-Pfalz: Birkenheide, Leistadt); Balthasar, 1958:339 (Czech Republic); Benno, 1958b:10 (in review of Dutch Sphecidae); de Beaumont, 1958c:201 (Swiss National Park); Olberg, 1959:27 (photographs of specimen visiting flowers of *Epilobium angustifolium* L., Onagraceae), 34 (photographs of specimen licking honedew from dry pine needles), 35 (photograph of specimen licking sweat from author's leg), 298-302 (photographs of females building nests), 303-304 and 307 (photographs of females carrying prey), 305-306 and 308-309 (photographs of females closing nests), 311 (photograph of larva and caterpillar prey); Hoop, 1961:66 (Germany: Schleswig-Holstein: Eggstedt); Wolf, 1959b:28 (Germany: Nassau); Noskiewicz and Pulawski, 1960:38 (in key to Polish Sphecidae); Grandi, 1962:55 (nesting habits), 97 (Italy: Alpes); Lyneborg, 1962:328 (first record from Denmark: Anholt, Bornholm, Gindeskov, Hansted-reservatet, Læsø, Sjælland, Skagen, Stensbæk planatage); Erlandsson, 1963:66 (Denmark: Island of Bornholm); Evans, 1963a:150 (prey specialization as distinctive character); Hoop, 1963a:73 (Germany: Schleswig-Holstein: Reher Kratt), 1963b:8 (Germany: Schleswig-Holstein: Fahrkrug, Lehmrade, Reher Kratt); Chmurzyński, 1964b:123 (report on special orientation experiments by Baerends, 1941); de Beaumont, 1964c:26 (in Sphecid Fauna of Switzerland); Fæster, 1965:192 (Denmark: Hansted Nature Reserve); Pulawski, 1965b:260 (structure of gastral segment I); Bonelli, 1966c:217 (Italy: Trentino–Alto Adige: Piazzòl, Val Cadino, Val di Cembra); Benno, 1967:33 (in checklist of Sphecidae of Netherlands); Gauss, 1967:551 (Germany: Baden-Württemberg); J. Heinrich, 1967:69 (Germany: Bayern: Unterfranken District); Niedl and Deneš, 1967:86 (Czech Republic: Třeboň area); Lefebvre, 1969c:232 (Netherlands: Sint-Pietersberg = Montagne Saint Pierre); Schmidt, 1969:161 (Germany: Rhein-Main area: Köln-Wahner Heide); Oehlke, 1970:674 (Democratic Germany); Tumšs, 1970:71 (first record from Latvia); Dathe, 1971:234 (Germany: Berlin Zoological Garden; phenology), 237 (Germany: Berlin); Schmidt, 1971b:22 (Germany: Rheinland-Pfalz: Gonsenheimer Wald, Mainzer Sand); Tsuneki, 1971k:163 (Mongolia); Balthasar, 1972:430 (in Sphecid Fauna of Czechoslovakia); Kofler, 1972:105 (Austria: eastern Tirol); Lomholdt, 1972:122 (Denmark: Island of Læsø); Oehlke, 1972:134 (Germany: Island of Hiddensee); Haeseler, 1973:53 (Germany: Schleswig-Holstein: Lauenburg); Lomholdt, 1975b:31 (Denmark: Island of Anholt), 1975c:78 (in Sphecid Fauna of Fennoscandia and Denmark); Baerends, 1976:726 (functional organization of behavior); R. Bohart and Menke, 1976:153 (in checklist of world Sphecidae); Eck, 1976:90 (Democratic Germany); Tsuneki, 1976d:289 (China: Manchuria: Kaolingtze, midpoint between Harbin and Pogranichnaya Station); Guichard, 1977:252 (Great Britain: Surrey); Kolesnikov, 1977:317 (Russia: Bryansk Oblast'); Haeseler, 1978c:193 (Germany: Friesian Islands: Island of Borkum); Petit, 1978:85 (Belgium: Kalenberg); Pulawski, 1978:182 (in key to Sphecidae of European part of USSR); Lefebvre, 1979:11 (in checklist of Sphecidae of Netherlands), 21 (Netherlands: distribution map); Leclercq, Gaspar and Verstraeten, 1979:map 1406 (Belgium); Richards, 1979:400 (British Channel Islands); Schwammberger, 1979:114 (Germany: Nordrhein-Westfalen: Gildehauser Venn Nature Reserve); Dathe, 1980:208 (Russia: northern Caucasus: Teberda); Merisuo and Perrakinen, 1980:43 (parasitized by *Paraxenos sphecidarum* (Dufour), Strepsiptera, in Sweden: Island of Gotland); Richards, 1980:76 (in key to Sphecidae of British Isles); Schmidt, 1981:222 (Germany: Baden-Württemberg); Donath, 1982:211 (Germany: Cottbus Bezirk); Silvestre de Sacy, 1982:4 (France: Côte-du-Nord: Paimpol area); Dollfuss, 1983b:3 (in catalog of Sphecidae of Austria); Janzon, 1983:171 (Sweden: Öland); Lefebvre, 1983a:84 (Netherlands: Waddendistrict: islands of Ameland and Vlieland); Riemann, 1983:81 (Germany: Bremen-Daverden area); Chevin and Silvestre de Sacy, 1984:6 (France: Yvelines Department); Haack, Tschartke, and Vidal, 1984:124 (Germany: Hamburg area); Janzon and Svensson, 1984:183 (Sweden: Island of Öland); Sagvolden, 1984:18 (Norway: Buskerud: Rollag); Evans, 1985b:312 (nest closure summary); Haeseler, 1985c:571 (Germany: Friesian Islands); Lefebvre, 1985:86 (Netherlands: southern Limburg); Brechtel, 1986:57 (Germany: Südpfalz); Steiner, 1986:99 (references to papers on nesting habits); Vikberg, 1986b:75 (Finland); Lomholdt, 1987:93 (Denmark: western Jutland: Skallingen Peninsula); Schmidt and Westrich, 1987:357 (Germany: Mainz area); Kowalczyk, 1988b:63 (Poland: environs of Łódź); Riemann, 1988:222 (Germany: Bremen area); Jacobs, 1989:5 (Germany: Mecklenburg-Vorpommern); Nilsson, 1989:47 (Sweden); Pádr *in* Šedivý, 1989a:166 (in checklist of Czechoslovakian Sphecidae); Pankevich, Belyavskaya, Molchanova, Shlyakhtenok, and Blinov, 1989:94 (Belorussia: Berezinskiy Nature Reserve); Jacobs and Oehlke, 1990:135 (new records from Democratic Germany); Pagliano, 1990:61 (in catalog of Italian Sphecidae); Schwammberger and Priesner, 1990:533 (Austria: Kärnten); von der Heide and Witt, 1990:63 (Germany: Niedersachsen); Day, 1991:xii (summary of European Endangered Hymenoptera Lists); Dollfuss, 1991:33 (in key to Sphecidae of North and Central Europe); Kowalczyk, 1991b:119 (Poland: Augustów Forest); Kuhlmann et al., 1991:87 (Germany: Senne Region); H.-J. Schulz, 1991:29 (Germany: Oberlausitz: 5 km southwest of Wittichenau); van der Smitten, 1991:96 (northwestern Germany); Budrys, 1992:22 (in list of Sphecidae of Lithuania); Hamon, Tussac, and Fonfria, 1992:407, 410 (in key to French Ammophilini), 412 (distribution in France); Nemkov, 1992b:244 (Russia: Far East: Khingan Nature Reserve); K. Weber, 1992:86 (Germany: Bayern: Bamberg District); Gorobchishin, 1993:46 (Ukraine: Kanev Nature Reserve); Kuhlmann, 1993:75 (Germany: known from Westfalen); Luig, 1993:40 (Estonia); van der Smitten, 1993:128 (northwestern Germany); Bonelli and Demattio Martinelli, 1994a:101 (nesting behavior); A. Wickl and K.-H. Wickl, 1994:193 (Germany: Bayern: Oberpfalz); Theunert, 1994c:33 (Germany: summary of records from Niedersachsen and Bremen); Gorobchishin, 1995:17 (Ukraine: Kanev Nature Reserve); Jansen and Kaluza, 1995:7 (Germany: endangered in Sachsen); Negrisoló *in* Minelli, Ruffo, and La Posta, 1995b:2 (in catalog of Italian fauna); Nemkov *in* Nemkov, Kazenas, Budrys, et Antropov, 1995:387 (in key to Sphecidae of Russian Far East); Scharrer, 1995:22 (Bayern: Aschaffenburg, Nordrhein-Westfalen: Altenberg); Schmid-Egger, Risch, and Niehuis, 1995:163 (Germany: summary of records from Rheinland-Pfalz); Skibińska, 1995:423, 424, 426 (Poland: pine forest in Białowieża Primeval Forest); Yeo and Corbet, 1995:38 (in field guide to British solitary wasps); Arens, 1996:440 (Germany: Bayern: Bayreuth area); Blösch, 1996:3 (Germany: Bayern: Tennenloher Forst Nature Reserve near Erlangen); Fowles, 1996:36 (Great Britain: in checklist of aculeates of Wales); Gorobchishin, 1996:53 (Ukraine: Kanev Nature Reserve); Jakubzik, 1996:251 (Germany: Köln); Lauterbach, 1996:133 (Germany: Nordrhein-Westfalen: Bielefeld area); Pawlikowski and Kruszyński, 1996:86 (Poland: Toruń Basin); Saure, 1996:502 (Germany: Berlin-Pankow: sewage irrigation field); Schmid-Egger, Schmidt, and D. Doczkal, 1996:376 (Germany: Baden-Württemberg: endangered); Tischendorf, 1996:46 (Germany: Hessen: near Bensheim); Voblenko, Gorobchishin, and

Nesterov, 1996:14 (Ukraine: Polesye Region); von der Dunk and Amon, 1996:41 (Germany: Bayern: Altdorf sand dunes east of Nürnberg); Witt, 1996:105 (Germany: Brandenburg), 106 (locality records); Woydak, 1996:11 (Germany: Westfalen: summary of distribution and nesting habits); Wu and Zhou, 1996a:52 (in revision in Economic Insect Fauna of China); Bitsch, Barbier, Gayubo, Schmidt, and Ohl, 1997:86 (in Sphecidae Fauna of Western Europe); Celary, 1997:57 (in checklist of Animals of Poland); Else and Field *in* R. Edwards, 1997:78 (Great Britain and Ireland: distribution, status, habitat, flight period, prey collected, nesting habits, and flower visited), 79 (map of distribution in Great Britain by M.E. Archer and S.P.M. Roberts); Schmidt and Schmid-Egger, 1997:5 (in checklist of German Sphecidae); Shlyakhtenok, Blinov, and Belyavskaya, 1997:151 (Belorussia: Pripyatskiy National Park); Stuke, 1997:86 (Germany: Niedersachsen: Lüneburger Heide Nature Reserve); F. Burger, Saure, and Oehlke, 1998:26 (Germany: in list of Sphecidae of Brandenburg), 35 (endangered); Drewes, 1998:49 (Germany: Niedersachsen: Goldbeck 26 km west-southwest of Hamburg); Flügel, 1998:59 (Germany: Brandenburg: Unteres Odertal National Park); Gorobchishin, 1998a:48 (Ukraine: Kiev and surroundings); N. Schneider and Wahis, 1998:19 (Luxemburg: sandstone quarries); Herrmann, 1999:7 (Germany: Niedersachsen: Oldenburg area; habitats size); Kazenas, 1998b:176 (in Sphecidae Fauna of Kazakhstan); Mauss and Schindler, 1898:136 (Germany: Schleswig-Holstein: Nordfriesland District); H.-J. Schulz, 1998c:112 (Germany: Lausitz: former military training area near Mücka); K. Weber, 1998:133 (Germany: Bayern: Bamberg area); van der Smissen, 1998:53 (Germany: Schleswig-Holstein, Niedersachsen); K. Weber, 1998:133 (Germany: Bayern: Bamberg area); Anan'eva and Kochetkov, 1999:6 (Russia: Ryazan Oblast': no specific locality); Kuhlmann, Wolf, and Woydak, 1999:569 (Germany: strongly endangered in Nordrhein-Westfalen); Ljubomirov, 1999b:45 (Bulgaria: Mount Vitosha near Sofia); Mandery, 1999:104 (Germany: Bayern: Coburg area); Neumayer, Schwarz, and Bregant, 1999:223 (Austria: in checklist of Sphecidae of Land Kärnten); Pauly, 1999:107 (in catalog of Belgian aculeates); Riemann, 1999:834 (Germany: Niedersachsen: sand pits near Bremen); Saure, 1999:35 (Germany: Berlin-Köpenick); M. Schwarz, 1999:84 (Austria: Oberösterreich: city of Linz area); Sörensen, Mauss, and Schindler, 1999:503 (Germany: Schleswig-Holstein); Wickl, 1999a:103 (Germany: Bayern: Oberpfalz area); Zehnder and Zettel, 1999:131 (Switzerland: recolonization of flooded area in Valais Canton); Blösch, 2000:130 (in Sphecidae Fauna of Germany); Dressler, 2000:30 (Germany: Hessen: Darmstadt area); Jacobs, 2000:6, 17 (Germany: Land Mecklenburg-Vorpommern: vulnerable); Mokrousov, 2000b:30 (Russia: Nizhniy Novgorod Oblast'); M. Schwarz, 2000:10 (Austria: Oberösterreich: Linz); Wiśniowski, 2000:161 (Poland: Bieszczady Mountains, as *pubescens*); Kazenas, 2001b:18 (in checklist of Sphecidae of Kazakhstan and Central Asia), 110 (review of known biology); Ohl et al., 2001:137 (distribution in Germany by provinces); Skibińska, 2001:219 (Poland: Białowieża Primeval Forest); van der Smissen, 2001:58 (Germany: Schleswig-Holstein: strongly endangered); Zettel, Gross, and Mazzucco, 2001:67 (Austria: Wien, last collected circa 1880); Archer, 2002d:11 (Great Britain: Worcestershire: Hartlebury Common 17 km north of Worcester); Archer and Edwards, 2002:103 (Great Britain: West Sussex: Ambersham and Iping commons); Kazenas, 2002a:38 (geographic distribution, collecting localities in Kazakhstan); Kowalczyk, Szczepko, and Świątek, 2002:152 (Poland: Kampinos National Park near Warszawa); Mokrousov, 2002:147 (Russia: Nizhniy Novgorod Oblast': Kerzhenskiy Nature Reserve); Shlyakhtenok and Skibinska, 2002:32 (Belorussia: no specific locality); Söderman and Vikberg, 2002:50 (in list of Aculeata of Finland); von der Dunk and Amos, 2002:158 (Germany: Bayern: Schwaig near Nürnberg); Whiteley, 2002:54 (Great Britain: occurrence in Clipstone Railway Cutting, Nottinghamshire, confirmed); Ziska, 2002:7 (Germany: Berlin-Köpenick: Krumme Lake); Drewes, 2003:133 (France: Savoie, Germany: Bayern); Mandery, Kraus, Voith, Wickl, Scheuchl, Schubert, and Warncke, 2003:63 (Germany: in catalog of wasps and bees of Bayern); Tischendorf and Treiber, 2003:120, 124 (Germany: Hessen: 15 km southwest of Frankfurt am Main: nesting under high power lines); von der Heide and Metscher, 2003:101 (Germany: Niedersachsen: Emsland area); Wickl, Voith, Mandery, Weber, Kraus, Bausenwein, and Blösch, 2003:196 (Germany: Bayern: endangered); Abenius, 2004:40 (Sweden: Norrbottens: Luleå area); Archer, 2004a:47 (Great Britain: Worcestershire: Devils Spittleful Nature Reserve), 2004h:44 (Great Britain: Watsonian West Norfolk: Roydon Common); Esser, Jakubzik, Sonnenburg, and Woydak, 2004:261 (Germany: in checklist of Sphecidae of Nordrhein-Westfalen); Field and Brace, 2004:651 (female stops provisioning if nest is contaminated with maggots of *Metopia*, Sarcophagidae); Heitmans *in* Peeters, van Achterberg, et al., 2004:352 (in Wasp and Ant Fauna of Netherlands); Hellrigl, 2004a:172 (Italy: Trentino-Alto Adige, as Südtirol: Vinschgau = Val Venosta: Kortsch); Majzlan and Deván, 2004:32 (Slovakia: Malacky-Široké); Skibińska *in* Bogdanowicz, Chudzicka, Pilipiuk, and Skibińska, 2004:357 (in catalog of Polish Sphecidae); Stolle et al., 2004:371 (Germany: Sachsen-Anhalt: in red list of Sphecidae); van Achterberg and Peeters, 2004:30 (in checklist of Sphecidae of Netherlands); Tannert and von der Dunk, 2004:135 (Germany: Bayern: Tennenloher Forst Nature Reserve near Erlangen); Wiśniowski, 2004:39 and 58 (in checklist of Polish Sphecidae); Blösch, 2005:3 (Germany: Bayern: Tennenloher Forst Nature Reserve near Erlangen); Burger, 2005:31 (Germany: Thüringen); Haeseler, 2005:628 (Germany: Niedersachsen: Steller Heide near Bremen); Hallin, 2005:16 (Sweden: Örebro County: Hällefors); Jacob and Remacle, 2005:62 (Belgium: Luxembourg Province: quarry Haut des Loges in Vance); Kofler, 2005:165 (Austria: Osttirol: many localities); Kraatz, 2005:102 (Germany: Niedersachsen: Bümmerstede near Oldenburg); Mandery, 2005:173 (Germany: Bayern: Hainberg Nature Reserve near Nürnberg); Mokrousov and Selivanova, 2005:752 (Russia: Voronezh Oblast'); Pagliano and Negrisolo, 2005:68 (in Sphecidae Fauna of Italy); Pijfers, 2005:49 (Netherlands: Twente: Noordelijke Manderheide); Reder, 2005:948 (Germany: Rheinland-Pfalz: Eisenberg); Riemann and Hohmann, 2005:543 (Germany: Niedersachsen: city of Bremen and vicinity); Saure, 2005:13 (Germany: Berlin); Shorenko, 2005a:163 (Ukraine: Crimea), 2005b:97 (Ukraine: Crimea: Karadagh Nature Reserve); Straka, 2005a:399 (endangered in Czech Republic); Theunert, 2005a:16 (Germany: in checklist of Sphecidae of Niedersachsen and Bremen); Ziska and Saure, 2005:80 (Germany: Berlin: Biesenhorster Sand); Blösch, 2006:63 (specimens spend nights attached to plant stems or leave blades with their mandibles); Bock, 2006:41 (Germany: Bayern: Kelheim District: Abensberg sands); Hua, 2006:275 (in list of Chinese insects, geographic distribution); Liebig, 2006:40 (Germany: Sachsen: Muskauer Heide); N. Schneider, 2006:143 (Luxemburg: anthropogenic habitats); Shlyakhtenok, 2006:110 (Belorussia: Polesye Radiological Nature Reserve); Vepřek, 2006:508 (Czech Republic: Kokořínsko area); Vershina, Mokin, Reshchikov, and Rudoiskatel', 2006:111 (Russia: Pskov Oblast': Selezhskiy National Park); Baghirov, 2007:93 (Russia: southwestern Siberia); Field, Turner, Fayle, and Foster, 2007:445 (costs of egg-laying and offspring provisioning); Hallin, 2007b:24 (Sweden: Blekinge County); Jacobs, 2007:46, 47 (in key to Sphecidae of Germany); Jansen and Kaluza, 2007:22 (Germany: northwestern Sachsen); Saure, 2007:81 (Germany: in checklist of Aculeata of Brandenburg); Shlyakhtenok, 2007a:298 (Belorussia: Berezinsky Nature Reserve); Smit and Megens, 2007:17 (Netherlands: Noort Brabant: vicinity of Leende); Vepřek and Straka, 2007:199 (in catalog of Sphecidae of Czech Republic and Slovakia); Yildirim and Ljubomirov, 2007:116 (first record from Turkey: Erzurum: Arıbahçe, Umudum Yalası, Şenkaya), 121 (diagnostic characters, status of species, geographic distribution); Danilov, 2008:346 (Russia: Altayskiy Krai: Barnaul area); Danilov and Tshernyshev, 2008:41 (Russia: Novosibirsk Oblast': Karasuk area); Haeseler, 2008:307 (Germany: Friesian Islands); Livory, Chevin, Lair, Sagot, and Baldock, 2008:23 (France: Département de la Manche); Ljubomirov and Yildirim, 2008:36 (in catalog of Sphecidae of Turkey); Nemkov, 2008b:17 (in catalog of Sphecidae of Asiatic Russia); Tannert and von der Dunk, 2008:181 (Germany: Bayern: west of Ernhofen and Weissenbrunn); Theunert, 2008:8 (Germany: map of distribution in Niedersachsen and Bremen); Danilov, 2009:58 (Russia: Western Siberia: Kulundinskaya Steppe); U. Frommer, 2009a:26 (Germany: in checklist of Sphecidae of central Hessen); Guéorguiev and Ljubomirov, 2009:262 (Bulgaria: Maleshevska Planina); Józán, 2009:164 (Croatia: Vranja); Nemkov, 2009b:50 (in new catalog of Sphecidae and Crabronidae of Asiatic Russia), 2009c:235 (Russia: Primorskiy Krai: Lazovskiy Nature Reserve); Ødegaard, Sverdrup-Thygeson, Hansen, Hanssen, and Öberg, 2009:70 (Norway: locality records); Ruchin, Antropov, and Shibayev, 2009:168 (Russia: Republic of Mordovia); Shorenko, 2009:367 (in list of Sphecidae *sensu lato* of Crimea); Szczepko and Wiśniowski, 2009:72 (Poland: Spała Landscape Park); Bitsch, 2010:107 (in supplement to vol. II of Faune de France, 1997: records from Bulgaria and Lithuania reported); Danilov, 2010b:45 (distribution of transpalearctic type); Ermilov and Mokrousov: 2010:88 (phoretic mites *Calvola* sp. and *Chaetodactylus osmiae* (Dufour) in Middle Volga Region of Russia); Esser, Fuhrmann, and Venne, 2010:38 (Germany: in checklist of aculeates of Nordrhein-Westfalen); Falk, 2010:92 (Great Britain: heathland sites in West Midlands region); Hable, Kraus, von der Dunk, and Wickl, 2010:26 (Germany: Bayern: Sulz- and Ottmaringer Tal); Johansson, 2010:121 (Sweden: Småland: upper Emå river valley); Mokrousov, 2010a:60 (Russia: Yaroslavl', Kirov, Vladimir, and Nizhniy Novgorod Oblast', Chuvash republic and Tatarstan: no specific localities); Rudoiskatel', 2010:147 (Russia: central and southern Ural Mountains); Sakenin, Samin, and Bagriacik, 2010:17 (Iran: East Azarbaijan: Masragheh, Tabriz); Saure, 2010a:87 (Germany: Berlin-Reinickendorf: Baumberge), 2010b:174 (Germany: Berlin-Reinickendorf: airport Tempel and Flughafensee Protected Area); Schmid-Egger, 2010a:22 (in red list of Aculeata of Germany: rare); Smit and Wijngaard, 2010:68 (in checklist of Sphecinae of Netherlands); Tüzün and Yüksel, 2010:4469 (Turkey: Niğde Province); van der Smissen, 2010a:332 (Germany: Schleswig-Holstein: locality records), 2010c:395 (Sweden: Södermanland: locality records); Baghirov, 2011b:139 (Russia: Altayskiy Krai: Savvushka); Burger, 2011a:286 (Germany: in red list of Sphecidae *sensu lato* of Thüringen); Danilov, 2011b:204 (Russia: Zabaikal'skiy Krai: Daur'skiy Nature Reserve); Field, Ohl, and Kennedy, 2011:734 (in molecular cladistic analysis of Ammophilini); Gogala, 2011:7 (Slovenia); Mokrousov, Berezin, and Egorov, 2011:64 (Russia: Chuvash Republic); Novozhenov, Rudoiskatel', Kostromina, Katana, and Sibiryakov, 2011:221 (Russia: Tyumen' Oblast': Khanty Mansi Autonomous Okrug: Kondino Lakes Nature Reserve); Rudoiskatel', 2011d:238 (Russia: central Ural Mountains); Sakenin, Samin, Bagriacik, and Rastegar, 2011:1 (Iran: East Azarbaijan: Maragheh); Saure, 2011c:197 (Germany: Berlin-Spandau: Fort Hahneberg); N. Schneider and Feitz, 2011:121 (Luxemburg); Smit, Goudsmith, and Smit, 2011:5 (Netherlands: Staphorst); Theunert, 2011a:18 (Germany: in checklist of aculeates of Niedersachsen including city of Bremen); Tischendorf, Frommer, Flügel et al., 2011:67 (Germany: Hessen: endangered); Ziska and Saure, 2011:108 (Germany: Berlin: Tegeler Fließ valley); Nemkov, 2012c:434 (in catalog of Sphecidae of Russian Far East); Prisiy, 2012:46 (Russia: Belgorod Oblast'); Protsenko, Fateryga, Ivanov, and Puzanov, 2012:53 (Russia: Irkutsk Oblast': near Bol'shoye Goloustnoye); Shlyakhtenok, 2012b:91 (Belorussia: Beresina National Reserve: overgrowing dry meadow); Srba and Heneberg, 2012:559 (nesting in hard soils); Akulov and Proshchalykin, 2013:111

(Russia: Siberia: Krasnoyarsk Krai: Krasnoyarsk, Minusinsk); Danilov and Odintseva, 2013:332 (Russia: Western Siberia: 65 km north-northeast of Tobol'sk at 58°45'N 68°74'E); Dollfuss, 2013a:394, 403 (in key to *Ammophila* of Palearctic Region and India), 471 (in revision of *Ammophila* of Palearctic Region and India), 2013b:579 (locality records from Austria, Czech Republic, Finland, France, Kazakhstan, Mongolia, Russia (Asiatic part), Spain, and Turkey); Flügel, 2013a:120 (Germany: Brandenburg: Pimpinellenberg near Oderberg); Mokrousov, Ruchin, and Egorov, 2013:198 (Russia: Republic of Mordovia: Mordovian State Nature Reserve); Pankov, 2013:228 (Russia: Ivanovo Oblast'); A. Scholz and Liebig, 2013:16 (Germany: Sachsen: in list of Sphecidae *sensu lato*); Shlyakhtenok, 2013:132 (in annotated catalog of aculeate wasps of Belorussia); Wiśniowski and Piotrowski, 2013:20 (Poland: Poleski National Park); Wiśniowski and Szczepko, 2013:20 (Poland: Kampinos National Park near Warszawa); Danilov, 2014a:426 (Russia: Siberia: many areas), 2014b:520, 521 (in key to Sphecidae s.s. of Siberia); Flügel, 2014:255 (Brandenburg: Hangelsberger Heide); Hellqvist, Abenius, and Norén, 2014:90 (in catalog of Ampulicidae, Sphecidae, and Crabronidae of Sweden, by provinces); Mokrousov and Vafin, 2014:54 (Russia: Republic of Tatarstan); Ruchin and Antropov, 2014:35 (Russia: Republic of Mordovia); Yildirim, 2014:30 (Turkey: distribution by biogeographic provinces); Dollfuss, 2015b:428 (locality records from Italy and Mongolia); Field, Shreeves, Kennedy, Brace, and Gilbert, 2015:1899 (sex-biased parental care and sexual size dimorphism); Koçak and Kemal, 2015:277 (in checklist of Hymenoptera of Turkey); Saure, 2015:12 (Germany: Berlin-Lichterfelde); Shorenko, 2015:312 (in list of Sphecidae *sensu lato* of Crimea); Simon, Lorthiois, and Macé, 2015:53 (France: alluvial terraces in Seine-Maritime Department: Anneville-Ambourville); Voigt, 2015:70 (Germany: Schleswig-Holstein: Sorgwohld area); Bleidorn, Gerth, Hopfe, et al., 2016:11 (Germany: Sachsen: Trages circa 20 km south of Leipzig); Else, Bolton, and Broad, 2016:49 (in checklist of Aculeata of Great Britain and Ireland: England, Wales); Reemer and Peeters, 2016:10 (Netherlands: Hulshorsterzand); A. Scholz, 2016:71 (Germany: Sachsen: Kleinraschützer Heide); Stolle and Saure, 2016:927 (Germany: in list of Sphecidae *sensu lato* of Sachsen-Anhalt); Danilov, 2017b:212 (in catalog of Sphecidae s.s. of Russia); Danilov and Mokrousov, 2017a:110 (Russia: Bashkortostan, Jewish Autonomous Oblast', Karachay-Cherkessia, Karelia, Leningrad Oblast', Moscow Oblast', Novgorod Oblast', Penza Oblast', Tver Oblast'); Jahantigh, Rakhshani, Mokhtari, and Ramroodi, 2017:16 (Iran: known from East Azerbaijan Province); Shorenko, 2017:76 (in Crimea collected in August); Franken and Berg, 2018:67 (Netherlands: North Holland: sand dunes); Jacobs and Liebig, 2018:135 (Russia: Buryat Republic, Irkutsk Oblast', and Promorskiy Krai: several localities); Shorenko, 2018:126 (Crimea, including localities, habitats, and number of specimens); Ch. Wang, Bashir, Q. Li, and Ma, 2018:300, 302 (in key to *Ammophila* of China); Baghirov and Nesterovitch, 2019:45 (Russia: Western Siberia: Yamalo-Nenets Autonomous District: near Khanymey village); Olszewski and Kowalczyk, 2019:112 (northern Poland: Pomorze Gdańskie = Gdańsk Pomerania); Ruchin and Antropov, 2019a:13219 (Russia: Mordovian State Nature Reserve), 2019b:162 (common in Mordovian State Nature Reserve); Bitsch, Barbier, and Jacobs *in* Bitsch, Barbier, Gayubo, Jacobs, Leclercq, and Schmidt, 2020:95 (in Sphecidae Fauna of Europe); Danilov, 2020:317 (specimens from Belorussia and Russia: Siberia and Primorskiy Krai in Institute of Systematics and Ecology of Animals, Novosibirsk, Russia); Field, Gonzalez-Voyer, and Boulton, 2020:7 (evolution of parental care); Kejval, Blažej, and Erhart, 2020:118 (western Czech Republic); Saure, 2020:276 (Germany: Sachsen-Anhalt: sand dunes); Shorenko, 2020:47 (Crimea: Karadag Nature Reserve); Olszewski, Wiśniowski, and Ljubomirov, 2021:102 (in commented list of Sphecidae *sensu lato* of Poland); Kaplan and Yildirim, 2023:1692 (in checklist of Sphecidae *sensu lato* of Turkey); Pytel-Huta and Franchuk, 2024:90 (Ukraine: Rivno Nature Reserve). – **As *Sphex pubescens***: Valkeila, 1962b:67 (new generic assignment, southwestern Finland); Valkeila, Brander, and Käpylä, 1963:41 (Finland: historical region Lounais-Hämeen = southwestern Häme).

Miscus arvensis Dahlbom, 1843:8, ♂. Holotype: ♂, USA: Pennsylvania: no specific locality, but Europe according to Menke, 1964b:154 (Lund). Synonymized with *Ammophila pubescens* by Menke, 1964b:153. – **As *Sphex arvensis***: Britton, 1920:340 (new generic assignment, in checklist of insects of Connecticut); Fernald, 1931a:446 (study of type), 1932:124 (prey carrying), 1934:118 (revision); nec A. Brown, 1934:264 (= *Ammophila azteca*); Brimley, 1938:444 (North Carolina: Mount Mitchell); Murray, 1938 (redescription); Dreisbach, 1944:269, 270 (in key to *Ammophila* of Michigan), 273 (Michigan: locality records); Strickland, 1947:129 (Canada: Alberta); Krombein, 1952b:181 (USA: West Virginia: Lost River State Park), 1954a:6 (West Virginia: Lost River State Park). – **As *Ammophila arvensis***: Lepeletier de Saint Fargeau, 1845:384 (new generic assignment, revision); Dalla Torre, 1897:395 (in catalog of world Hymenoptera); Ashmead, 1899d:354 (in checklist of North American Sphecidae); Melander, 1903:160 (in key to North American Ammophilini).

Ammophila susterai Šnoflák, 1943a:1, ♀, ♂ (as *susterai*, incorrect original diacritic mark). Holotype: sex not stated: Czech Republic: no specific locality d (originally J. Šnoflák collection, now NMPC). Synonymized with *Ammophila pubescens* by Balthasar, 1958:339. – Šnoflák *in* Zavadil and Šnoflák, 1948:100 (in key to Sphecidae of Czechoslovakia); Blüthgen, 1951:234 (diagnostic characters, occurs in many places in Germany); Bat'a, 1952:167 (Czech Republic); Blüthgen, 1954:140 (probably a junior synonym of *Ammophila pubescens*); Bajári, 1957a:13 (in key to Hungarian Sphecidae, not yet found in Hungary); Haris, 2016:29 (in list of species described by J. Šnoflák from Carpathian Basin).

Ammophila campestris var. *alpicola* de Beaumont, 1945:468, ♀, ♂. Holotype: ♂, Switzerland: Sierre (Lausanne). Synonymized with *Ammophila pubescens* by Richards, 1946:235. – **As *Ammophila alpicola***: Kjellander, 1951:48 (new status, widely distributed in Sweden, studied by Adlerz under the name of *Ammophila campestris*); Fahlander, 1954:253 (Sweden: Gästrikland Region); Tjeder, 1954:68 (Sweden: eastern Skåne: Löderup, Mälarhusen, Sandhammaren).

Ammophila adriaansei Wilcke, 1945:277, ♀, ♂. Syntypes: sex not stated, Netherlands: no specific locality (Amsterdam Mus., Wageningen Inst., and A. Wilcke collection). Synonymized with *Ammophila pubescens* by Richards, 1946:235. – Adriaanse, 1947:1 (nesting behavior, comparison with that of *Ammophila campestris*); Wilcke, 1947:118 (in key to Dutch *Ammophila*); Hellén, 1948:13 (taxonomic history); Teschner, 1959:417 (feeding), 418 (male behavior and mating), 426 (nesting sites), 431 (nest structure), 436 (nest closure), 440 (nest number and location), 441 (visiting nest without prey), 446 (prey spectrum), 453 (entering prey into nest); Maréchal and Petit, 1961:82 (taxonomic history, comparison with *Ammophila campestris*, distribution in Belgium).

As *Ammophila campestris* (corrected to *Ammophila pubescens* by Richards, 1946:235): Shuckard, 1837a:82 (in revision of British Aculeata) and 251 (placement in *Miscus* confirmed); Stephens, 1846:15 (in revision of British insects); F. Smith, 1849b:2550 (preying on caterpillars, nesting in soil), 1851c:17 (Great Britain: Dorsetshire: Blackwater Hants, New Forest, Weybridge), 1865b:86 (Great Britain: Dorset County: Bournemouth), 91 (other collecting localities), 1868a:96 (Great Britain: Mousehold Heath near Norwich, as *Miscus campestris*); E. Saunders, 1880:248 (in revision of British Aculeata), 1896:88 (in revision of British Aculeata); Morice, 1900c:210 (Great Britain: Surrey: Cobham); Barnes, 1902:266 (Great Britain: Berkshire: Wellington College in Crowthorne); E. Saunders, 1903a:16 (Great Britain: Woking); Latter, 1913:23 (nesting habits, progressive provisioning described); Morley, 1919:209 (Great Britain: Hampshire: New Forest); Hobby, 1931b:108 (prey of spider *Philodromus aureolus* Clerck); Spooner, 1931:14 (Great Britain: Cambridgeshire); Hobby, 1932a:4 (caterpillar prey, a noctuid; nest parasitized by braconid *Zelee chlorophthalma* Nees); Richards, 1937b:104 (in checklist of British aculeates); Baerends and van Roon, 1938:41 (detailed observation on nesting, caterpillar prey demonstrates *Ammophila pubescens*); Yarrow, 1939:15 (Great Britain: Dorset: Lytchett Minster); Baerends, 1941a:483 and 1941b:68 (nesting habits), corrected to *Ammophila pubescens* by Baerends, 1976:726; Adriaanse, 1943:69 (nest closure); Spooner, 1943:71 (Great Britain: Parley Heath); Adriaanse, 1944:150 (nesting habits, partly *Ammophila campestris*); Baerends and Baerends-van Roon, 1950:53 (egg development, development ecology), corrected to *Ammophila pubescens* by Baerends and Baerends-van Roon, 1976:726; Teschner, 1955:57 (Germany: Nordrhein-Westfalen: Hohe Ward near Münster), corrected to *Ammophila pubescens* by Teschner, 1955:56; Meyer-Holzappel, 1986:103 (nest parasite: *Metopia argyrocephala* Meigen, Sarcophagidae, after Baerends, 1941).

Ammophila arnaudi Tsuneki, 1976d:289, ♂. Holotype: ♂, China: Heilongjiang Sheng: Estsentientze 65 km east of Harbin (CAS). Synonymized with *Ammophila pubescens* by Dollfuss, 2013a:472. – Pulawski, 1994:27 (CAS holotype no. 12,546); Hua, 2006:275 (in list of Chinese insects, geographic distribution).

As *Miscus campestris*: Adlerz, 1901:170 (nesting habits), present correction.

189. *pulawskii* Tsuneki

Ammophila pulawskii Tsuneki, 1971k:175, ♀, ♂. Holotype: ♂, Mongolia: Bayanhongor Aymag: Ehingol oasis (TMB). – R. Bohart and Menke, 1976:153 (in checklist of world Sphecidae); Dollfuss, 2013a:388, 397 (in key to *Ammophila* of Palearctic Region and India), 473 (in revision of *Ammophila* of Palearctic Region and India), 2013b:580 (Mongolia: Chatan Bulag in Domogov Region).

190. *punctata* F. Smith

Ammophila punctata F. Smith, 1856:218, ♀. Holotype or syntypes: ♀, northern India: no specific locality, may be Pakistan (BMNH). – Cameron, 1889c:93 (in list of Sphecidae of Oriental Region); Dalla Torre, 1897:406 (in catalog of world Hymenoptera); Rothney, 1903:104 (India: West Bengal: Barrackpore); Paiva, 1907:15 (India: Bhim Tal, Kumaon, Mussoorie; Nepal: Soondrijal, Nagarkote, Chitlong); R. Turner, 1918a:91 (may be a synonym of *Ammophila sabulosa*; Tibet: Gyantse); S. Gupta, 1995:85 (India: Uttar Pradesh); V. Gupta, 1960:25 (India: Himalaya); R. Bohart and Menke, 1976:153 (in checklist of world Sphecidae); Jha and Farooqi, 1994:8 (description and illustration of male genitalia); S. Gupta, 1997:101 (India: Uttar Pradesh: Nanda Devi Biosphere Reserve), 2004:25 (India: Uttaranchal: Uttarkashi District); Dollfuss, 2013a:390, 399 (in key to *Ammophila* of Palearctic Region and India), 473 (in revision of *Ammophila* of Palearctic Region and India), 2013b:580 (locality records from India, Iran, and Nepal); Jahantigh, Rakhshani, Mokhtari, and Ramroodi, 2017:16 (Iran: known from Golestan Province).

191. punctaticeps (Arnold)

Spheg punctaticeps Arnold, 1920:52, ♀, ♂. Syntypes: Zimbabwe: Salisbury, now Harare, and Shiloh; South Africa: Shiluvane and Algoa Bay (SAM). – Arnold, 1928b:277 (in revision of southern African *Ammophila*), 1930:17 (in checklist of Afrotropical Sphecidae); Marshall, 1997:3 (reference to original description). – **As *Ammophila punctaticeps***: Arnold, 1951:141 (new generic assignment, Mali: Tillembeya); Leclercq, 1955h:78 (bibliographic references), 1955i:406 (Rwanda), 1961b:55 (Zaire), 1962a:394 (Tanzania: Kilimanjaro; Kenya: Molo); de Beaumont, 1967b:504 (South Africa); R. Bohart and Menke, 1976:153 (in checklist of world Sphecidae); S. Gess, 1996:276, 301 (floral records); S. Gess and F. Gess, 2003:97 (South Africa: visiting flowers of *Pteronia* sp., Asteraceae, and *Wahlenbergia pilosa* Buek, Campanulaceae); Dollfuss, 2015a:313, 317 (in key to Sub-Saharan *Ammophila*), 360 (in revision of Sub-Saharan *Ammophila*, Ethiopia, Kenya, Malawi, South Africa, Tanzania. Zaire, Zambia, Zimbabwe), 2015b:428 (locality records from Ethiopia, Kenya, Malawi, and Zambia).

192. punti Guichard

As *Ammophila beninensis*: Guichard, 1980:224 (Oman), corrected to *Ammophila punti* by Guichard, 1988a:129.

Ammophila punti Guichard, 1988a:129, ♀, ♂. Holotype: ♀, Saudi Arabia: Fayfa 60 km north of Gizan (BMNH). – Gadallah and Assery, 2004a:224 (in catalog of Sphecidae of Saudi Arabia); Dollfuss, 2013a:392, 396, 399, 401 (in key to *Ammophila* of Palearctic Region and India), 475 (in revision of *Ammophila* of Palearctic Region and India), 2015b:428 (Oman: Dhofar Province: Jabal al Qamar: Wadi Al Mugsay), 2013b:580 (locality records from Yemen); Gadallah, Al Dhafer, Aldryhim, Fadl, and Elgharbawy, 2013:360 (in new catalog of Sphecidae of Saudi Arabia); Gadallah, 2020d:80 (in list of aculeate wasps of Arabian Peninsula); Gadallah and Abu El-Ghiet, 2024:91 (Saudi Arabia: Jazan Province: Fayfa).

193. quadraticollis A. Costa

Ammophila quadraticollis A. Costa, 1893a:99, ♀. Holotype or syntypes: ♀, Tunisia: no specific locality (Napoli). – Dalla Torre, 1897:406 (in catalog of world Hymenoptera, as *quadricollis*); Kohl, 1906b:353 (in revision of Palearctic Ammophilini, original description copied); von Schulthess, 1909:440 (Libya: Derna, Tripoli); Morice, 1911:73 (Algeria: Bône, now Annaba, La Calle, now El Kala, Le Tarf, now El Tarf); Mantero, 1915:323 (Libya); Gribodo, 1921:6 (Libya: Cyrenaica: Ghemines); von Schulthess, 1926b:209 (Tunisia, Libya); Roth, 1928:200 (in revision of North African Ammophilini, description of ♂); Guiglia, 1934b:292 (Libya: bibliography and summary of locality records); Alfieri, 1946:132 (in revision of Egyptian *Ammophila*); de Beaumont and Bytinski-Salz, 1955:37 (Israel); Leclercq, 1955h:85 (bibliographic references); de Beaumont, 1956a:179 (Libya), 1960b:226 (Libya); R. Bohart and Menke, 1976:153 (in checklist of world Sphecidae); Dollfuss, 2013a:388, 398 (in key to *Ammophila* of Palearctic Region and India), 476 (in revision of *Ammophila* of Palearctic Region and India, as full species), 2013b:580 (Tunisia: 30 km east of Medenine at 32°24'N 10°50'E, 14 km southeast of Houmt Souk in island of Djerba at 33°50'N 11°00'E); Ben Khedher, Yildirim, Braham, and Ljubomirov, 2020a:305 (in list of Tunisian Sphecidae *sensu stricto*; new records from Kairouan, Mahdia, Medenine, and Tunis provinces). – **As *Ammophila nasuta quadraticollis***: de Beaumont, 1963b:13 (new status, in revision of *Ammophila nasuta* species group); Roche and Zalut, 1994:114 (Egypt: Sinai Peninsula); Roche, 2007a:17 (in checklist of Egyptian Sphecidae, redescription of ♂), 2007b:2 (in checklist of Egyptian Ampulicidae, Sphecidae, and Crabronidae).

Ammophila quadraticollis A. Costa, 1893b:4, ♀, ♂. Syntypes: Tunisia: no specific locality (Napoli). Objective synonym of *Ammophila quadraticollis* A. Costa, 1893a:99.

194. rauschi Dollfuss

Ammophila rauschi Dollfuss, 2013a: 477, ♀, ♂. Holotype: ♂, Kyrgyzstan: Talasskaya Oblast': Talass Mountains: river Ara-Byik at 42°23'28"N 70°58'34" (OÖLM). – Dollfuss, 2013a:393, 404 (in key to *Ammophila* of Palearctic Region and India), 2013b:580 (Kyrgyzstan: locality records); Olszewski and Danilov, 2020:192 (first record from Tajikistan: Sughd Province: two localities); Danilov, 2020:317 (specimens from Kyrgyzstan and Tajikistan in Institute of Systematics and Ecology of Animals, Novosibirsk, Russia).

195. regina Menke

Ammophila regina Menke, 1964a:25, ♀, ♂. Holotype: ♂, USA: California: Tuolumne County: Strawberry (UCD). – R. Bohart and Menke, 1976:153 (in checklist of world Sphecidae); Krombein, 1979b:1594 (in catalog of North American Hymenoptera); Rosenheim, 1987a:740 (California: Nevada County: Sagehen Creek near Hobart Mills); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:669 (in checklist of Mexican Sphecidae); Menke, 2020:77 (in revision of North and Central American *Ammophila*); Buck and Bennett, 2025:223 (in checklist of Sphecidae *sensu lato* of Canada, Alaska, and Greenland: Canada: British Columbia: no specific locality).

196. resslı Dollfuss

Ammophila resslı Dollfuss, 2015a:361, ♀, ♂. Holotype: ♀, South Africa: Western Cape Province: Greyton: Riviersonderend River (OÖLM). Paratype: Tanzania. – Dollfuss, 2015a:313, 318 (in key to Sub-Saharan *Ammophila*), 2015b:428 (locality records from South Africa).

197. roborovskyi Kohl

Ammophila roborovskyi Kohl, 1906b:368, ♀ (as *Roborovskyi*, incorrect original capitalization). Lectotype: Mongolia: Sa-Chou oasis: river Dau-khe (= Tau-ho) south of Sa-Chou (NHMW), designated by Dollfuss, 2013a:478. – Gussakovskij, 1933b:274 (Iran); Tsuneki, 1971k:175 (Mongolia); R. Bohart and Menke, 1976:153 (in checklist of world Sphecidae); Kazenas, 1978b:38 (in key to Sphecidae of Kazakhstan and Central Asia); Danilov, 2010b:45 (distribution of Tethyan type); Dollfuss, 1989:7 (type material in NHMW), 2013a:388 (in key to *Ammophila* of Palearctic Region and India, as *roborovskyi*); Danilov, 2016:346 (paralectotypes preserved in Zoological Institute, Sankt-Petersburg, Russia); Jahantigh, Rakhshani, Mokhtari, and Ramroodi, 2017:16 (Iran: known from Sistan-o Baluchestan and South Khorasan provinces).

198. rubigegen Q. Li and C. Yang

Ammophila rubigegen Q. Li and C. Yang, 1990:260, ♀, ♂. Holotype: ♀, China: Nei Mongol: Jumgar Banner, Ih Ju League: Mount Shenshan (Beijing Agricultural University). – Dollfuss, 2013a:479 (in revision of *Ammophila* of Palearctic Region and India, original description translated from Chinese into English); Ma, Q. Li, Wang, Jiang, and Lu, 2018:854 (China: Shanxi: Qinling Mountains); Ch. Wang, Bashir, Q. Li, and Ma, 2018:299, 302 (in key to *Ammophila* of China).

199. rubiginosa Lepeletier de Saint Fargeau

Ammophila rubiginosa Lepeletier de Saint Fargeau, 1845:372, ♀ (authorship attributed to Klug). Holotype or syntypes: ♀, South Africa: Cape of Good Hope (M. Spinola collection, Torino). – F. Smith, 1856:212 (in catalog of Hymenoptera in British Museum); A. Costa, 1864b:111 (specimen from Senegal in Museo Zoologico di Napoli); Dalla Torre, 1897:407 (in catalog of world Hymenoptera); nec Friederichs, 1918:43 and von Schulthess in Friederichs, 1918a:48 (= *Ammophila beniniensis imerinae*); R. Bohart and Menke, 1976:153 (in checklist of world Sphecidae); Casolari and Casolari Moreno, 1980:100 (specimen in M. Spinola collection, Torino); Pagliano, 2008:512 (specimen in M. Spinola collection, Torino), 514 (holotype of *Ammophila rubiginosa* under name of *Ammophila rubricollis*); Dollfuss, 2015a:313, 317 (in key to Sub-Saharan *Ammophila*), 363 (in revision of Sub-Saharan *Ammophila*), 2015b:429 (locality records from Kenya, Mozambique, Namibia, South Africa, and Zimbabwe); Field, Shreeves, Kennedy, Brace, and Gilbert, 2015:1899 (sex-biased parental care and sexual size dimorphism); Field, Gonzalez-Voyer, and Boulton, 2020:7 (evolution of parental care). – **As *Spheg bonaespei* var. *ferruginipes*** (synonymized with *Ammophila rubiginosa* by Dollfuss, 2015:363): Arnold, 1920:51 (new status, in revision of southern African *Ammophila*), 1928b:276 (in revision of southern African *Ammophila*), 1930:17 (in checklist of Afrotropical Sphecidae), 1935a:503 (South Africa: Kalahari); Guiglia, 1943c:76 (Ethiopia: Gamo Gofa: Sagan – Omo region), 1950:247 (Ethiopia: Gamo Gofa: Banno, Caschei).

200. rubripes Spinola

Ammophila rubripes Spinola, 1839:465, ♀. Lectotype: ♀, Egypt: no specific locality (M. Spinola collection, Torino), designated by de Beaumont, 1952e:45. – F. Smith, 1856:211 (in catalog of Hymenoptera in British Museum); Walker, 1871:17 (Sinai Peninsula: Wadi Gennah; Africa: Red Sea coast: Massowah); Magretti, 1884a:249 (Sudan); Ed. André, 1886:76 (in revision of Sphecidae of Europe and Algeria), 1888:3* (bibliographic references); Magretti, 1899:601 (Somalia: Brava); Kohl, 1906b:374 (original description copied); Magretti, 1906:20 (Eritrea); Innes Bey, 1912:110 (specimens recorded by Walker, 1871, now destroyed by dermestids, were collected at Wadi Genneh); Guiglia, 1950:246 (Ethiopia: Gamo Gofa: Asile, Gondaraba at 4°58'N 36°49'E, Murle Omo); de Beaumont and Bytinski-Salz, 1955:39 (Israel); Leclercq, 1955h:77 (bibliographic references, locality records mainly from Zaire), 1962a:394 (Tanzania: Longido, diagnostic characters); Diniz, 1964c:110 (Angola: Lunda: Alto Cuílo, Andrada, Dundo, Luaco, Macondo, Muíta-Luembe, Posto de Cacolo at Rio Cavuemba); R. Bohart and Menke, 1976:153 (in checklist of world Sphecidae); Casolari and Casolari Moreno, 1980:100 (specimens in M. Spinola collection, Torino); Guichard, 1980:224 (Oman); Roche, 1981:2 (in checklist of Sphecidae of United Arab Emirates); Guichard, 1988a:128 (Arabian Peninsula); Al-Houty, 1989:158 (Kuwait: Abdelli, Sulabiya); Roche and Zalut, 1994:114 (Egypt: Sinai Peninsula); Al-Houty, 1997:160 (Kuwait: no specific locality); Gadallah and Assery, 2004a:217 (in key to Sphecidae of Jeddah Region, Saudi Arabia), 224 (in catalog of Sphecidae of Saudi Arabia: Hadasham 120 km est of Jeddah); Roche, 2007a:22 (in checklist of Egyptian Sphecidae, redescription), 2007b:2 (in checklist of Egyptian Ampulicidae, Sphecidae, and Crabronidae); Pagliano, 2008:511 (specimens in M. Spinola collection, Torino, including lectotype and paralectotype); Murai and Amr, 2011:118 (recorded from Syria by Mocsáry, 1883); Sakenin, Samin, Bagrićik, and Rastegar, 2011:2 (Iran: Khuzestan: Dasht-e Azadegan); Schmid-Egger, 2011b:599 (United Arab Emirates: Al-Ajban), 601 (color photograph of male); Dollfuss, 2013a:388, 396 (in key to *Ammophila* of Palearctic Region and India), 480 (in revision

of *Ammophila* of Palearctic Region and India), 2013b:581 (locality records from Egypt, Jordan, Morocco, Oman, Saudi Arabia, and Yemen); Gadallah, Al Dhafer, Aldryhim, Fadl, and Elgharbawy, 2013:360 (in new catalog of Sphecidae of Saudi Arabia); Schmid-Egger, 2014:621 (United Arab Emirates); Dollfuss, 2015a:313, 318 (in key to Sub-Saharan *Ammophila*), 364 (in revision of Sub-Saharan *Ammophila*; Arabian Peninsula, Benin, Botswana, Burkina Faso, Ethiopia, Central African Republic, Guinea, Israel, Jordan, Kenya, Malawi, Morocco, Mozambique, Namibia, Nigeria, South Africa, Syria, Tanzania, Uganda, Zambia, Zimbabwe), 2015b:430 (locality records from Benin, Burkina Faso, Central African Republic, Ethiopia, Guinea, Kenya, Malawi, Mozambique, Namibia, Nigeria, Oman, South Africa, Tanzania, Uganda, Zambia, and Zimbabwe); S. Gess and Roosenschoon, 2016:104 (Dubai Desert Conservation Reserve, visiting flowers of *Solanum nigrum* L., Solanaceae); Jahantigh, Rakhshani, Mokhtari, and Ramroodi, 2017:16 (Iran: known from Khuzestan Province); Madl, 2018:943 (in catalog of Hymenoptera of Djibouti); Ben Khedher, Yildirim, Braham, and Ljubomirov, 2020a:307 (in list of Tunisian Sphecidae *sensu stricto*; additional records: Tunisia: Kairouan and Sidi Bouzid provinces); Gadallah, 2020d:80 (in list of aculeate wasps of Arabian Peninsula); Ghaderipour, Khayrandish, Madjzadeh, Ebrahimi, and Schmid-Egger, 2021:504 (Iran: Kerman Province).

Ammophila bonaespei Lapeletier de Saint Fargeau, 1845:382, ♀, ♂ (as *Bonae-Spei*, incorrect original capitalization and hyphenation). Lectotype: ♀, South Africa: Western Cape Province: Cape of Good Hope (M. Spinola collection, Torino), designated by Menke in Bohart and Menke, 1976:151. Synonymized with *Ammophila rubripes* by Dollfuss, 2015a:364. – nec Lucas, 1849:276 (= *Eremochares dives*); F. Smith, 1856:218 (in catalog of Hymenoptera in British Museum); Dalla Torre, 1897:396 (in catalog of world Hymenoptera); Bingham, 1902:216 (South Africa); Bradley, 1957:39 (type in M. Spinola collection in Turin; as *bonae-spei*); I. Robertson, 1969:480 (Tanzania: Ukiriguru); R. Bohart and Menke, 1976:151 (in checklist of world Sphecidae); Casolari and Casolari Moreno, 1980:100 (specimens in M. Spinola collection, Torino); Gess, 1981:19 (South Africa: Hillton Farm 18 km west-northwest of Grahamstown; nesting in friable soils); Rodgers and Homewood, 1982:233 (Tanzania: Usambara Mountains); S. Gess and F. Gess, 1994:100 (visiting flowers of *Aspalathus spinescens* Thunb., Fabaceae); S. Gess, 1996:275, 295 (floral records); S. Gess and F. Gess, 2003:95 (South Africa: visiting flowers of *Monechma* sp., Acanthaceae, *Deverra denudate* (Viv.) Pfisterer and Podl., Apiaceae, *Chrysocoma ciliata* L., Asteraceae, *Acacia karroo* Hayne, Fabaceae, *Aspalathus spinescens* Thunb., Fabaceae, *Phyllopodium cuneifolium* (L. f.) Benth., Scrophulariaceae); Pagliano, 2008:514 (lectotype in M. Spinola collection, Torino). – As *Sphex bonaespei*: Arnold, 1920:49 (new generic assignment, in revision of southern African *Ammophila*), 1928b:275 (in revision of southern African *Ammophila*), 1930:17 (in checklist of Afrotropical Sphecidae), 1933a:357 (Ethiopia), 1935a:503 (South Africa: Kalahari).

Ammophila ferrugineipes Lapeletier de Saint Fargeau, 1845:383, ♀ (authorship attributed to Klug). Holotype or syntypes: ♀, South Africa: Cape of Good Hope (originally J. Serville collection, now M. Spinola collection, Torino). – F. Smith, 1856:212 (in catalog of Hymenoptera in British Museum); Gerstaecker *in* Peters, 1858:510 (Mozambique); Gerstaecker, 1862:481 (Mozambique); A. Costa, 1864b:111 (specimen from Senegal in Museo Zoologico di Napoli); Walker, 1871:18 (Sudan: Hor Tamanib; Djibouti: Tajura); Radoszkowski, 1876b:131 (Ethiopia); Gribodo, 1884c:297 (Ethiopia: Ambo-Karra), 1894c:134 (Mozambique: Imhambane); W. Fox, 1896e:552 (Ethiopia: Bale Province: Sheikh Husein, now Shek Husen); Dalla Torre, 1897:400 (in catalog of world Hymenoptera); Bingham, 1902:218 (South Africa, Malawi); Innes Bey, 1912:111 (specimens recorded by Walker, 1871, now destroyed by dermestids, were collected at Tadjurah); Cameron, 1910b:133 (South Africa: Limpopo Province: Waterval), 1912b:398 (Zaire); Guiglia, 1940b:289 (Somalia, as *bonae-spei* var. *ferrugineipes*); Arnold, 1943:77 (Zaire, as *bonae-spei ferrugineipes*), 1951:141 (Ethiopia, Ghana, Senegal, as *Ammophila bonaespei* var. *ferrugineipes*); Bradley, 1957:39 (type in M. Spinola collection, Turin); de Beaumont, 1967b:504 (Namibia); Menke in Bohart and Menke, 1976:151 (in checklist of world Sphecidae, reverted to full species status); Casolari and Casolari Moreno, 1980:100 (specimens in M. Spinola collection, Torino); Gess, 1981:19 (South Africa: Hilton Farm 18 km west-northwest of Grahamstown; nesting in friable soils; prey: geometrid caterpillars), 40 (method of nest construction), 41 (vibration of wings when digging nest); Weaving, 1988:327-349 (prey selection), 1989a:1-16 (South Africa; nesting habits), 1989b:847-871 (habitat selection and nest construction); S. Gess, 1996:278, 283, 290, 303 (floral records); S. Gess and F. Gess, 2003:95 (Namibia and South Africa: visiting flowers of *Psilocaulon salicornioides* (Pax) Schwant., Aizoaceae, *Berkheya fruticosa* (L.) Ehrh., Asteraceae, *Geigeria pectidea* (DC.) Harv., Asteraceae, *Lasiospermum bipinnatum* (Thunb.) Druce, Asteraceae, *Metalasia muricata* (L.) D. Don, Asteraceae, *Senecio cinerascens* Ait., Asteraceae, *Anchusa capensis* Thunb., Boraginaceae, *Chamaesyce glandulifera* (Pax) Koutnik, Euphorbiaceae, *Aspalathus spinescens* Thunb., Fabaceae, *Limonium* sp., Plumbaginaceae, *Phyllopodium cuneifolium* (L. f.) Benth., Scrophulariaceae, *Selago corymbosa* L., Scrophulariaceae, and *Zygopohyllum simplex* L., Zygophyllaceae), 2006:20 (Namibia: visiting flowers of *Chamaesyce glandulifera*, Euphorbiaceae); Pagliano, 2008:514 (holotype in M. Spinola collection, Torino); Field, Ohl, and Kennedy, 2011:734 (in molecular cladistic analysis of Ammophilini). – As *Sphex ferrugineipes*: R. Turner, 1919c:396 (new generic assignment, synonymy); Schouteden, 1930:95 (Zaire). – **Nec *Sphex bonaespei* var. *ferrugineipes*** (= *Ammophila rubiginosa*): Arnold, 1920:51 (new status, in revision of southern African *Ammophila*), 1928b:276 (in revision of southern African *Ammophila*), 1930:17 (in checklist of Afrotropical Sphecidae), 1935a:503 (South Africa: Kalahari); Guiglia, 1943c:76 (Ethiopia: Gamo Gofa: Sagan – Omo region), 1950:247 (Ethiopia: Gamo Gofa: Banno, Caschei)

Ammophila rubriceps Taschenberg, 1869:432, ♀, ♂. Syntypes: South Africa: Cape Province: no specific locality (Halle). Synonymized with *Ammophila bonaespei* by Menke in Bohart and Menke, 1976:151. – Dalla Torre, 1897:407 (in catalog of world Hymenoptera); Leclercq, 1955h:93 (bibliographic references, as species incertae sedis).

Ammophila propinqua Taschenberg, 1869:433, ♂. Holotype or syntypes: ♂, Sudan: Khartoum (Halle). Synonymized with *Ammophila rubripes* by Guiglia, 1948a:32, synonymy confirmed by de Beaumont, 1952e:45. – Ed. André, 1886:74 (in revision of Sphecidae of Europe and Algeria), 1888:3* (bibliographic references); Medina, 1894a:259 (Spain: Carmona and Pozuelo de Calatrava, records questionable for geographic reasons); Dalla Torre, 1897:406 (in catalog of world Hymenoptera); Kohl, 1906b:363 (in revision of Palearctic Ammophilini); Morice, 1911:74 (Algeria: Biskra); von Schulthess, 1926b:209 (Morocco, Tunisia); Roth, 1928:207 (in revision of North African Ammophilini); Guiglia, 1932d:468 (Libya: Gialo); Nadig, 1933:101 (Morocco: Agadir, Marrakech); Guiglia, 1934b:293 (Libya: bibliography and summary of locality records); Giordani Soika, 1939c:105 (Eritrea: Keren); Guiglia, 1939d:72 (Ethiopia: Sidamo: Neghelli, now Neg-ele), 1943c:76 (Ethiopia: Gamo Gofa: Sagan-Omo region); Giner Marí, 1945b:362 (Morocco: Western Sahara: Um at Sfaia), 1945e:219 (Morocco: Western Sahara); Alfieri, 1946:138 (in revision of Egyptian *Ammophila*); Giner Marí, 1947:19 (Morocco: Western Sahara); de Beaumont, 1950f:396 (Algeria), 1951e:266 (Morocco; taxonomic problems); Berland, 1952b:276 (boundary of Ivory Coast, Guinea, and Liberia: Mount Nimba); Ceballos, 1956:360 (in catalog of Hymenoptera of Spain); de Beaumont, 1956a:180 (Chad: Tibesti), 1965b:772 (Chad: Ennedi). – As *Sphex propinqua*: Arnold, 1928b:277 (new generic assignment, original description translated into English), 1930:17 (in checklist of Afrotropical Sphecidae); Scott *in* Arnold, 1933a:370 (described from Ethiopia).

Ammophila syriaca Mocsáry, 1883:30, ♀ (as *Syriaca*, incorrect original capitalization). Holotype: ♀, Syria: no specific locality (TMB). Synonymized with *Ammophila propinqua* by Kohl, 1906:363. – Ed. André, 1886:75 (in revision of Sphecidae of Europe and Algeria), 1888:3* (bibliographic references); Dalla Torre, 1897:410 (in catalog of world Hymenoptera).

Ammophila erythrospila Cameron, 1905h:303, ♂. Holotype or syntypes: ♂, South Africa: Eastern Cape Province: Table Farm (AMG). Synonymized with *Sphex bonaespei ferrugineipes* by Arnold, 1920:51. – Jacot-Guillarmod, 1961:13 (syntype in Albany Museum, Grahamstown).

Ammophila dunbrodyensis Cameron, 1905i:322, ♂. Holotype or syntypes: ♂, South Africa: Eastern Cape Province: Dunbrody (BMNH). Synonymized with *Sphex bonaespei ferrugineipes* by R. Turner, 1919c:396.

Ammophila meruensis Cameron, 1908a:265, ♂. Syntypes: ♂, Tanzania: Mount Kilimanjaro: Kibonoto, and Mount Meru lowlands: Ngare na nyuki (NRS). Synonymized with *Sphex ferrugineipes* by Arnold, 1928b:279.

Ammophila rufipes var. *obscura* Bischoff, 1912:220, ♂ (actually ♀: Dollfuss, 2015a:364). Lectotype: ♀, Zaire: Mawambi on Ituri River (ZMHU), designated by Dollfuss, 2015a:364. Synonymized with *Ammophila rubripes* by Dollfuss, 2015a:364 – As *Ammophila obscura*: Menke *in* Bohart and Menke, 1976:152 (new status, in checklist of world Sphecidae).

Ammophila dantoni Roth *in* Nadig, 1933:101, ♀, ♂ (as *Dantoni*, incorrect original capitalization, ♂ = *Ammophila erminea*). Holotype: sex not stated, Morocco: no specific locality (originally A. Nadig collection, now Zurich). Female synonymized with *Ammophila rubripes* by Dollfuss, 2013a:480, male synonymized with *Ammophila erminea* by Dollfuss, 2013a:428. – de Beaumont, 1951:265 (Morocco, as *dantani*); Leclercq, 1955h:84 (bibliographic references); R. Bohart and Menke, 1976:151 (in checklist of world Sphecidae, as *dantani*).

201. *ruficosta* Spinola

Ammophila ruficosta Spinola, 1851a:394, ♀. Holotype or syntypes: ♀, Chile: central provinces: no specific locality (Torino). – F. Smith, 1856:220 (in catalog of Hymenoptera in British Museum); E. Reed, 1894:623 (as synonym of *Ammophila rufipes*); Dalla Torre, 1897:407 (in catalog of world Hymenoptera); R. Bohart and Menke, 1976:153 (in checklist of world Sphecidae); Casolari and Casolari Moreno, 1980:100 (specimens in M. Spinola collection, Torino); Sielfeld, 1980b:72 (in checklist of Chilean Sphecidae); Amarante, 2002:67 (in catalog of Neotropical Sphecidae); Menke, 2004:771 (redescription, Argentina, Bolivia); Pagliano, 2008:513 (holotype in M. Spinola collection, Torino).

202. *rufipes* Guérin-Méneville

Ammophilus rufipes Guérin-Méneville, 1831:pl. 9, fig. 1, ♀. Holotype: ♀, Peru: Lima (MSNG). – As *Ammophila rufipes*: Guérin-Méneville, 1838:262 (new generic assignment, description); Spinola, 1851a:393 (in revision of Chilean Hymenoptera); F. Smith, 1856:220 (in catalog of Hymenoptera in British Museum); E. Reed, 1894:622 (Chile, analysis of original description); Dalla Torre, 1897:407 (in catalog of

world Hymenoptera); Brèthes, 1918a:124 (Peru: Lima); Janvier, 1928:173 (nesting habits); Guiglia, 1948b:179 (type in Genova Mus.); R. Bohart and Menke, 1976:153 (in checklist of world Sphecidae); Casolari and Casolari Moreno, 1980:100 (specimen in M. Spinola collection, Torino); Piek and Spanjer, 1986:179 (in list of Sphecidae with known prey); Steiner, 1986:99 (references to papers on nesting habits); Amarante, 2002:67 (in catalog of Neotropical Sphecidae); Menke, 2004:769 (redescription); Pagliano, 2008:513 (specimens in M. Spinola collection, Torino); Rasmussen and Asenjo, 2009:15 (in checklist of Crabronidae of Peru); Chiappa, 2012:8 (Chile: Región de Valparaíso: no specific locality); Dollfuss, 2015b:433 (Ecuador: Loja: west of Catemayo at 03°58'S 79°31'W); Danilov, 2020:317 (specimen from Chile in Institute of Systematics and Ecology of Animals, Novosibirsk, Russia); Menke, 2020:158 (in Appendix to revision of North and Central American *Ammophila*: color variation). – **As *Sphex rufipes***: Zapata, 1974:37 (new generic assignment, Chile: Lampa near Santiago).

Ammophila rufipes Guérin Méneville, 1838:262. Objectif synonym of *Ammophila rufipes* Guérin Méneville, 1831.

Ammophila variolosa Giner Marí, 1944:351, ♀, ♂. Lectotype: ♂, Peru: Lima (Mus. Barcelona), designated by Menke, 1964b:151. Synonymized with *Ammophila rufipes* by Menke, 1964b:151 (tentatively) and 2004:769 (definitely). – Amarante, 2005a:14 (correction to his 2002 catalog).

203. *sabulosa* (Linnaeus)

Sphex sabulosus Linnaeus, 1758:569, sex not stated (as *sabulosa*, incorrect original termination). Lectotype: ♂, Europe: no specific locality (Zool. Society London), designated by Day, 1979:72. – Müller, 1764:72 (Denmark: Zealand: Fridrichsdal near Copenhagen); Forster, 1770:14 (in catalog of British insects), 1771b:31 (in catalog of North American animals); Linnaeus, 1771:12 (Sweden: Södermanland: Ryby at 59°28'N 15°46'E); Fabricius, 1775:346 (redescription); Fueßlin, 1775:50 (Switzerland); O. Müller, 1776:160 (redescription; Denmark and Norway); Fabricius, 1781:442 (redescription); Schrank, 1781:379 (in revision of insects of Austria); Retzius, 1783:65 (redescription); Fabricius, 1787:273 (redescription); de Villers, 1789:219 (redescription); Gmelin, 1790:2723 (redescription); Rossi, 1790:60 (Italy: in revision of insects of Etruria, now Italy: Toscana); Christ, 1791:311 (redescription); Fabricius, 1793:198 (redescription), 1796:156 (in Index to his Entomologia Systematica, 1793); Panzer, 1799, Heft 65:12 (in revision of German insects, illustration of habitus); Dwigubsky, 1802:167 (Russia: Moskva area); Roth von Schreckenstein, 1802:30 (Germany: Baden-Württemberg); Schrank, 1802:319 (Germany: in revision of insects of Bayern = Bavaria); Latreille, [1805]:292 (redescription); Panzer, 1806:124 (in critical review of his earlier work); Spinola, 1806:71 (Italy: Liguria); Illiger, 1807b:90 (synonymy, redescription); Jurine, 1807:128 (listed); Billberg, 1820:105 (specimens in Museum Billberg); Audouin, 1822a:280 (in Dictionnaire classique d'histoire naturelle); Dahlbom, 1831:41 (redescription); Zetterstedt, 1838:435 (in revision of insects of Lapland); Dahlbom, 1845:XX (specimens in collection Fabricius are *Ammophila sabulosa*); Gistel, 1848:142 (Germany, redescription); Duméril, 1860:950 (exemple of *Sphex*, brief description); Belke, 1866:512 (Ukraine: Kamieniec Podolski); Rogenhofer and Dalla Torre, 1892:599 (*Sphex sabulosa* of Scopoli, 1763 = *Ammophila sabulosa*); Okamoto, 1924:203 (Korea: Island of Quelpart, now Island of Cheju); R. Perkins, 1924:221 (Great Britain: Devon), 1925:149 (Great Britain: Somersetshire); Stelfox, 1927:289 (records from Ireland are erroneous); Spooner, 1933:203 (Great Britain: Bedfordshire: Sandy), 1934b:278 (Great Britain: Devon: Braunton Burrows); Stelfox, 1936b:203 (Ireland: West Mayo); Stiles, 1936:215 (proposed selection as type species of *Ammophila*); Hallett, 1938:71 (Great Britain: Herefordshire: Mathon); Stelfox, 1939b:203 (prey confirmed: caterpillar of *Nyssia zonaria* Schiffermüller, Geometridae); Valkeila, 1962b:67 (southwestern Finland); Valkeila, Brander, and Käpylä, 1963:41 (Finland: historical region Lounais-Hämeen = southwest Häme); Käpylä, 1974:64 (Finland: diurnal activity); Day and Fitton, 1978:193 (recuration of Linnean type material). – **As *Podalonia sabulosa***: Bischoff, 1931:8 (new generic assignment, Spain). – **As *Psammophila sabulosa***: Zimmermann, 1935:282 (new generic assignment, Germany: Island of Sylt: Kampen). – **As *Ammophila sabulosa***: Vander Linden, 1827:355 (new generic assignment, synonymy, distribution); Lepelletier de Saint Fargeau and Audinet-Serville, 1828:452 (redescription); Brullé, 1933:92 (Canary Islands); Shuckard, 1837a:75 (in revision of British Aculeata); von Siebold, 1839:47 (Germany: Danzig, now Poland: Gdańsk); Herrich-Schaeffer, 1840:297 (Germany: Bayern: Regensburg area); Dufour, 1841a:513 and 1841b:245 (digestive tract), 1841a:515 and 1841b:251 (male reproductive system), 1841a:517 and 1841b:253 (female reproductive system); Dahlbom, 1942a:8 (in review of Scandinavian aculeates), 1843:9 (in revision of Sphecidae and Pompilidae), 1845:430 (in key to *Ammophila*); Lepelletier de Saint Fargeau, 1845:376 (in revision of world Hymenoptera); Eversmann, 1849:364 (Russia: common everywhere); Kiesenwetter, 1849:87 (Germany: Kingdom of Saxony); F. Smith, 1849b:2550 (preying on caterpillars, not spiders); Wissmann, 1849:10 (Germany: Kingdom of Hannover: common); Tischbein, 1850:7 (Germany: Rheinland-Pfalz: Herrstein in Fürstenthum Birkenfeld); F. Smith, 1851c:16 (Great Britain: in sandy situations); Wesmael, 1852:82 (Belgium); F. Smith, 1853:62 (in checklist of British Hymenoptera); Kirchner, 1854:310 (Czechoslovakia: Kaplitz in Budweiser District, now České Budějovice); F. Smith, 1856:207 (in catalog of Hymenoptera in British Museum); Kawall, 1857:23 (Kurland, now Latvia); Ruthe and Stein, 1857:312 (Germany: Berlin area); Schenck, 1857:202 (Germany: in revision of fossorial wasps of Nassau Region); A. Costa, 1858a:19 (Italy: Campania: Monti Partenii in Benevento Region), 1858b:18 (Italy: in revision of Sphecidae of Kingdom of Naples); F. Smith, 1858c:81 (in review of British Aculeata, redescription); Taschenberg, 1858:61 (in key to Sphecidae of Germany); Assmuss, 1859:606 (Russia: Moscow Governorate); Belke, 1859:71 (Ukraine: Kamieniec Podolski); Funk, 1859:59 (Germany: Bayern: Bamberg); Schenck, 1860:149 (Germany: Nassau Region); A. Costa, 1861:35 (variation in shape of third submarginal cell); Sichel, 1861:751 (Italy: Sicilia); Brischke, 1862:98 (Germany: Preussen Province, now Poland: Pomorze Region); A. Costa, 1863:65 (Italy: Calabria Ulteriore: no specific locality); Siła-Nowicki, 1864:55 (Ukraine: L'viv), 1865:55 (western Ukraine: Galicia region: no specific locality); F. Smith, 1865b:86 (Great Britain: Dorset: Bournemouth); Belke, 1866:512 (Ukraine: Kamieniec Podolski); A. Costa, 1866:24 (specimen from France in Museo Zoologico di Napoli); Taschenberg, 1866:208 (in revision of Hymenoptera of Germany); A. Costa, 1867b:77 and 1867c:21 (in revision of Italian Sphecidae); Jaennicke, 1867:147 (Germany: Hessen: Frankfurt area); Kawall, 1867:121 (prey, ants attacking nesting female); Kirchner, 1867:217 (in catalog of European Hymenoptera); Schenck, 1867a:356 (Germany: Nassau Region); Dietrich, 1868:364 (Switzerland: Zurich Canton); Jaennicke, 1868:9 (Germany: Hessen: Frankfurt and Offenbach area); Wierzejski, 1868:117 (Poland: Kraków area, and Ukraine: L'viv area, Podole region: common everywhere); Palma, 1869:37 (Italy: Sicilia settentrionale); F. Smith, 1869d:77 (Great Britain: Norfolk: Cromer); Taschenberg, 1869:433 (Germany); Aichinger, 1870:321 (Austria: Tirol); Thomson, 1870:230 (in revision of Swedish wasps); Radoszkowski, 1871:195 (Himalayas: no specific locality); F. Smith, 1871b:9 (in catalog of British Aculeata); P. Ivanov, 1872:152 (Ukraine: Kharkov Oblast': Kupyansk area); Schlechtendal, 1872:37 (Germany: Sachsen: Zwickau); Beletskiy, 1873:81 (Ukraine: vicinity of Khar'kov); Dours, 1874:141 (in catalog of Hymenoptera of France); Mocsáry, 1874:120 (Siebenbürgen, now Romania: Transylvania: no specific locality); Thomson, 1874:175 (in revision of Hymenoptera of Scandinavia); Wierzejski, 1874:258 (Poland: Kraków; Ukraine: Lviv, Podole Region: common everywhere); Marquet, 1875:208 (France: Languedoc); Beuthin, 1876:231 (Germany: Hamburg area); Schmiedeknecht, 1876:186 (Germany: Thüringen: Rothensteiner Felsen); Girard, 1878:242 (France: Calvados: Lion-sur-Mer, coastal sand dunes); Fabre, 1879:207 (nesting habits); Girard, 1879:968, 969 (morphology and habits); Kohl, 1880:183 (Austria: Tirol, and Italy: Trentino–Alto Adige), 236 (variation in wing venation); E. Saunders, 1880:247 (in revision of British Aculeata); Siebke, 1880:60 (Norway); Magretti, 1881:112 (Italy: Lombardia), 270 (in list of species discussed in this paper); Marquet, 1881:177 (southern France); Yaroshevskiy, 1881:127 (Ukraine: Khar'kiv Oblast': Khar'kiv, Kupyansk, Slavyansk); A. Costa, 1883:57 (Italy: Sardegna); Friese, 1883:203 (Germany: Sachsen-Anhalt: Kösen, Weissenfels); Kohl, 1883e:675 (Switzerland); Sickmann, 1883:86 (Germany: Niedersachsen: Wellingholthausen, prey: caterpillars of *Noctua chrysitis* L., Noctuidae, *Anarta myrtilli* L., Noctuidae); Harwood, 1884:211 (England: Essex: Colchester area); Kohl, 1884a:381 (comparison with *Ammophila fallax*); von Heyden, 1884:116 (Germany: Frankfurt am Main); Ed. André, 1886:59 (in revision of Sphecidae of Europe and Algeria); Wüstnei, 1886:43 (Germany: Schleswig-Holstein); Gasperini, 1887:18 (Dalmatia: Lissa and Brusije, now Croatia: Island of Vis and Brusje on Island of Hvar); Radoszkowski, 1887b:91 (in list of Transcaspien Hymenoptera); Ed. André, 1888:1* (bibliographic references); Brischke, 1888a:54 (Germany: Hela Peninsula, now Poland: Hel Peninsula); Brischke, 1888b:94 (Germany: Preussen Province, now Poland: Pomorze Region); Kohl, 1888b:729 (Austria: Tirol, now Italy: Alto Adige); Brischke, 1889:204 (Germany: Steegen east of Danzig, now Poland: Stegna east of Gdańsk); Assmuss, 1892:52 (Russia: earlier record from Moscow Governorate repeated); Radoszkowski, 1892:579 (male genitalia); de Saussure, 1892:436 (Island of Réunion, record improbable for geographic reasons); Alfken, 1893:121 (Germany: Friesian Islands: Island of Juist); Kohl, 1893a:35 (Austria: Niederösterreich); F. Morawitz, 1893a:108 (Russia: Karelian Isthmus), 1893b:408 (Tajikistan); Sickmann, 1893:95 (Germany: Niedersachsen: Iburg); Westerlund, 1893:23 (Russia: Karelian Republic: northern shore of Lake Ladoga); Baldini, 1894:47 (Italy: Modena area); Krieger, 1894:13 (Germany: Kingdom of Saxony); Schletterer, 1894:30 (Istria Peninsula, now part of Croatia, Slovenia, and Italy); Sickmann, 1894:216 (China: Hopei Province: Tientsin); De Stefani Perez, 1895:226 (in catalog of Sicilian Hymenoptera); Laboulbène, 1895:180 (preying on spiders according to Shuckard); nec Sickmann, 1895:216 (= *Ammophila sabulosa nipponica*); Chrétien, 1896:411 (preying on caterpillars of *Mamestra brassicae* L. and *Plusia gamma* L., Noctuidae); Meunier, 1896:273 (Belgium: Bruxelles area); E. Saunders, 1896:87 (in revision of British Aculeata); Acloque, 1897:96 (in Sphecid Fauna of France and Algeria); Bories, 1897:98 (nesting habits); Dalla Torre, 1897:409 (in catalog of world Hymenoptera); Lüderwaldt, 1897b:30 (Germany: Gollnow, now Poland: Pomorze Region: Goleniów); Martineau, 1897b:275 (Great Britain: Wyre Forest); Meunier, 1897a:350 (Bulgaria: Sofia area), 1897b:352 (Belgium: coastal sand dunes at Blankenberge); Mocsáry, 1897:79 (Kingdom of Hungary: common everywhere); Flamary, 1898:38 (France: Saône-et-Loire: Mâcon area); Lange, 1898:70 (Germany: Sachsen: Annaberg-Buchholz); Medina, 1898:153 (Portugal: Mamede); O. Schneider, 1898:103 (Germany: Island of Borkum); Sorhagen, 1898:346 (nesting behavior); Strand, 1898b:92 (Norway: Lærdal); Adlerz, 1901:163 (nesting habits); Gardner, 1901:376 (Great Britain: along the coast from Houllake in Cheshire to Southport in

Lancashire, also Cheshire: Delamere); Hocking, 1901:68 (Great Britain: Surrey county); N. Arnold, 1902:90 (Russia: Mohilev Province, now Belorussia); Barnes, 1902:266 (Great Britain: Berkshire: Wellington College in Crowthorne); Chyzer, 1902:33 (Hungary); Friese, 1902:477 (occurring in Lapland according to Zetterstedt, 1838); Nevinson, 1902:12 (Great Britain: Cornwall: Newquay); E. Saunders, 1902b:143 (Great Britain: islands of Jersey, Guernsey, and Alderney; France: Bretagne: Saint Briac); de Cobelli, 1903:103 (Italy: Province of Trentino); Gadeau de Kerville, 1903:306 (France: Eure and Manche Departments); Höppner, 1903:37 (prey and nesting behavior); E. Saunders, 1903a:16 (Great Britain: Woking); Strand, 1903:7 (Norway); Adlerz, 1904:99 (nesting habits); Antiga and Bofill, 1904:4 (Spain: Cataluña Province); Aurivillius, 1904:254 (in revision of Swedish Sphecidae); E. Saunders, 1904c:635 (Spain); W. Schulz, 1904b:93 (miscellaneous faunal records); Zilahi Kiss, 1904:77 (Hungary: Hadad, Nagyfalú); Ferton, 1905:97 (homing); Kubes, 1905:83 (Czech Republic: Kolín, Obora, Sušice); Mosolov, 1905b:19 (Russia: Moscow Governorate: Mikhailovskoye); W. Schulz, 1905b:33 (Algeria); Thijsse, 1905:91 (Netherlands, nesting habits); von Heyden, 1905:81 (Germany: Hessen: Frankfurt); Váγγελ, 1905:167 (Hungary); Kohl, 1906b:335 (in revision of Palearctic Ammophilini); Scholz, 1906:202 (fighting between males); W. Schulz, 1906:43 (Greece: Crete); Strand, 1906:101 (Norway: Aal); V. Clerc and M. Clerc, 1907:79 (Russia: Ekaterinburg district); Móczár and Henter, 1907:205 (Hungary: Hatvan, Visegrád; Romania: Caraș-Severin: Mehadia); E. Saunders, 1907c:Plate A Fig. 7 (color image of female); Schmiedeknecht, 1907:246 (in key to Hymenoptera of Central Europe); de Gaulle, 1908:103 (in catalog of French Hymenoptera); Maigre, 1909:1 (nesting behavior, role of stinging); Morley, 1909:304 (Great Britain: Isle of Wight); Scholz, 1909a:23 (habitat and nesting behavior), 182 (nest parasites, use of head in nest closure); Cavro, 1910:685 (France: Département du Nord: mont Cassel); Dittrich, 1911b:25 (Germany: Niederschlesien Province, now Poland: Dolny Śląsk Region); Graeffe, 1911:48 (Italy: Trieste area); Zavattari, 1911:3 (Italy: Piemonte: Valle del Maira); Birula, 1912:532 (citation of Belke, 1866), 545 (Ukraine: Zhytomyr Oblast': Radomyshl'); Geyer, 1912:378 (structure of compound eyes); Schirmer, 1912:168 (Germany: Berlin area); Kohl, 1913b:15 (Russia: Voronezh Oblast': Valuyki at 50°14'N 38°08'E); Latter, 1913:20 (nesting habits); Torka, 1913:35 (Germany: Provinz Posen, now Poland: Poznań Region); Alfken, 1914:283 (northwestern Germany); Birula, 1914:388 (Belorussia: Ambrosovich and Luskopol' near Vitebsk); Hallett, 1914:56 (Great Britain: Cardiff County); Szilády, 1914:89 (Hungary: eight localities); Zavattari, 1915:2 (Italy: Abruzzi: Vallata del Sangro); Drenowski, 1936:247 (Bulgaria); Yasumatsu, 1942c:114 (China: Nei Mongol: Apaka at 44°N 114.96°E); Strand, 1918:3 (Germany: Bayern: Kulmbach); Descy, 1919a:86 (experiments with prey removal and substitution), 1919b:123 (nesting habits), 1919c:136 (hunting prey), 1919d:147 (speculations on instinct and intelligence); Dubois, 1919:96 (Belgium: Bruxelles: Uccle); Kerenskiy, 1919:35 (Russia: Penza Governorate); O. Meyer, 1919:156 (Germany: Posen Province, now Poland: Poznań Region); Noskiewicz, 1920b:155 (Poland, now Ukraine: forest district Kopanki near Kafusz); Strand, 1920:23 (Germany: Berlin-Dahlem); A. Wagner, 1920:35 (Germany: Lower Elbe region); Balles, 1921a:136 (nesting habits); Berland, 1921:533 (Greece); Fahringer and Friese, 1921:160 (Turkey: Erzurum: Chanziri in Amanus Mountains = Gavur Dağları); E. Nielsen, 1921:323 (review of prey paralyzing); Descy, 1922:95 (only visual clues play role in nest finding, as *salrelosa*); Dubois, 1922:213 (in key to Belgian Sphecidae); Fahringer, 1922:176 (Turkey); Gennerich, 1922:40 (cleaning apparatus); Hedicke, 1922:272 (Germany: Brandenburg: Gross Machnower Weinberg); Jansson, 1922:23 (Sweden: Island of Öland); Maidl, 1922:67 (Albania, Montenegro); Strand, 1922:197 (Germany: Bayern: Kulmbach), 198 (Austria: Niederösterreich: Guntramsdorf); Ferton, 1923:394 (easily finds nest when carrying prey); Alfken, 1924:231 (northern Germany); Lundblad, 1924:21 (Sweden: Lapland: Lycksele); Berland, 1925d:28 (in Sphecid Fauna of France); Bischoff, 1925:301 (Latvia: Borkowitz, Grobin, Wezkukkul; Poland: Białowieża and Grajewo area); Coulon, 1925:115 (France); Grandi, 1925a:90 (Italy: Emilia: Gaggio Montano); Picard, 1925b:162 (review of observations on stinging sequence), 163 (nest construction precedes hunting, prey: noctuid caterpillars); Schütze, 1925:114 (Germany: Lausitz Region); Shestakov, 1925:37 (Russia: Yaroslavl' area); K. Strohm, 1925:212 (Germany: Baden-Württemberg: common); Bouwman, 1926:280 (in list of Sphecidae of Netherlands); Friese, 1926:167 (in key to Sphecidae of Central Europe, short morphological and biological characteristics); Grandi, 1926:281 (Italy: Toscana: Monte Stanco); Hémon, 1926:199 (France: Finistère: Fouesnant); Maneval, 1926:82 (prey carrying); K. Strohm, 1926:74 (reference to Rehmann, 1830, and Leininger, 1922); Bouwman, 1927:112 (in revision of Sphecidae of Netherlands); Kuznetsov-Ugamskij, 1927:249 (Kazakhstan: Kizil valley in western Tian-Shan on upper Ugam River); F. Werner, 1927:66 (Austria: Niederösterreich: River Kamp valley); Benoist, 1928:408 (France: Alpes-Maritimes, Basses-Alpes); Berland, 1928b:175 (add Picard, 1925 to bibliography in Berland, 1925d); Grandi, 1928d:263 (wings worn in older specimens); Jones, 1928b:14 (Great Britain: Hampshire: Milford-on-Sea); Roth, 1928:193 (in revision of North African Ammophilini); van der Vecht, 1928:93 (Netherlands: Meijendel sand dunes); Crèvecoeur, 1929:366 (evacuation of material during nest excavation); Gaunitz, 1929:199 (Sweden: Lapland); Grandi, 1929:287 (Italy: Toscana: valle della Limentra); Maneval, 1929a:26 (parasite: *Hilarella stictica* Meigen, a tachinid); Micheli, 1929:37 (nesting habits); Roth, 1929:184 (in revision of Spanish Ammophilini); G. Carpenter, 1930b:292 (nest closure); Grandi, 1930:340 (Italy: Toscana: Maremma); Schmiedeknecht, 1930:706 (in keys to Hymenoptera of North and Central Europe); Dusmet y Alonso, 1931:7 (Portugal: Bussaco); Grandi, 1931:56 (Italy: Toscana: Vallata delle Pozze near Le Mandriole); Minkiewicz, 1931b:197 (nesting behavior); Pulkkinen, 1931:51 (in revision of Sphecidae of Finland); Spooner, 1931:14 (Great Britain: Cambridgeshire); Thomas, 1931:263 (stinging of prey); Bondroit, 1932:33 (Belgium: Campine); Giordani Soika, 1932a:20 (Italy: Lido di Venezia); Maneval, 1932:86 (succession of stimuli during nesting); Motaș, 1932:9 (nesting habits, from literature); Drogoszewski, 1933:118 (Poland: Łowicz, Włocławek); Dulac, 1933b:39 (France: Saône-et-Loire: Montsarin and Saint-Leu near Le Creusot); Merisuo, 1933a:59 (Finland: city of Turku); Minkiewicz, 1933:110 (nesting behavior); E. Nielsen, 1933:307 (summary of nesting habits); Balles, 1934:21 (Germany: Baden-Württemberg: Achern, Mannheim-Rheinau, Oberachern); Bernard, 1934b:249 (prey: a geometrid caterpillar, probably *Crocallis elinguaris* L.); Grandi, 1934:130 (Italy: Toscana: San Vincenzo, and Trentino-Alto Adige: Vallesinella); Jansson, 1934:290 (Sweden); Minkiewicz, 1934:222 (nesting behavior); Nadig, 1934:33 (France: Corse: Monte d'Oro, Vizavona); Bernard, 1935:60 (France: Var: Fréjus area); Forsius *in* Forsius and Hellén, 1935:12 (in checklist of Hymenoptera of Finland); Grandi, 1935a:111 (Italy); Gussakovskij, 1935:414 (Tajikistan: Ravat-Say); Marchand and Dulac, 1935:61 (France: Saône-et-Loire: Saint Laurent d'Andenay); Minkiewicz, 1935:194 (Poland: Kazimierz on Wisła at 51°20'N 21°58'E), 211, 213 (Poland: Piaski-Gardzienice at 51°05'N 22°50'E), 216 (Poland: Lake Garbaś 20 km west of Suwałki); Vergne, 1935:117 (France: Auvergne: common everywhere); Zimmermann, 1935:282 (Germany: Island of Sylt: Rantum); Crèvecoeur and Maréchal, 1936:249 (in catalog of Belgian Hymenoptera); Minkiewicz, 1936:11 (male is inspecteur à la ronde type); Pattri, 1936:113 (Germany: Hessen: Darmstadt area, on sandy habitats); Roller, 1936:315 (Austria: loess cliffs at Bisamberg near Vienna); Dulac, 1937:7 (France: Saône-et-Loire: Le Creusot, Saint-Laurent d'Andenay); Goebel, 1937:47 (Poland: Poznań District: ten localities); Molitor, 1937:35 (records of Minkiewicz observations of nest closure an list of prey); Richards, 1937b:104 (in checklist of British aculeates); Zavadil, Šustera, and Ba'ta, 1937:213 (in catalog of Sphecidae of Czechoslovakia); Guichard, 1938:72 (Great Britain: Norfolk coast); Guiglia, 1938b:9 (Italy: Sardegna); Móczár, 1938c:81 (Hungary: Kőszeg Hills); A. Wagner, 1938a:123 (northwestern Germany); Guichard, 1939a:42 (Great Britain: southern Cornwall: Polperro), 1939b:77 (Great Britain: Surrey: Limsfield Common); Móczár, 1939:5 (Hungary: Jászberény); Yarrow, 1939:15 (Great Britain: Dorset: Lytchett Minster); Dovnar-Zapolskiy, 1940:304 (Russia: Kursk Oblast'); Priemel, 1940:528 (nesting habits); Balthasar, 1941b:112 (Czech Republic: eastern Moravia); de Graham, 1941:99 (Great Britain: Lincolnshire); Guiglia, 1941c:165 (Italy: Calabria: Grande Sila); Leclercq, 1941b:7 (Belgium: Liège area); Paul, 1941:48 (Germany: Pommern: common in Central- and Ostpommern, now Poland: Pomorze Region); Schneid, 1941:1050 (Germany: Bayern: Bamberg area); Alfken, 1942:231 (Germany: Niedersachsen: Lüneburger Heide); Audcent, 1942:25 (nest parasite: *Metopia leucocephala* Rossi, Sarcophagidae); J. Perkins, 1942:197 (Sweden: Skåne: Löderup); Boyd, 1943:163 (Great Britain: eastern Dorset); Giner Marí, 1943a:71 (in Sphecid Fauna of Spain); Guiglia, 1943a:46 (corrections to a book by G. Malagóla on apiculture); Spooner, 1943:71 (Great Britain); Guiglia, 1944b:4 (Italy); Šnoflák, 1944a:144 (Czech Republic: serpentine steppe near Mohelno); T. Fletcher, 1945:53 (Great Britain: Gloucestershire: Bailey Lane End); R. Perkins, 1945:147 (Great Britain: Devon: moorland near Lydford); Carl and de Beaumont, 1947:67 (Switzerland: Graubünden = Grisons Canton: Swiss National Park); Móczár, 1947a:60 (Hungary: Bars comitatus: Körmöcbánya, now Slovakia: historical region Tekov: Kremnica), 1947b:90 (Hungary: Siebenbürgen: Székelykeresztúr, now Romania: Transylvania: Cristuru Secuiese); van Lith, 1947:107 (Netherlands); Wilcke, 1947:118 (in key to Dutch *Ammophila*); Balthasar, 1948:144 (Slovakia: Kovačov, Parkan); de Hennin and Anciaux, 1948:74 (Belgium: between Sambre and Meuse rivers); Šnoflák *in* Zavadil and Šnoflák, 1948:99 (in key to Sphecidae of Czechoslovakia); de Andrade, 1949:6 (Portugal); Chambers, 1949:224 (Great Britain: Bedfordshire); Franz, 1949:13 (Austria: Hohe Tauern); Cavro, 1950:31 (France: Département du Nord); Georgel, 1950:63 (France: Seine-et-Oise: Sucy-en-Brie); Richards, 1950:79 (Great Britain: Wales: Pembrokeshire: Cwm-yr-Eglwys); Scobiola, 1950:21 (Romania); Szulczewski, 1950:108 (Poland: Wielkopolski National Park 15 km south of Poznań); Caruel, 1952a:62 (France: Marne Department); Thomas, 1952:118 (cephalic malaxation of prey); Cleu, 1953:50 (France: Ardèche River basin); Głowacki, 1953:521 (Poland: Podkowa Leśna, Brwinów, Ożarów, Konstancin, Warszawa); Móczár, 1953:309 (Hungary); Nouvel and Ribaut, 1953:176 (France: Haute-Garonne: Saint-Béat, Luchon, Hautes-Pyrénées: Cauterets, Orédon); Bischoff and Stadler, 1954:126 (Germany: Bayern: Romberg); de Beaumont, 1954e:86 (Italy); Fahlander, 1954:253 (Sweden: Gästrikland Region); Grandi, 1954:156 (nesting habits), 235 (Italy); Hertzog, 1954:99 (France: Bouches-du-Rhône: Camargue); Macko and Noskiewicz, 1954:180 (Poland: Dolny Śląsk: Stolec at 50°35'N 16°53'E); Tjeder, 1954:68 (Sweden: eastern Skåne: Klammersbäck, Löderup, Vitemölla); Aerts, 1955:64 (Germany: Rheinland; nesting habits); de Beaumont, 1955c:55 (effects of stylopization); Harant and Leclercq, 1955:251 (France: Hérault: Avèze, Celleneuve); Leclercq, 1955h:75 (bibliographic references, locality records from Africa); Steiner, 1955:132 (France: Dordogne); Teschner, 1955:57 (Germany: Nordrhein-Westfalen: Hohe Ward near Münster); Vogrin, 1955:31 (Yugoslavia); Bytinski-Salz, 1956:224 (Turkey: Altıkütahya, Uludagh); Ceballos, 1956:360 (in catalog of Hymenoptera of Spain); Hertzog, 1956:143 (nest closure); Morel, Nouvel, and Ribaut, 1956:336 (France: Dépar-

tement des Pyrénées-Orientales); F. Schremmer, 1956:79 (photograph of sleeping individual); Bajári, 1957a:14 (in key to Hungarian Sphecidae); de Beaumont, 1957b:129 (northern Iran); Fahlander, 1957:63 (Sweden); Grandi, 1957:341 (prey: caterpillar of *Notodonta* sp., Notodontidae), 386 (Italy); Yeo, 1957:19 (England: Middlesex, now in London); Zirngiebl, 1957:185 (Germany: Rheinland-Pfalz: Pfalz region); Benno, 1958b:10 (in review of Dutch Sphecidae); de Beaumont, 1958a:290 (illustration of genitalia), 1958c:201 (Swiss National Park); Lundblad, 1958:48 (Sweden: Gotland); Nouvel and Ribaut, 1958:8 (France: Pyrénées-Orientales: Banyuls-sur-Mer area); Puławski, 1958a:163 (Bulgaria: Vitosha Mountain near Sofia); van der Zanden, 1958b:90 (France: Andorra); de Beaumont, 1959a:6 (Italy); Diniz, 1959:27 (Portugal: 14 localities); Grandi, 1959b:287 (Italy: Trento: Brusasgo); Olberg, 1959:27 (photographs of specimens visiting flowers of *Cirsium arvense* (L.) Scop., Asteraceae, and *Thymus serpyllum* L., Lamiaceae), 28 (photographs of specimens visiting flowers of *Jasione montana* L., Campanulaceae, and *Trifolium repens* L., Fabaceae), 42 (photographs of specimens cleaning hindlegs), 56 (photograph of female infested by *Eupathocera sphecidarum* (Dufour), a strepsipteran), 86-89 (photographs of mating), 280-286 and 291, 293, 297 (photographs of females carrying prey), 287-289 and 294-296 (photographs of female closing nest); Suárez, 1959:52 (Spain: Almería Province); Teschner, 1959:417 (feeding), 418 (male behavior and mating), 420 (nesting sites), 427 (nest structure), 432 (nest closure), 440 (nest number and location), 443 (visiting nest without prey), 445 (prey spectrum), 447 (prey paralyzing), 454 (entering prey into nest), 459 (number of prey per nest); Wolf, 1959b:28 (Germany: Nassau); Čingovski, 1960:5 (Macedonia: several localities); Noskiewicz and Pulawski, 1960:38 (in key to Polish Sphecidae); Scobiola, 1960b:235 (Romania: Craiova Region: Braniște, Roman Region: Stanița; male genitalia illustrated); Grandi, 1961:104 (structure of gastral segment I, illustration), 139 (nesting habits); Hoop, 1961:66 (Germany: Schleswig-Holstein); Atanassov, 1962:126 (Bulgaria: Petrich area); de Beaumont, 1962b:18 (Spain); Grandi, 1962:97 (Italy); Wengris, 1962:203 (Lithuania: Vilnius area); Felton, 1963:177 (Great Britain: Kent County); Hoop, 1963a:73 (Germany: Schleswig-Holstein: Reher Kratt); Myartseva, 1963b:59 (Turkmenistan: lower Murgab River); Babiy, 1964:116 (Austria: Land Salzburg); Ceballos, 1964:87 (in supplement to catalog of Spanish Sphecidae); de Beaumont, 1964c:25 (in Sphecid Fauna of Switzerland); Plavil'shchikov, 1964:122 (Russia: Mordovian State Nature Reserve); Schädlich, 1964:257 (nesting habits); Hüsing and Jäger, 1964:192 (Germany: Sachsen-Anhalt: Nietleben near Halle); Richards, 1964:25 (heathlands in southern England); de Beaumont, 1965a:11 (Greece); Diniz, 1965:2 (Portugal: thirteen localities); Isensee, Lesemann, and Röseler, 1965:611 (Spain: Gerona: no specific locality); Myartseva, 1965:86 (Turkmenistan: Akibay, Krasnovodsk); B. Klug, 1965:136 (Germany: Baden-Württemberg: Freiburg im Breisgau area); Pulawski, 1965b:260 (structure of gastral segment I); Roberti, Frilli, and Pizzaghi, 1965:109 (Italy: Emilia-Romagna: Bobbio in Piacenza Province); Scobiola-Palade, 1965:112 (Romania); Bonelli, 1966a:15 (nesting habits), 1966c:217 (Italy: Trentino-Alto Adige: six localities); Scobiola-Palade, 1966b:391 (Romania: Tulcea District: Periprava); Benno, 1967:33 (in checklist of Sphecidae of Netherlands); Balthasar, Hrubant, and Hrubant, 1967:175 (Bulgaria: Slanchev Bryag near Nessebar); Bonelli, 1967:291 (nesting habits, cocoon construction); de Beaumont, 1967a:268 (Turkey); Gauss, 1967:550 (Germany: Baden-Württemberg); J. Heinrich, 1967:69 (Germany: Bayern: Unterfranken District); Leclercq, Simon, and Verstraeten, 1967:261 (France: Landes: Seignosse, collected in resin pot); Maidhof and Maschwitz, 1967:86 (Italy: Foreste Demaniali Casentinesi); Niedl and Deneš, 1967:86 (Czech Republic: Třeboň area); H. Schulz, 1967:59 (Germany: Brandenburg: Ruhlsdorf near Potsdam); Scobiola-Palade, 1967a:160 (Romania: Constanța District: Băneasa, Dumbrăveni, Hagieni), 1967b:36 (Romania); Tsuneki, 1967j:10, 12 (in key to Ammophilini of East Asia; as *sabulosa sabulosa*); de Beaumont, 1968a:254 (earlier records from Canary Islands, actual presence doubtful); Benedek, 1968:70 (Hungary, floral records); Kazenas, 1968b:342 (Kazakhstan: Alma Ata and Kzyl-Orda oblast's); Leclercq, 1968b:39 (Great Britain: Kent), 1968d:109 (Belgium: city of Liège); Parré, 1968:122 (Germany: Sachsen-Anhalt: Staßfurt); Scobiola-Palade, 1968b:141 (Romania: Island of Letea in delta of Danube), 1968c:382 (Romania: Andronache, Băneasa, Budești, București, Cernica, Comana, Herăstrău, Păsarea); Wolf, 1968:11 (Germany: Nordrhein-Westfalen: Siegen, inhabitant of forest edge); Benedek, 1969a:83 (Hungary; marshy meadow); Bonelli, 1969b:165 (nesting habits); Dathe, 1969:440 (Germany: Berlin Zoological Garden); Lefeber, 1969c:232 (Netherlands: Sint-Pietersberg = Montagne Saint Pierre); Radović and Krunić, 1979:unpaginated foldout (nesting in sand, foreleg structure); Retzlaff and Woydak, 1969:3 (Germany: Nordrhein-Westfalen); Romanova, 1969:133 (Russia: North Caucasus); Zangheri, 1969:1699 (Italy: in catalog of flora and fauna of Romagna Region); Oehlke, 1970:674 (Democratic Germany); Benedek, 1970:96 (Hungary: Tapolca); Hoop, 1970:61 (Germany: Schleswig-Holstein: Hochwacht, Wendtorfer sluice); Lefeber and Petit, 1970:130 (Belgium: Plombières); Tumšs, 1970:71 (Latvia); Dathe, 1971:234 (Germany: Berlin Zoological Garden; phenology); Kazenas, 1971:161 (Kazakhstan: Zailiyskiy Alatau Range; widely distributed in Kazakhstan); Oeser, 1971:33 (structure of gastropodeal articulation and of gastral segment I); Petit, 1971:21 (Luxemburg: Bourscheid, Echternach, Helmsange, Lellingen); Schmidt, 1971b:21 (Germany: Rheinland-Pfalz: Gonsenheimer Wald, Mainzer Sand); Tsuneki, 1971k:173 (Mongolia); Atanassov, 1972a:192 (Bulgaria: Stara Planina Mountains), 1972b:32, 48, 51 (Bulgaria: Stara Planina Mountains); Balthasar, 1972:427 (in Sphecid Fauna of Czechoslovakia); Guichard, 1972:245 (not found in England: London: Bushey Park); Haeseler, 1972:154, 170, 175, 200 (Germany: Schleswig-Holstein; anthropogenic habitats); Kazenas, 1972b:99 (Kazakhstan); Kofler, 1972:105 (Austria: eastern Tirol); Lomholdt, 1972:122 (Denmark: Island of Læsø); Oehlke, 1972:135 (Germany: Island of Hiddensee); Scobiola-Palade, 1972a:148 (Romania: delta of Danube: Caraorman), 1972b:251 (Romania); Simon Thomas, 1972:174 (France: départements de Gironde, Landes, Lot-et-Garonne); Tumšs, 1972:29 (one female in B. Gimmerthal collection, Zoological Museum, Riga State University, Latvia); Gericke, 1973:19 (nesting habits); Wolf, 1973:41 (Germany: Siegerländer Hüttensand); Erlandsson, 1974:56 (France, Greece, Italy, Spain, Yugoslavia); Esmaili and Rastegar, 1974:46 (Iran); Kazenas, 1974b:109 (feeding on flowers of *Tamarix* sp., Tamaricaceae, *Statice gmelini* Willd., Plumbaginaceae, *Cynanchum sibiricum* Willd., Asclepiadaceae, and *Euphorbia* spp., Euphorbiaceae, in Kazakhstan), 110 (feeding on flowers of *Melilotus albus* Desr., Fabaceae, in Kazakhstan), 111 (feeding on flowers of *Saussurea* sp., Asteraceae, *Lepidium crassifolium* W. et K., Brassicaceae, and *Berberis iliensis* M. Pop., Berberidaceae, in Kazakhstan), 112 (feeding on flowers of *Flox divaricata* L., Polemoniaceae, and *Lappula spinocarpos* Aschers., Boraginaceae, in Kazakhstan); Levi, Sysoletina, and Shernin, 1974:268 (Russia: Kirov Oblast': Aleksandrovsckoye, Borovitsa, Burmakino, Goltsy, Korshik); Simon Thomas, 1974:56 (Netherlands: Limburg: Tienray); Lomholdt, 1975b:31 (Denmark: Island of Anholt), 1975c:76 (in Sphecid Fauna of Fennoscandia and Denmark); R. Bohart and Menke, 1976:153 (in checklist of world Sphecidae); Cretin and Robert, 1976:45 (France: Doubs: Chassagne-Saint Denis); Haeseler, 1976b:72 (Germany: Friesian Islands: Island of Amrum); Leclercq, Gaspar, Lajoinie, and Thirion, 1976:178 (Belgium: Chaumont-Gistoux); Simon Thomas, 1976:3 (France: Lot-et-Garonne: Forêt de Campet); Simon Thomas and Wiering, 1976:109 (Netherlands: IJsselmeer Polders); Wolf, 1976:30 (Germany: Nordrhein-Westfalen: Victoria Mine near Littlfield); Guichard, 1977:252 (Great Britain: Surrey); Kolesnikov, 1977:317 (Russia: Bryansk Oblast'); Báez and Ortega, 1978:191 (Canary Islands); Guichard, 1978:269 (Greece); Haeseler, 1978c:193 (Germany: Friesian Islands: Island of Borkum); Haeseler, 1978b:62 (Germany: Niedersachsen: a bog near Oldenburg); Kazenas, 1978b:38 (in key to Sphecidae of Kazakhstan and Central Asia); Marion, 1978:85 (France: Nièvre Department); Petit, 1978:85 (Belgium: Kalenberg); Pulawski, 1978:182 (in key to Sphecidae of European part of USSR); Benedek, 1979:227 (Hungary: Bakony Hills); Lefeber, 1979:11 (in checklist of Sphecidae of Netherlands), 23 (Netherlands: distribution map); Schwammberger, 1978:416 (Germany: Württemberg); Leclercq, Gaspar and Verstraeten, 1979:map 1407 (Belgium); Richards, 1979:400 (British Channel Islands); Schwammberger, 1979:113 (Germany: Nordrhein-Westfalen: Gildehauser Venn Nature Reserve); Marchal and Leclercq, 1979:9 (Belgium: Gembloux); Casolari and Casolari Moreno, 1980:100 (specimens in M. Spinola collection, Torino); Dathe, 1980:208 (Russia: northern Caucasus: Teberda and Dombay); Jacob-Remacle and Leclercq, 1980:194 (Belgium: gardens in Liège); Merisuo and Perrakinen, 1980:43 (Sweden: stylopized by *Paraxenos sphecidarum* (Dufour), Strepsiptera; Island of Gotland); Mityaev, Matesova, Kulenova, Kazenas, and Zhdanko, 1980:115 (Russia: Siberia: Altayskiy Krai: basin of Aley River); Pagliano, 1980:111 (Italy: Piemonte); Richards, 1980:76 (in key to Sphecidae of British Isles); Dollfuss and Ressler, 1981:321 (Austria: Niederösterreich: Scheibbs District); Gayubo, 1981a:141 (northern Spain: Sierra de Béjar); Haeseler, 1981:50 (Germany: Friesian Island: Island of Amrum); Józán, 1981:304 (Hungary: Hortobágy National Park); Schmidt, 1981:222 (Germany: Baden-Württemberg); Skibińska, 1981:357 (Poland: Warszawa-Białoleka); Woydak, 1981:36 (Germany: Westfalen: Hamm); Axelsson, 1982:79 (Sweden); Silvestre de Sacy, 1982:4 (France: Côte-du-Nord: Paimpol area); Skibińska, 1982:122 (Poland: Warszawa area); Dollfuss, 1983b:3 (in catalog of Sphecidae of Austria); Gayubo, 1983a:126 (stylopized specimen); Gayubo, 1983c:234 (Spain: Salamanca Province: El Maïllo, Orbada); Józán, 1983:98 (Hungary); Kvamme and Axelsson, 1983:58 (Norway); Lefeber, 1983a:84 (Netherlands: Waddendistrict: northern coast sand dunes and West Friesian Islands); Riemann, 1983:81 (Germany: Bremen-Daverden area); Steinmann, 1983:164 (Switzerland: Graubünden Canton, nesting next to wood buildings); Chevin and Silvestre de Sacy, 1984:6 (France: Yvelines Department); Gayubo and Tormos, 1984:12 (Spain: Valencia); Haack, Tschamtké, and Vidal, 1984:124 (Germany: Hamburg area); Janzon and Svensson, 1984:183 (Sweden: Island of Öland); Pagliano, 1984:368 (Italy); Sagvolden, 1984:18 (Norway: Buskerud: Rollag); Schmidt and Westrich, 1984:240 (Germany: Rheinland-Pfalz: Bad Münster); Brockmann, 1985b:312 (nest closure summary); H. Chevin and S. Chevin, 1985:38 (France: Aude); Gayubo, 1985c:167 (Spain: Asturias: Tapia de Casariego; Avila: Puerto del Pico); Haeseler, 1985c:571 (Germany: Friesian Islands); Józán, 1985a:181 (Hungary), 1985b:55 (Hungary south of Lake Balaton), 76 (floral records); Lefeber, 1985:86 (Netherlands: southern Limburg); Pagliano, 1985:15 (Italy); Paik, 1985:197 (in list of Sphecidae of Korea, as *sablosa*); Plachter, 1985:60 (Germany: Bayern: lower Brombach valley); Radović, 1985:64 (sting apparatus analyzed); Brechtel, 1986:57 (Germany: Südpfalz); Scobiola-Palade, 1985:95 (Romania: delta of Danube); Gayubo, 1986b:37 (Spain: Andalucía); Gayubo and Heras, 1986: 33 (Spain: Segovia Province; floral records); Gayubo and Sanza, 1986:32 (Spain: Burgos, Soria); Gayubo and Tormos, 1986a:10 (Spain: Castellón de la Plana), 1986b:6 (Spain: Valencia); Islamov, 1986:514 (Uzbekistan: Surkhandarya and Tashkent oblast's); Józán, 1986:368 (Hungary: Kiskunság National Park); Meyer-Holzappel, 1986:100 (nest parasite: *Metopia argyrocephala* Meigen, Sarcophagidae), 103 (nest parasite: *Hilarella stictica* Meigen, Sarcophagidae); Nemkov, 1986:93 (Russia: Irkutsk Oblast'); Piek and Spanjer, 1986:179 (in list of Sphecidae with known prey); Skibińska, 1986b:150, 153 (Poland: suburbs

of Warszawa); Steiner, 1986:99 (references to papers on nesting habits); Vikberg, 1986b:75 (Finland); Asís and Jiménez, 1987:25 (Spain: Castellón Province); Lomholdt, 1987:93 (Denmark: western Jutland: Skallingen Peninsula); Schmidt and Westrich, 1987:357 (Germany: Mainz area); Scobiola-Palade, 1987:65 (Romania: Dobrogea); Holtappels, 1987:26 (Germany: Nordrhein Westfalen: Effelder Waldsee); Riemann, 1987a:339 (Germany: Niedersachsen: Bremen area), 1987b:32 (Germany: Niedersachsen: Nature Reserve Dünengebiet near Neumühlen and Voßberge); Archer, 1988b:27 (Great Britain: Yorkshire: Strensall Common); Chevin, 1988:15 (France: La Manche Department); Dollfuss, 1988:9, 21 (Austria: Bisamberg near Vienna; Niederösterreich: Oberweiden); Karsai, 1988:99 (Hungary: Kiskunság National Park); Kowalczyk, 1988:44 (Poland: Rogów area), 1988b:63 (Poland: environs of Łódź); Riemann, 1988:222 (Germany: Bremen area); Wolf, 1988b:139 (Germany: Nordrhein-Westfalen); Archer, 1989a:131, 133 (Great Britain: York: found before and after coniferization); Field, 1989a:23 (intraspecific parasitism and nesting success), 1989b:219 (alternative nesting tactics); Jacobs, 1989:5 (Germany: Mecklenburg-Vorpommern); Józán, 1989:100 (Hungary: Tihany Nature Reserve); Pádr *in* Šedivý, 1989a:166 (in checklist of Czechoslovakian Sphecidae); Pankevich, Belyavskaya, Molchanova, Shlyakhtenok, and Blinov, 1989:94 (Belorussia: Berezinskiy Nature Reserve); Scobiola-Palade, 1989:87 (Romania: delta of Danube); Skibińska, 1989a:204 (Poland: Warszawa area); Archer, 1990c:18 (Great Britain: Leicestershire); Barbier, Rasmont, and Wahis, 1990:32 (Belgium: Hainaut); Gayubo, Asís, and Tormos, 1990a:13 (Spain); Jacobs and Oehlke, 1990:135 (new records from Democratic Germany); Kowalczyk, 1990:290 (Poland: Góry Świętokrzyskie); Kuznetzova, 1990:17 (Russia: Voronezh Oblast': Galich'ya Gora Nature Reserve); Pádr, 1990:68 (Czech Republic: Praha area); Pagliano, 1990:61 (in catalog of Italian Sphecidae); Rohe, 1990:1048 (Germany: Rheinland-Pfalz: Lenneberg forest); Schwammberger and Priesner, 1990:533 (Austria: Kärnten); von der Heide and Witt, 1990:63 (Germany: Niedersachsen); Chinin, 1991:111 (Russia: Samara Oblast'); Gayubo, Borsato, and Osella, 1991:396 (Italy); Gayubo and Torres, 1991:Table I (Spain: Salamanca; effects of urban pressure); Dollfuss, 1991:33 (in key to Sphecidae of North and Central Europe); Jacobs, 1991:46 (Germany: Mecklenburg-Vorpommern: Nature Reserve Elbtaldünen); Jakubzik, 1991:74 (Germany: Köln); Józán, 1991:602 (Hungary: Bátorliget Nature Reserve); Kowalczyk, 1991a:89, 96, 99, 101, 107 (Poland: Łódź), 1991b:119 (Poland: Augustów Forest); Kuhlmann et al., 1991:87 (Germany: Senne Region); Negrisolo, 1991:316 (Italy: Duino, Treviso, and Udine Provinces); Nilsson, 1991:83 (Sweden: Lake Mälaren); Sorg and Wolf, 1991:195 (Germany: Koppelstein Reserve southeast of Koblenz); von der Heide, 1991:63 (Germany: peat bog near Oldenburg); H.-J. Schulz, 1991:29 (Germany: Oberlausitz: 5 km southwest of Wittichenau); Budrys, 1992:22 (in list of Sphecidae of Lithuania); Delarze, 1992:67 (Switzerland: Valais: Les Follatères); Field, 1992a:43 (nest provisioning and parental investment), 1992b:131 (prey utilization), 1992c:193 (behavioral differences between English and Japanese females); Gayubo, Borsato, and Osella, 1992:280 (France, Greece); Hamon, Tussac, and Fonfria, 1992:407, 410 (in key to French Ammophilini), 412 (distribution in France); Józán, 1992a:228 (Hungary: Béda-Karapancsa Protected Area), 1992b:171 (Hungary: Boronka-mel-leki Protected Area), 1992c:289 (Hungary: Zselic Hills); N. Schneider, 1992:177 (Luxembourg); K. Weber, 1992:86 (Germany: Bayern: Bamberg District); Ebrahimi, 1993:91 (Iran); Gorobchishin, 1993:46 (Ukraine: Kanev Nature Reserve); Józán, 1993:412 (Hungary: Bükk National Park); Kuhlmann, 1993:75 (Germany: known from Westfalen); Luig, 1993:40 (Estonia); Schubert and Schöntzer, 1993:264 (facial fovea not found); Sorg, 1993:407 (Germany: Rheinland-Pfalz: Nature Reserve Ahrschleife bei Altenahr); Sorg and Wolf, 1993:59 (Germany: Nordrhein-Westfalen: Nature Reserve Die Spey); Wiśniowski, 1993a:95 (Poland: Białowieża Primeval Forest); Archer, 1994b:104 (British Channel Islands); Blagoveshchenskaya, 1994:88 (Russia: Ul'yanyovsk Oblast'); Gayubo and Borsato, 1994:203 (Italy: Veneto); Junck, Schoos, and Schoos, 1994:96 (Luxemburg: Bettendorf); Kowalczyk, 1994:72 (Poland: Łagiewniki forest in Łódź); U. Peters, Sohmen, Stuke, and Prüter, 1994:66 (Germany: Schleswig-Holstein: gardens in Hof Möhr); Schmid-Egger, 1994a:687 (Germany: Rheinland-Pfalz: Höllenberg near Grünstadt); Theunert, 1994:33 (Germany: summary of records from Niedersachsen and Bremen); Tormos, Asís, and Gayubo, 1994:187, 197 (Spain: Albacete Province); Archer, 1995a:23 (Great Britain: Yorkshire: frequency); Archer and Burn, 1995:59 (Great Britain: Yorkshire: Crow Wood near Finningley); Gorobchishin, 1995:17 (Ukraine: Kanev Nature Reserve); Józán, 1995:104 (Hungary: projected Duna-Dráva National Park); Krasnobayev et al., 1995:138 (Russia: Zhiguli Hills northwest of Samara); Negrisolo, 1995a:22 (Italy: Veneto); Negrisolo *in* Minelli, Ruffo, and La Posta, 1995b:2 (in catalog of Italian fauna); Nemkov *in* Nemkov, Kazenas, Budrys, et Antropov, 1995:388 (in key to Sphecidae of Russian Far East); Scharrer, 1995:22 (Bayern: Aschaffenburg, Eckertsmühle, Wasserwerk); Schmid-Egger, 1995:58 (Germany: northwest of Baden-Württemberg); Schmid-Egger, Risch, and Niehuis, 1995:163 (summary of records from Germany: Rheinland-Pfalz State), 183 (color photograph); Shlyakhtenok, 1995:193 (Belorussia: Berezinskiy Nature Reserve); Skibińska, 1995:423, 424, 427 (Poland: pine forest in Białowieża Primeval Forest); von der Dunk and Amon, 1995:52 (Germany: Nürnberg: Birkenlach forest); Yeo and Corbet, 1995:38 (in field guide to British solitary wasps); Archer, 1996a:59 (Great Britain: Channel Islands), 1996b:37 (Great Britain: Nottinghamshire: Sherwood Forest); Arens, 1996:440 (Germany: Bayern: Bayreuth area); Blösch, 1996:3 (Germany: Bayern: Tennenloher Forst Nature Reserve near Erlangen); Fowles, 1996:36 (Great Britain: in checklist of aculeates of Wales); Gorobchishin, 1996:53 (Ukraine: Kanev Nature Reserve); Harvey and Plant, 1996:78 (Great Britain: summary of records from Essex); Jakubzik, 1996:251 (Germany: Köln); Jakubzik and Cölln, 1996b:398 (Germany: Rheinland-Pfalz); Kuhlmann, 1996:219 (Portugal: Serra de Estrela); Lauterbach, 1996:133 (Germany: Nordrhein-Westfalen: Bielefeld area); Minoranskiy and Shkuratov, 1996:81 (Russia: Rostov Oblast'); Pawlikowski and Kruszyński, 1996:86 (Poland: Toruń Basin); Saure, 1996:502 (Germany: Berlin-Pankow: sewage irrigation field); Schmid-Egger, Schmidt, and Doczkal, 1996:376 (Germany: Baden-Württemberg: probably endangered); Shlyakhtenok, 1996:303 (Belorussia: Berezinskiy Nature Reserve); Tischendorf, 1996:46 (Germany: Hessen: near Bensheim); Voblenko, Gorobchishin, and Nesterov, 1996:14 (Ukraine: Polesye Region); von der Dunk and Amon, 1996:41 (Germany: Bayern: Altdorf sand dunes east of Nürnberg); Witt, 1996:105 (Germany: Brandenburg); Woydak, 1996:11 (Germany: Westfalen: summary of distribution and nesting habits); Bitsch, Barbier, Gayubo, Schmidt, and Ohl, 1997:86 (in Sphecid Fauna of Western Europe); Celary, 1997:57 (in checklist of Animals of Poland); Dörfel, 1997:69 (nesting habits described for general public); Else and Field *in* R. Edwards, 1997:80 (Great Britain and Ireland: distribution, status, habitat, flight period, prey, nesting habits, and nest parasites, map of distribution in Great Britain by Archer and Roberts); Haeseler, 1997:30 (Germany: ubiquitous in Friesian Islands); Petit, 1997:351 (Belgium: Liège Province: Lanaye: colonization of new habitat); Schmidt and Schmid-Egger, 1997:5 (in checklist of German Sphecidae); Shlyakhtenok, Blinov, and Belyavskaya, 1997:151 (Belorussia: Pripyatskiy National Park); Archer, 1998b:158 (Great Britain: Lincolnshire: Gibraltar Point National Nature Reserve); F. Burger, Saure, and Oehlke, 1998:26 (Germany: in list of Sphecidae of Brandenburg); Dollfuss, Gusenleitner, and Bregant, 1998:509 (Austria: summary of collecting records from Burgenland); Drewes, 1998:49 (Germany: Niedersachsen: Goldbeck 26 km WSW Hamburg); Flügel, 1998:59 (Germany: Brandenburg: Unteres Odertal National Park); Gorobchishin, 1998a:48 (Ukraine: Kiev and surroundings), 1998b:53 (Ukraine: Sumy Oblast': Vakalivshchina); Haeseler and Ritzau, 1998:50 (Germany: Bremen: Island of Hattersand in Weser River and Steller Heide); Jakubzik, Schlüter, and Cölln, 1998:1181, 1183 (Germany: Rheinland-Pfalz); Józán, 1998:310 (Hungary: Duna-Dráva National Park); Kazenas, 1998b:178 (in Sphecid Fauna of Kazakhstan); Lefeber, 1998:182 (Netherlands: Limburg: Sint-Pietersberg near Maastricht at 50°50'N 5°41'E); Mauss and Schindler, 1898:136 (Germany: Schleswig-Holstein: Nordfriesland District); Morgan, 1998:19, 20 (Great Britain: Wales: Carmarthenshire County); Nazarova, 1998:40 (Tajikistan: Tigrovaya Balka Nature Reserve); Petit, 1998a:109 (Belgium: Bassenge, visiting flowers of *Polygonum cuspidatum* Siebold and Zucc.); N. Schneider and Wahis, 1998:19 (Luxemburg: sandstone quarries); H.-J. Schulz, 1998c:112 (Germany: Lausitz: former military training area near Mücka); van der Smissen, 1998:53 (Germany: Schleswig-Holstein, Mecklenburg-Vorpommern, Niedersachsen); K. Weber, 1998:133 (Germany: Bayern: Bamberg area); Anan'eva and Kochetkov, 1999:6 (Russia: Ryazan Oblast': no specific locality); Archer, 1999a:9 (Great Britain: Lancashire); Cölln and Jakubzik, 1999:28 (Germany: Rheinland-Pfalz: Keuper-Scharen southwest of Hungerburg); Erhardt, 1999:75 (Germany: Niedersachsen: Ammerland area); Gayubo, García, Torres, and González, 1999:89 (Spain: Soria Province); Generani, Pagliano, Scaramozzino, and Strumia, 1999:79 (Italy: Toscana: Isola di Montecristo); Gusenleitner, 1999:597 (Austria: Vorarlberg: Vandans northwest of Schruns); Herrmann, 1999:7 (Germany: Niedersachsen: Oldenburg area; habitats size); Ljubomirov, 1999b:45 (Bulgaria: Mount Vitoshka near Sofia, as *sabulosa sabulosa*); Löhr, 1999:62 (Germany: Hessen: Mücke-Merlau near Gemünden); Majzlan, Rychlík, and Deván, 1999:145 (Slovakia: Čenkovská Step Nature Reserve); Mandery, 1999:104 (Germany: Bayern: Coburg area); Neumayer, Schwarz, and Bregant, 1999:223 (Austria: in checklist of Sphecidae of Land Kärnten); Pauly, 1999:107 (in catalog of Belgian aculeates); Podgorbunskikh and Rudoiskatel', 1999:142 (Russia: Chelyabinsk Oblast': Il'men' Nature Reserve); Riemann, 1999:834 (Germany: Niedersachsen: sand pits near Bremen); Salzmann-Wandeler and Rezbanyai-Reser, 1999:101 (Switzerland: Tessin: Monte Generoso); M. Schwarz, 1999:84 (Austria: Oberösterreich: city of Linz area); Sörensen, Mauss, and Schindler, 1999:503 (Germany: Schleswig-Holstein); Tüzün, Gülmez, and Bağrıaçık, 1999:384 (Turkey: Aegean Region); Yamane, Ikudome, and Terayama, 1999:479 (Japan: in Identification Guide to Sphecidae of Nansei = Ryukyu Islands); Zehnder and Zettel, 1999:131 (Switzerland: recolonization of flooded area in Valais Canton); Archer, 2000c:115 (Great Britain: Lincolnshire); Blösch, 2000:134 (in Sphecid Fauna of Germany); Cartier, 2000a:74 (France: Hauts-de-Seine: Rueil-Malmaison, as *sabulosum*); Dressler, 2000:30 (Germany: Hessen: Darmstadt area); Esenbekova and Kazenas, 2000:13 (southeastern Kazakhstan: ten localities); Giachino, Grosso, Marchetti, Pagliano, Scaramozzino, and Vailati, 2000:105 (Greece); Gibbs, 2000:13 (Great Britain: Bristol: Troopers Hill); Gonzales, Gayubo, and Torres, 2000:18 (Andorra: Santa Coloma); Grace, Yates, and Triplet, 2000:20 (Great Britain: East Sussex: Rye Bay area); Jacobs, 2000:6 (Germany: Land Mecklenburg-Vorpommern: not endangered); Józán, 2000:104 (Hungary: Bakony Mountains); Ljubomirov, 2000:6, 8 (Bulgaria, specimens in N. Nedelkov collection); M. Mader and Chalwatzis, 2000:59 (Germany: Hessen: Oderwald Mountains); Mokrousov, 2000b:30 (Russia: Nizhniy Novgorod Oblast', as *sabulosa sabulosa*); Schmid-Egger, 2000b:275 (Germany: Baden-Württemberg: shores of Rhine River); Pijfers, 2000:4 (Netherlands: Twente Region); M. Schwarz, 2000:10 (Austria: Oberösterreich: Linz); Shkuratov, 2000:54 (Russia: Rostov Oblast': Vëshenskaya village area at 49°37'N 41°45'E); Vicidomini, 2000b:22 (Italy: previously recorded from Campania); Archer, 2001d:109 (Great Britain: Lincolnshire: Kirkby Moor

7.5 km south of Horncastle); Basset, 2001:77 (France: Département de Gironde); Casiraghi, Andrietti, Bonasoro, and Martinoli, 2001:299 (nest parasite: *Buathra tarsoleuca* (Schrank), Ichneumonidae); Casiraghi, Martinoli, Bosco, Preatoni, and Andrietti, 2001:299 (single provisioning and multiple provisioning of nest, stinging mainly in caterpillar's throat and abdominal segments II and III); Cungs and Jakubzik, 2001:122, 123 (Luxembourg); Deván, 2001:165 (Slovakia: Krasin Nature Reserve in Biele Karpaty Mountains); Dorow, 2001:135 (Germany: Hessen: Niddahänge Forest Reserve); Ivanov and Ljubomirov, 2001:210 (Bulgaria: Kresna Gorge at 41°48'N 23°10'E); Józán, 2001:277 (Hungary: Somogy County); Kazenas, 2001b:18 (in checklist of Sphecidae of Kazakhstan and Central Asia), 112 (review of known biology); Kazenas and Esenbekova, 2001:133 (Kazakhstan: Almatinskiy Nature Reserve); Kuhlmann, 2001:19 (Germany: Nordrhein-Westfalen: Nature Reserve Bleikuhlen near Blankenrode); Ohl et al., 2001:137 (distribution in Germany by provinces); Reemer and van der Meer, 2001:16 (Netherlands: along Almelo-Nordhorn canal); Shlyakhtenok and Agunovich, 2001:144 (Belorussia: Berezinskiy Nature Reserve); Skibińska, 2001:219 (Poland: Białowieża Primeval Forest); Szczepko and Kowalczyk, 2001:187 (Poland: Kampinos National Park near Warszawa); Tüzün, 2001:44 (Turkey); van der Smitten, 2001:58 (Germany: Schleswig-Holstein: not endangered); Wolf, 2001a:171 (Germany: Bayern: Lech valley from Augsburg to Donau); Zettel, Gross, and Mazzucco, 2001:67 (Austria: Wien); Archer, 2002b:126 (Great Britain: Watsonian Yorkshire: distribution map), 2002d:11 (Great Britain: Worcestershire: Hartlebury Common 17 km north of Worcester), 2002e:42 (Great Britain: Watsonian Yorkshire); Archer and Edwards, 2002:103 (Great Britain: West Sussex: Amber-sham and Iping commons); Beavis, 2002:111 (Great Britain: Kent: Tunbridge Wells area); Bieri, 2002:72 (Liechtenstein); Deván, 2002a:200 (Slovakia: Kobela Nature Reserve near Nové Mesto); Esser and Cölln, 2002:1136 (southwestern Germany: Eifel region); Herrmann and Zinnert, 2002:25 (Germany: Baden-Württemberg: Bettenberg near Konstanz); Józán, 2002:53 (Hungary: Mecsek Mountains); Kazenas, 2002a:38 (geographic distribution, collecting localities in Kazakhstan); Konno et al., 2002:310 (bradykinins not found in venom); Kowalczyk, Szczepko, and Świątek, 2002:152 (Poland: Kampinos National Park near Warszawa); Litt, 2002:166 (Belgium); Mokrousov, 2002:147 (Russia: Nizhniy Novgorod Oblast': Kerzhenskiy Nature Reserve); Reemer and van der Meer, 2002:Bijlage 5 (Netherlands: Gelderland: Zaltbommel area); Ronayne, 2002:138 (Ireland: Mayo County: Mullet Peninsula); C. Schlüter, 2002:141 (Germany: Niedersachsen: anthropogenic habitats in Ammerland District); Shkuratov, 2002b:138 (Russia: Rostov Oblast': Rostovskiy Nature Reserve at 46°27'N 42°41'E); Shlyakhtenok and Skibinska, 2002:32 (Belorussia: no specific locality); Söderman and Vikberg, 2002:50 (in list of Aculeata of Finland); van der Meer, 2002:15 (Netherlands: costal dunes at Meijndel); Vischer, 2002:288 (Germany: Sachsen-Anhalt: vineyards in Saale-Unstrut area); von der Dunk and Amos, 2002:158 (Germany: Bayern: Schwaig near Nürnberg); Wiśniowski, 2002:68 (Poland: Ojców National Park); Ziska, 2002:7 (Germany: Berlin-Köpenick: Krumme Lake); Archer, 2003a:58 (Great Britain: Watsonian Yorkshire); Casiraghi, Polidori, Ferreri, Preatoni, Andrietti, and Martinoli, 2003:329 (closely spaced nests are more likely to be parasitized by conspecific females); Bergsten, Ekerholm, Hellqvist, Hilszczanski, Nilsson, Pettersson, and Werner, 2003:71 (Sweden: Västerbotten: Island of Romelön); Cölln, Esser, and Jakubzik, 2003:61 (Germany: northwestern Rheinland-Pfalz: excavation sites and quarries); Drewes, 2003:133 (Croatia, France, Germany, Greece, Hungary, Italy, Sweden: miscellaneous locality records); Esser and Jakubzik, 2003:290 (Germany: Nordrhein-Westfalen: Niederrheinisches Tiefland); Generani, Pagliano, Scaramozzino, and Strumia, 2003:64 (Italy: Arcipelago Toscano); González, Gayubo, Asís, Tormos, and García, 2003:61 (Spain: Soria: Chavaler); Gorobchishin, 2003:48 (Ukraine: Kiev: botanical garden); Haeseler, 2003:339 (Germany: Niedersachsen: Island of Harriersand near Bremen); Józán, 2003: 226 (Hungary: Látványi Puszta Nature Conservation Area); Kula and Tyrner, 2003a:150 (Czech Republic: Děčín Sandstone Uplands: forest district Snežnik: birch stands in air-polluted area); Lukáš, 2003:73 (Slovakia: Bratislava: old fruit orchard); Mandery, Kraus, Voith, Wickl, Scheuchl, Schubert, and Warncke, 2003:63 (Germany: in catalog of wasps and bees of Bayern); Nieves-Aldrey, Fontal-Cazalla, Garrido-Torres, and Rey del Castillo, 2003:42 (Spain: Madrid: Estación Biogeológica de El Ventorrillo in Sierra de Guadarrama); Protsenko, 2003:68, 69 (Ukraine: Odessa Oblast': Island of Malyi Tataru in Danube delta at 45.21°N 29.00°E); Reemer, 2003:63 (Netherlands: Gelderland: Zaltbommel area); Tischendorf and Treiber, 2003:120 (Germany: Hessen: 15 km southwest of Frankfurt am Main: nesting under high power lines); von der Dunk and Niedling, 2003:181 (Germany: Bayern: Zeckern north of Erlangen); von der Heide and Metscher, 2003:101 (Germany: Niedersachsen: Emsland area); Wiśniowski *in* Dylewska and Wiśniowski, 2003:132 (Poland: Ojców National Park); Wiśniowski and Werstak, 2003:76 (Poland: Pieniny National Park); Aistleitner, 2004:59 (Liechtenstein: Balzers); Abenius, 2004:40 (Sweden: Norrbottens: Luleå area); Archer, 2004a:47 (Great Britain: Worcestershire: Devils Spittleful Nature Reserve), 2004h:44 (Great Britain: Watsonian West Norfolk: Roydon Common); Bergsten, Nilsson, and Hellqvist, 2004:7 (Sweden: Västerbotten: Nordmaling); Deván, 2004:146 (western Slovakia); Dorow, 2004a:127 (Germany: Hessen: Schönbusche Nature Reserve); Esser, Jakubzik, Sonnenburg, and Woydak, 2004:261 (Germany: in checklist of Sphecidae of Nordrhein-Westfalen); Field and Brace, 2004:651 (the female does not respond to *Metopia* maggots (Sarcophagidae) in the nest); Gayubo et al. 2004:130 (Spain: Madrid: Estación Biogeológica de El Ventorrillo in Sierra de Guadarrama); Heitmans *in* Peeters, van Achterberg, et al., 2004:353 (in Wasp and Ant Fauna of Netherlands); Hellrigl, 2004a:172 (Italy: Trentino-Alto Adige, as Südtirol: Tschöggberg, Vöran); Jakubzik, Niehuis, and Cölln, 2004:457 (Germany: Rheinland-Pfalz: Roßstein in Rhein valley at 50°06'42"N 7°43'87"E); Kazenas, 2004b:100 (Kazakhstan: western Tien Shan Mountains); Liška, 2004:89 (Slovakia: Váh River valley near Trenčín); Litt, 2004:222 (Switzerland: Valais: Nava); Nazarova, 2004:105 (Tajikistan: Badakhshan Region: village Langar in Shakh dara River valley); Raemakers, van den Eijnde, and Kleukers, 2004:292 (Netherlands: Tungelerwalle near Weert); Shkuratov, 2004a:72 (Russia: Rostov Oblast'), 2004b:164 (Russia: Rostov Oblast': Gosudarstvennyi Muzei-Zapovednik M.A. Sholokhova); Skibińska *in* Bogdanowicz, Chudzicka, Pilipiuk, and Skibińska, 2004:357 (in catalog of Polish Sphecidae); Szczepko and Kowalczyk, 2004:125 (Poland: Kampinos National Park near Warszawa); van Achterberg and Peeters, 2004:30 (in checklist of Sphecidae of Netherlands); Wiśniowski, 2004:39 and 58 (in checklist of Polish Sphecidae); Wright, 2004:19 (Great Britain: Isle of Wight, as *sabulorum*); Archer, 2005c:56 (Great Britain: Suffolk County); Blösch, 2005:3 (Germany: Bayern: Tennenloher Forst Nature Reserve near Erlangen); Burger, 2005:31 (Germany: Thüringen); Cruz-Sánchez, Gayubo, González, and Torres, 2005:219 (Spain: Salamanca: San Martín del Castañar); Fuhrmann, 2005:89 (Germany: Nordrhein-Westfalen: Grubengelände Littfeld Nature Reserve); Gayubo and Özbek, 2005:13 (Turkey: many localities); Gülmez and Tüzün, 2005:51 (Turkey: Ankara Province); Haeseler, 2005:628 (Germany: Niedersachsen: Steller Heide near Bremen); Hallin, 2005:16 (Sweden: Örebro County: Hällefors); Jacobs, 2005a:437 (Bulgaria); Jakubzik and Cölln, 2005:63 (Germany: Rheinland-Pfalz: Bausenberg near Niederzissen); Kofler, 2005:165 (Austria: Tirol: Lienz District: many localities); Kowalczyk and Kurzac, 2005:104 (Poland: Botanical Garden in Łódź); Kraatz, 2005:102 (Germany: Niedersachsen: Bümmerstede near Oldenburg); Landeck, Wöhler, and Landgraf, 2005:18 (Germany: Lausitz Region; visiting flowers of *Reseda luteola* Linnaeus, Resedaceae, and *Carthamus tinctorius* Linnaeus, Asteraceae); Mandery, 2005:173 (Germany: Bayern: Hainberg Nature Reserve near Nürnberg); Mokrousov and Selivanova, 2005:752 (Russia: Voronezh Oblast'); Nazarova, 2005:93 (alfalfa fields in southwestern Tajikistan); Pagliano and Negrisolo, 2005:69 (in Sphecid Fauna of Italy); Pijfers, 2005:49 (Netherlands: Twente: Noordelijke Manderheide); Quest and Kuhlmann, 2005:32 (Germany: Bayern: Bayerischer Wald National Park); Riemann and Hohmann, 2005:544 (Germany: Niedersachsen: city of Bremen and vicinity); Saure, 2005:13 (Germany: Berlin); Shoreenko, 2005a:163 (Ukraine: Crimea), 2005b:97 (Ukraine: Crimea: Karadagh Nature Reserve); Theunert, 2005a:16 (Germany: in checklist of Sphecidae of Niedersachsen and Bremen); Venne and Bleidorn, 2005:42 (Germany: Nordrhein-Westfalen: Moosheide Nature Reserve); Ziska and Saure, 2005:80 (Germany: Berlin: Biesenhorster Sand); Archer, 2006a:21 (Great Britain: Lincolnshire: Rauceby Warren National Park), 2006c:217 (Great Britain: Staffordshire: Highgate Common), 2006d:76 (Great Britain: Watsonian Yorkshire: Pollington Quarry); Schmalz, 2005:57 (references to XIXth century authors); Blösch, 2006:63 (specimens spend nights attached to plant stems or leave blades with their mandibles); Dathe, 2006:37, 38 (*Sphex sabulosa* recorded from Plauenscher Grund near Dresden, Germany, by von Block, 1799, is now *Ammophila sabulosa*); Feitz, Gloden, Melchior, and Schneider, 2006:83 (Luxembourg: Baggerweieren area in Haff Réimech Nature Reserve); U. Frommer, 2006:37 (Germany: Hessen: Runkel area); Gadoum and Barbier, 2006:42 (France: départements of Val-d'Oise and Yvelines: Parc Naturel Régional du Vexin Français: Saint-Martin-la-Garenne); Kroupa, 2006b:26 (Germany: Bayern: Oberfranken Region); Liebig, 2006:40 (Germany: Sachsen: Muskauer Heide); Liška, 2006a:88 (Slovakia: Váh river valley near Trenčín); Magdalou, 2006a:6, 9 (France: Pyrénées-Orientales: Réserve Naturelle de la Massane), 2006b:109 (France: Pyrénées-Orientales: Mas Larrieu Nature Reserve near Argelès-sur-Mer), 2006c:7 (France: Pyrénées-Orientales: Réserve Naturelle du Mas-Larrieu); Peeters, Krekels, and Megens, 2006:22 (Netherlands: Reichswald forest near Nijmegen); Shlyakhtenok, 2006:110 (Belorussia: Polesye Radiological Nature Reserve); Standfuss and Standfuss, 2006a:86 (Germany: Nordrhein-Westfalen: Dortmund), 2006c:308 (Greece: Thessalia: Magnisia Peninsula at 39°N 23°E); Terayama and Tano, 2006:7, 15, 18 (in key to Japanese Ampulicidae and Sphecidae); Tezcan, Yildirim, Anlaş, and Beyaz, 2006:58 (Turkey: Manisa: Turgutlu: Çikrikçi, on flowers of *Coridothymus capitatus*); Vepřek, 2006:508 (Czech Republic: Kokořínsko area); Archer, 2007a:151 (Great Britain: Norfolk: Thetford Warren Lodge), 2007c:152 (Great Britain: South Devon coast); Baghirov, 2007:93 (Russia: southwestern Siberia); Beavis, 2007:97 (Great Britain: Tunbridge Wells and Central High Weald); Burguet, 2007:unnumbered p. 2 (France: Puy-de-Dôme: sands Girauds-Faures in Orléat commune); Cungs, Jakubzik, and Cölln, 2007:139 (Luxembourg: Haardt Nature Reserve); Dorow, 2007:263 (Germany: Hessen: Schönbusche Forest Reserve); Dvořák, Straka, Smetana, Halada, Vepřek, and Karas, 2007:167 (Czech Republic: Vyšenské Kopce National Nature Reserve); Fateryga, Ivanov, and Novikov, 2007:149 (feeding on flowers of *Scrophularia umbrosa* Dumort., Scrophulariaceae, in Crimea); Hallin, 2007b:24 (Sweden: Blekinge County); Herrmann, 2007a:51 (Germany: Niedersachsen: Ostfriesland); Jacobs, 2007:46, 47 (in key to Sphecidae of Germany); Jansen and Kaluza, 2007:22 (Germany: northwestern Sachsen); Józán, 2007:179 (Hungary: Zselic hills); Kazenas, 2007a:90 (Kazakhstan: Akkala Oblast': Kurgandzhin Nature Reserve and vicinity); Kowalczyk and Nadolski, 2007:283 (Poland: Łódź: railway areas); Saure, 2007:81 (Germany: in checklist of Aculeata of Brandenburg); Shlyakhtenok, 2007a:298 (Belorussia: Berezinsky Nature Reserve); Smit and Megens, 2007:17 (Netherlands: Noort Brabant: vicinity of Leende); G. Turrisi and R. Turrisi, 2007:115 (Italy:

Sicilia: Mount Etna: Botanical Garden Nuova Gussonea and vicinity); Vago, 2007:174 (France: départements d'Aisne, Nord, Pas-de-Calais, and Somme), 176 (France: Département du Nord: Bugnicourt); Venne, Bleidorn, and Lauterbach, 2007:300 (Germany: Nordrhein-Westfalen: Bielefeld); Vepřek and Straka, 2007:199 (in catalog of Sphecidae of Czech Republic and Slovakia); Vicidomini and Pignataro, 2007:15 (Italy: Salerno Province: Acquavena); Winkler, 2007:29 (Germany: Niedersachsen: eastern Friesland); Yildirim and Ljubomirov, 2007:116 (Turkey: Erzurum: Aşkale); Anlaş, Tezcan, and Yildirim, 2008:26 (Turkey: İzmir: Bozdağ Mountains); Archer, 2008b:145 (Great Britain: South Essex: West Tilbury); Danilov, 2008:346 (Russia: Altayskiy Kray: Barnaul area); Danilov and Tshernyshev, 2008:41 (Russia: Novosibirsk Oblast': Karasuk area); Dvořák, Bogusch, Malenovský, Bezděčka, Bezděčková, Holý, Liška, Macek, Roller, Říha, Smetana, Straka, and Šima, 2008:65 (Czech Republic: Hády Hill near Brno); Gayubo, González, Tormos, and Asís, 2008:136 (Spain: Salamanca: Parque Natural de Las Batuecas – Sierra de Francia); Haeseler, 2008:307 (Germany: Friesian Islands); Kazenas, 2008b:111 (Kazakhstan: foothills of Zailiyskiy Alatau: infrequently found on loess cliffs); Kochetkov, Bol'shakova, Butenko, and Priklonskiy, 2008:262 (Russia: Ryazan' Oblast': Oka Nature Reserve); Larnhof, 2008:45 (Austria: Niederösterreich: Nature Reserve “in den Sandbergen” near Drösing); Ivory, Chevin, Lair, Sagot, and Baldock, 2008:23 (France: Département de la Manche); Ljubomirov and Yildirim, 2008:37 (in catalog of Sphecidae of Turkey); Nemkov, 2008b:17 (in catalog of Sphecidae of Asiatic Russia); Pagliano, 2008:513 (specimens in M. Spinola collection, Torino); Tannert and von der Dunk, 2008:181 (Germany: Bayern: west of Ernhofen and Weissenbrunn); Theunert, 2008:8 (Germany: map of distribution in Niedersachsen and Bremen); Baños-Picón, Asís, Gayubo, and Tormos, 2009:310 (Spain: frequency of specimens collected with hand nets and Malaise traps); Belkheir, 2009:17 (France: Pyrénées-Orientales: commune d'Eyne); Danilov, 2009:57 (Russia: Western Siberia: Kulundinskaya Steppe, as *sabulosa sabulosa*); Debuyser and Vago, 2009:2 (in list of Sphecidae *sensu lato* of northern France); Fallahzadeh, Ostovan, and Saghaei, 2009:235 (Iran: Fars: Marvdasht, Shiraz), 239 (color photograph); Flügel, 2009b:63 (Germany: Hessen: Borken, in inactive open brown coal mine); U. Frommer, 2009a:26 (Germany: in checklist of Sphecidae of central Hessen); Gayubo, González, Tormos, and Asís, 2009:362 (Spain: Valladolid: Reserva Natural Riberas de Castronuño – Vega del Duero); González, Gayubo, Asís, and Tormos, 2009:622 (Spain: Salamanca and Zamora provinces: Arribes del Duero Natural Park); Guéorguiev and Ljubomirov, 2009:262 (Bulgaria: Maleshevska Planina, as *sabulosa sabulosa*); Hessling, 2009:103 (Germany: Niedersachsen: Hunte River valley south of Oldenburg); Józán, 2009:164 (Croatia); Mokrousov, 2009:277 (Russia: Republic Mari El); Mokrousov, Antropov, Ruchin, and Bugayev, 2009:78 (Russia: Republic of Mordovia); Nemkov, 2009b:50 (in new catalog of Sphecidae and Crabronidae of Asiatic Russia, as *sabulosa sabulosa*); Ødegaard, Sverdrup-Thygeson, Hansen, Hanssen, and Öberg, 2009:70 (Norway: locality records); Ruchin, Antropov, and Shibayev, 2009:168 (Russia: Republic of Mordovia); Shorenko, 2009:367 (in list of Sphecidae *sensu lato* of Crimea); Straka, Dvořák, and Bogusch, 2009:257 (Czech Republic: Jizerské Mountains and Frýdlant region); Szczepko and Wiśniowski, 2009:72 (Poland: Spała Landscape Park); van Diemen, 2009:49 (Netherlands: airbase Gilze-Rijen); Zettel, Wagner, Zimmermann, Wiesbauer, Sorger, Ockermüller, and Seyfert, 2009:10 (Austria: Oberösterreich: Pfaffstätten); Archer, 2010a:52 (Great Britain: Watsonian Nottinghamshire: Spalford Warren), 2010b:99 (Great Britain: Watsonian Staffordshire: Cannock Chase Country Park); Bitsch, 2010:107 (in supplement to vol. II of Faune de France, 1997: recent record from Ireland reported); Burguet *in* Durand and Burguet, 2010:24 (France Département d'Ardèche: Ardèche Gorges); Danilov, 2010b:45 (distribution of transpalearctic type); Ermilov and Mokrousov, 2010:88 (phoretic mites *Calvolia* sp., *Histiogaster* sp., *Parawinterschmidtia kneissli* (Krause), *Probonomoia pini* (Scheucher), and *Schulzeia caucasica* Zakhvatkin in Middle Volga Region of Russia); Esser, Fuhrmann, and Venne, 2010:38 (Germany: in checklist of aculeates of Nordrhein-Westfalen); Falk, 2010:92 (Great Britain: heathland sites in West Midlands region); Ghazi-Soltani, Ebrahimi, Iranipour, and Pour Abad, 2010:798 (Iran: East Azarbaijan: village Beiragh, Maragheh: Khormazard, Tabriz: Bostanabad); Ghazi-Soltani, Khaghaninia, and Shahim, 2010:638 (Iran: East Azerbaijan: Horand Forests); Hable, von der Dunk, and Knipfer, 2010:63 (Germany: Bayern: vicinity of Dietfurt); Hable, Kraus, von der Dunk, and Wickl, 2010:26 (Germany: Bayern: Sulz- and Ottmaringer Tal); Howe, Knight, and Clee, 2010:100 (United Kingdom: occurring on coastal sand dunes); Johansson, 2010:121 (Sweden: Småland: upper Emå river valley); Mokrousov, 2010a:60 (Russia: Yaroslavl', Kirov, Nizhniy Novgorod, and Vladimir Oblast's, Chuvash Republic, Mari El Republic, Mordoviya, and Tatarstan: no specific localities); J. Neumayer, 2010:334 (Austria: Niederösterreich: Thayatal National Park); Rudoiskatel', 2010:147 (Russia: central and southern Ural Mountains); Saure, 2010a:87 (Germany: Berlin-Reinickendorf: Baumberge), 2010b:174 (Germany: Berlin-Reinickendorf: airport Tempel and Flughafensee Protected Area); Schmid-Egger, 2010a:22 (in red list of Aculeata of Germany: relatively common); Schmidt, 2010:131 (Germany: Bayern: collected along Main-Donau canal); Shorenko and Konovalov, 2010:10 (Ukraine); Smetana, Roller, Beneš, Bogusch, Dvořák, Holý, Karas, Macek, Straka, Šima, Tyrner, Vepřek, and Zeman, 2010:100 (Western Slovakia: recorded from Borská nížina); Mokrousov, 2010c:107 (Russia: Chuvash Republic: State Nature Reserve “Prisurskiy” and National Park “Chavash varmane”); Smit and Wijngaard, 2010:69 (in checklist of Sphecinae of Netherlands); Treiber, 2010:134 (France: départements du Bas-Rhin and du Haut-Rhin); Tüzün and Yüksel, 2010:4469 (Turkey: Niğde Province); van der Smissen, 2010a:332 (Germany: Schleswig-Holstein: locality records), 2010b:383 (France: Ardèche, Gard, and Vaucluse: locality records), 2010c:395 (Sweden: Öland and Södermanland: locality records); Wurdack and Gack, 2010:153 (Germany: Baden-Württemberg: Kaiserstuhl); Archer, 2011a:42 (Great Britain: Yorkshire: Strensall Common), 2011b:54 (Great Britain: North Norfolk sand dunes), 2011d:187 (Great Britain: Watsonian Yorkshire: Hatfield Moor and Thorne Moor); Baghirov, 2011b:139 (Russia: Altayskiy Kray: Savvushka); Cruz-Sánchez, Asís, Gayubo, Tormos, and González, 2011:497 (Spain: Salamanca and Zamora provinces: Arribes del Duero Natural Park: effects of wildfire); Danilov, 2011b:204 (Russia: Zabaikal'skiy Kray: Daur'skiy Nature Reserve, as *sabulosa sabulosa*); Field, Ohl, and Kennedy, 2011:734 (in molecular cladistic analysis of Ammophilini); Gogala, 2011:7 (Slovenia); Józán, 2011:178 (in checklist of Sphecidae *sensu lato* of Hungary); Mokrousov, Berezin, and Egorov, 2011:64 (Russia: Chuvash Republic); Murai and Amr, 2011:108, 118 (first record from Syria: Al Thawrah Nature Reserve at 35°51'N 28°38'E); Novozhenov, Rudoiskatel', Kostromina, Katana, and Sibiryakov, 2011:221 (Russia: Tyumen' Oblast': Khanty Mansi Autonomous Okrug: Kondino Lakes Nature Reserve); Protsenko and Drozdovskaya, 2011:90 (Ukraine: Miko-laiv Oblast': Bugskiy Guard National Park); Rudoiskatel', 2011d:238 (Russia: central Ural Mountains); Saure, 2011c:197 (Germany: Berlin-Spandau: Fort Hahneberg), 2011d:199 (Germany: Sachsen-Anhalt: conservation area “Heide südlich Burg”); Schmid-Egger, 2011a:42 (France: Parc National du Mercantour); Shlyakhtenok, 2011:94 (Belorussia: city of Minsk); Theunert, 2011a:18 (Germany: in checklist of aculeates of Niedersachsen including city of Bremen); Tischendorf, Frommer, Flügel et al., 2011:108 (Germany: Hessen: not endangered); von der Dunk, 2011:184 (Germany: Bayern: Kaiserburg in Nürnberg); Ziska and Saure, 2011:108 (Germany: Berlin: Tegeler Fließ valley); Archer, 2012:130 (Great Britain: Watsonian Yorkshire: Allerthorpe Common); Boillat, 2012:229 (Switzerland: in checklist of insects of Canton de Genève); Burguet *in* Durand and Burguet, 2012:2 (France: Puy-de-Dôme: sands Girauts-Faures in Orléat commune); Ceccolini and Paggetti 2012b:118 (Italy: Umbria); Cölln, Jakubzik, and Kinkler, 2012:24 (Germany: Nordrhein-Westfalen: Leverkusen); Franzén, Molander, Norén, and Nilsson, 2012:26 (Sweden: Skåne: Kullaberg Peninsula); Gerth, Mayer, Hering, Wolf, Schaffer, and Bleidorn, 2012:9 (Germany: Sachsen: Bienitz in Leipzig); Japoshvili and Ljubomirov, 2012:96 (Turkey: Isparta: Gölcük Nature Park 8 km southwest of city of Isparta, as *sabulosa sabulosa*); Kazenas, 2012b:168 (Kazakhstan: Korgalzhin State Nature Reserve); Nemkov, 2012c:434 (in catalog of Sphecidae of Russian Far East, as *sabulosa sabulosa*); Prisniy, 2012:46 (Russia: Belgorod Oblast'); Protsenko, Fateryga, Ivanov, and Puzanov, 2012:53 (Ukraine: Crimea, Kiyev); Saure, 2012b:227 (Germany: Berlin-Spandau: Spandauer Forst); Shibayev and Polu-mordvinov, 2012:278 (Russia: Penza Oblast'); Shlyakhtenok, 2012a:171 (Russia: Kirov Oblast': Arkhangelskoye: collected in private plots), 2012b:91 (Belorussia: Beresina National Reserve: overgrowing dry meadow); Srba and Heneberg, 2012:559 (nesting in loose soils); Strumia, Pagliano, and Gayubo, 2012:55 (Italy: Toscana: Riserva di San Rossore); Yildirim, 2012:75 (Turkey: Bayburt, Erzurum, and Tunceli provinces); Akulov and Proshchalykin, 2013:111 (Russia: Siberia: Krasnoyarsk Kray, as *sabulosa sabulosa*); Bayındır, Gürbüz, Ljubomirov, and Pohl, 2013:146 (Turkey: Isparta: Kasnak Oak Forest Nature Reserve); Bitsch, Grouet, and Savina, 2013:291 (France: Pyrénées centrales: département d' Ariège: Ascou-Pailhères); Danilov and Odintseva, 2013:332 (Russia: Western Siberia: 65 km north-northeast of Tobol'sk at 58°45'N 68°74'E); Dollfuss, 2013a:390, 400 (in key to *Ammophila* of Palearctic Region and India), 2013b:581 (locality records from Austria, Bulgaria, Croatia, Czech Republic, France, Greece, Hungary, Italy, Iran, Kazakhstan, Kyrgyzstan, Lithuania, Moldova, Mongolia, Nepal, Portugal, Romania, Russia, Serbia, Slovakia, Spain, Sweden, Turkey, Ukraine, and Uzbekistan); Dyuzhaeva, 2013:116 (Russia: Samara Oblast': Zhiguli Nature Reserve); Flügel, 2013a:120 (Germany: Brandenburg: Pimpinellenberg near Oderberg); Johansson, 2013:22 (Sweden: Gotland: island of Stora Karlsö); Kazenas, 2013a:36, 37 (color photographs of adult wasps, short information on geographic distribution and nesting habits); Mokrousov, Ruchin, and Egorov, 2013:198 (Russia: Republic of Mordovia: Mordovian State Nature Reserve); Pankov, 2013:228 (Russia: Ivanovo Oblast'); Polidori, Crottini, Della Venezia, Selfa, Saino, and Rubolini, 2013:40 (animal protein as food for larva, unable to manipulate food load, flight muscle ratio, wing loading); Saure, 2013:17 (Berlin: Treptow-Köpenick: Gosener Wiesen); A. Scholz and Liebig, 2013:16 (Germany: Sachsen: in list of Sphecidae *sensu lato*); Shlyakhtenok, 2013:132 (in annotated catalog of aculeate wasps of Belorussia); Vieira, Oliveira, Brewster, and Gayubo, 2013:15 (Portugal: Douro International Natural Park, Serras de Aire east of Candeeiros Natural Park, and Paúl do Boquilobo Nature Reserve); Wiśniowski and Piotrowski, 2013:20 (Poland: Poleski National Park); Wiśniowski and Szczepko, 2013:21 (Poland: Kampinos National Park near Warszawa); Zettel, Zimmermann, and Wiesbauer, 2013:12 (Austria: Wien: Donaupark); Danilov, 2014a:427 (Russia: Siberia: widely distributed), 2014b:519, 520 (in key to Sphecidae s.s. of Siberia); Ebrahimi, 2014:7 (Iran: Alborz, Āzarbāijān-e-Sharghi, Fārs, Gilān, Golestān, Hormozgān, Ilām, Khuzestān, Kohkiluyeh-Boyerahmad, Lorestān, Mazandarān, Semnan, and Tehrān provinces); Flügel, 2014:255 (Brandenburg: Hangelberger Heide); U. Frommer, 2014:26 (Germany: Hessen: Lorch); Ghahari, Hayat, Lavigne, and Ostovan, 2014:1390 (prey of asilid fly *Dysmachus cephalenus* Loew), 1396 (prey of asilid fly *Machimus aradensis* Theodor); Jakovlev, Polevoi, and Humala, 2014:301 (Russia: Republic of Karelia: Zaonezhnye Peninsula in Lake Onega); Józán, 2014:131 (Croatia); Kazenas, 2014a:133 (Kazakhstan: Karatau Mountain

Range); U. Frommer, M. Niehuis, and O. Niehuis, 2014:1321 (Germany, Hessen: Roßstein); Hellqvist, Abenius, and Norén, 2014:90 (in catalog of Ampulicidae, Sphecidae, and Crabronidae of Sweden, by provinces); Mokrousov and Vafin, 2014:54 (Russia: Republic of Tatarstan); Ruchin and Antropov, 2014:35 (Russia: Republic of Mordovia); Yildirim, 2014:30 (Turkey: distribution by biogeographic provinces, as *sabulosa sabulosa*); Archer, 2015:202 (Great Britain: English coastal sand dunes); Dollfuss, 2015b:433 (locality records from Albania, Bulgaria, Czech Republic, France, Greece, Italy, Montenegro, and Slovakia); Field, Shreeves, Kennedy, Brace, and Gilbert, 2015:1899 (sex-biased parental care and sexual size dimorphism); Gülmez and Can, 2015:12 (usability of ITS2 and 28S-D2 gene regions for species identification); Koçak and Kemal, 2015:277 (in checklist of Hymenoptera of Turkey); Lett, 2015:5 (France: Loir-et-Cher: Gièvre); Mokrousov and Egorov, 2015:424 (Russia: Republic of Mordovia: Nature State Reserve Prisurskiy); Murao, 2015:39 (Japan: Kyushu: coast of northwestern Fukuoka Prefecture); P. Rosa and Pagliano, 2015:96 (Italy: Lombardia and Piemonte: Parco del Ticino); Samin, Bagriacik, and Monaem, 2015:194 (Iran: Hamadan: Hamadan); Saure, 2015:12 (Germany: Berlin-Lichterfelde); Simon, Lorthiois, and Macé, 2015:53 (France: alluvial terraces in Eure Department: Courcelles-sur-Seine, and Seine-Maritime Department: Anneville-Ambourville); Blažej, Macek, and Trýzna, 2016:129 (Czech Republic: České Švýcarsko = Bohemian Switzerland National Park); Bleidorn, Gerth, Hopfe, et al., 2016:11 (Germany: Sachsen: Trages circa 20 km south of Leipzig); Cölln and Jakubzik, 2016:16 (Germany: Rheinland-Pfalz: Vulkaneifel District); Else, Bolton, and Broad, 2016:50 (in checklist of Aculeata of Great Britain and Ireland: England, Scotland, Wales, Ireland); Gülmez and Dizer, 2016:59 (Turkey: Tokat Province); Le Divelec, Chapelin-Viscardi, and Larivière, 2016:108 (northern France: in agricultural landscapes); Levěrdě and Matache, 2016:40 (in catalog of Sphecidae s.s. of Romania); Mandery, 2016:95 (parasite: strepsipteran *Paraxenos sphecidarum* Dufour, Xenidae); Mokrousov and Popov, 2016:561 (Russia: Krasnodarskiy Krai); Reemer and Peeters, 2016:10 (Netherlands: Hulshorsterzand); Saure, 2016b:48 (Germany: Sachsen-Anhalt: fruit orchards), 1916c:204 (Germany: center of Berlin: Großer Tiergarten Park); A. Scholz, 2016:71 (Germany: Sachsen: Kleinraschützer Heide); Shorenko, 2015:312 (in list of Sphecidae *sensu lato* of Crimea); U. Sörensen, 2016:426 (Germany: Schleswig-Holstein: der Ochsenweg south of Leck); Stolle and Saure, 2016:927 (Germany: in list of Sphecidae *sensu lato* of Sachsen-Anhalt); Vas, Szöllösi-Tóth, and Muskovits, 2016:154 (Romania: Sălaj County); Wiśniowski, 2016:126 (Poland: Ojców National Park); Yildirim, Ljubomirov, Özbek, and Yüksel, 2016:7 (Turkey: Bayburt, Erzincan, Erzurum, and Tunceli provinces); Arens, 2017a:637 (Greece: Peloponnesus); Burguet and Durand, 2017:9 (France: Puy-de-Dôme: basin of river Crouël); Danilov, 2017b:212 (in catalog of Sphecidae s.s. of Russia); Di Giovanni, Mei, and Cerretti, 2017:73 (Italy: Lombardia: Riserva Naturale Bosco della Fontana 5 km from Mantova at 45°12'N 10°44'E, found in canopy); Jahantigh, Rakhshani, Mokhtari, and Ramroodi, 2017:17 (Iran: known from Alborz, East Azerbaijan, Fars, Golestan, Guilan, Hamadan, Hormozgan, Khuzestan, Kohgiluyeh-va Boyer-Ahmad, Lorestan, Markazi, Mazandaran, Semnan, and Tehran provinces); Jansen, 2017:6 (Germany: Sachsen: Leipzig); Magdalou, 2017:14 (France: Pyrénées-Orientales: Réserves Naturelles Catalanes: Forêt de la Massane, Julols, Mas Larrieu, Vallée d'Eye); Říha, 2017:174 (Czech Republic: Brno); Shorenko, 2017:76 (in Crimea collected in May through November); Twerd, Krzyżyński, Waldon-Rudzionek, and Olszewski, 2017:6 (Poland: Inowrocław and Janikowo: nesting in postindustrial soda ash dumping sites); Can and Gülmez, 2018b:756 (in some males from Turkey, crossvein 1rs-m is incomplete, causing partial merging of submarginal cells II and III); Creutzburg, Winter, Baumbach, and Ssymank, 2018:216 (Germany: Thüringen: Wachsenburg Nature Reserve); Franken and Berg, 2018:67 (Netherlands: North Holland: sand dunes); Jacobs and Liebig, 2018:135 (Russia: Irkutsk Oblast: Bol'shoye Goloustnoye and Sarma); Lett, 2018:202 (France: Loir-et-Cher: Gièvres at 47°16'39"N 1°41'52"E); Nicolas and Vago, 2018:12 (France: Pas-de-Calais: Mont Saint-Frieux); Shorenko, 2018:126 (Crimea, including localities, habitats, and number of specimens); Ch. Wang, Bashir, Q. Li, and Ma, 2018:299, 301 (in key to *Ammophila* of China); Augul, 2019:493 (recorded from Iraq by Augul, Abdul-Rassoul, and Kaddou et al., 2013); Baghirov, 2019:56 (distance between postocelli equaled 0.57-0.60 × ocellular distance in 1893 and 0.66-0.81 in 2017; pterostigma equaled 1.41-1.45 × first sector of radial cell in 1893 and 0.96-1.68 in 2017); Carminati, Mora, and Cretin, 2019:28 (France: in list of Sphecidae *sensu lato* of Franche-Comté); Gülmez, 2019:3 (Turkey: Amasya, Ankara, Sivas, and Tokat provinces: no specific localities), 4 (abnormal forewing venation); Ljubomirov, 2019:102 (Bulgaria: Vrachanska Planina); Olszewski and Kowalczyk, 2019:112 (northern Poland: Pomorze Gdańskie = Gdańsk Pomerania); Ruchin and Antropov, 2019a:1319 (Russia: Mordovian State Nature Reserve), 2019b:162 (common in Mordovian State Nature Reserve); Shorenko, 2019:211 (among the commonest sphecid species in Crimea); Bitsch, Barbier, and Jacobs *in* Bitsch, Barbier, Gayubo, Jacobs, Leclercq, and Schmidt, 2020:95 (in Sphecid Fauna of Europe); Danilov, 2020:317 (specimens from Belorussia, Finland, Kazakhstan, Kyrgyzstan, and Russia: European, Siberia, and Kamchatka in Institute of Systematics and Ecology of Animals, Novosibirsk, Russia); Field, Gonzalez-Voyer, and Boulton, 2020:7 (evolution of parental care); Gurule, Jadhav, and Gangurde, 2020:151 (India: Maharashtra: Nashik); Kejval, Blažej, and Erhart, 2020:118 (western Czech Republic); Maharramov, Mokrousov, and Proshchalykin, 2020:45 (Azarbaijan: Nakichivan Autonomous Republic); Örgel, Anlaş, and Tezcan, 2020:637 (Turkey: Manisa Province); Poláček, 2020:59 (Czech Republic: Opava District: Jakartovice: occurring on mine spoil heaps); Saure, 2020:276 (Germany: Sachsen-Anhalt: sand dunes); Shorenko, 2020:47 (Crimea: Karadag Nature Reserve); Can and Gülmez, 2021a:309 (Turkey: many localities); Cross, Baldock, and Wood, 2021:15 (in catalog of Sphecidae *sensu lato* of Portugal); Olszewski, Wiśniowski, and Ljubomirov, 2021:103 (in commented list of Sphecidae *sensu lato* of Poland); Saure, 2021:81 (Germany: Brandenburg: Nature Reserve Ferbitzer Bruch near Potsdam); Saure and Marten, 2021:134 (Germany: Sachsen-Anhalt: Nationalpark Harz); Embergenov, Élmurodova, Amirov and Kimyonazarov, 2022:47 (Uzbekistan: Khiva area, Tashkent Province: Parkent District); Jakubzik and Cölln, 2022:11 (Germany: Rheinland-Pfalz: Moselle River valley between Drohn and Kattenes); Pytel-Huta, Skyrpan, Tsaryk, Shydlovskyy, and Khamar, 2022:54 (western Ukraine); Kaplan and Yildirim, 2023:1692 (in checklist of Sphecidae *sensu lato* of Turkey); Langfeld, 2023:61 (Germany: Mecklenburg-Vorpommern: Baltic island Greifswalder Oie); Medetov, Embergenov, Kholmatov, Elmurodova, Rakhimov, and Tajibaeva, 2024:418 (Uzbekistan: distribution); Pytel-Huta and Franchuk, 2024:91 (Ukraine: Rivno Nature Reserve); Frommer and Klenke, 2025:162 (Germany: Hessen: Lahntal near Weilburg).

Sphex hortensis Poda von Neuhaus, 1761:106, . . . Synonymized with *Ammophila sabulosa* by Kohl, 1906:335. – Haris, 2016:10 (in list of species described by N. Poda von Neuhaus from Carpathian Basin).

Ichneumon frischii Geoffroy *in* Fourcroy, 1785:415, sex not stated (as *Frischii*, incorrect original capitalization). Holotype or syntypes: France: Paris area (lost). Synonymized with *Ammophila sabulosa* by Kohl, 1906:336.

Sphex dimidiatus Christ, 1791:313, sex not stated (as *dimidiata*, incorrect original termination), junior primary homonym of *Sphex dimidiatus* De Geer, 1773. Holotype or syntypes: origin not indicated. Synonymized with *Ammophila sabulosa* by Kohl, 1906:336. – Gimmerthal, 1836:448 (Latvia).

Ammophila vulgaris W. Kirby, 1798:202, [♀], not available (published as synonym of *Sphex sabulosa*, Article 11.6). Syntypes: ♀, Great Britain: Suffolk and Norfolk (depository?). Synonymized with *Ammophila sabulosa* by Lepeletier de Saint Fargeau, 1845:377. – Turton, 1801:497 (redescription); Stephens, 1829a:361 (in catalog of British insects), 1829b:33 (in checklist of British insects).

Ammophila pulvillata Sowerby, 1806:67, [♂]. Holotype or syntypes: Great Britain: Berkshire County: Reading (depository?). Synonymized with *Ammophila sabulosa* by F. Smith, 1855:99 and Menke *in* R. Bohart and Menke, 1976:153. – Stephens, 1829a:361 (in catalog of British insects), 1829b:33 (in checklist of British insects).

Sphex mucronatus Jurine, 1807:128 and pl. 8, Fig. 5, ♀ (as *mucronata*, incorrect original termination). Holotype or syntypes: ♀, Europe, probably Switzerland (MHNG). Synonymized with *Ammophila sabulosa* by Frei-Gessner, Kohl, and Kriechbauer, 1882:393. – Vander Linden, 1827:356 (bibliographic references). – **As *Ammophila mucronata***: Lepeletier de Saint Fargeau, 1845:384 (new generic assignment, discussion of identity).

Ammophila cyanescens Dahlbom, 1845:430, sex not stated. Holotype: ♂, Germany: Glogau, now Poland: Głogów (Lund). Synonymized with *Ammophila sabulosa* by de Beaumont, 1953h:194. – Kirchner, 1854:310 (Czechoslovakia: Kaplitz in Budweiser District, now České Budějovice; as *cyanescens* Zeller). – **As *Ammophila sabulosa* var. *cyanescens***: Kiesenwetter, 1849:87 (new status; Germany: Kingdom of Saxony); Beuthin, 1876:231 (Germany: Hamburg area); Chyzer, 1902:33 (Hungary); Schirmer, 1912:168 (Germany: Berlin area).

? *Ammophila vischu* Cameron, 1889:98, ♀, ♂. Syntypes: India: Uttar Pradesh: Mussoorie and Pakistan: North-West Province: no specific locality (OXUM). – Cameron, 1889c:94 (in list of Sphecidae of Oriental Region); Bingham, 1897:233 (as junior synonym of *Ammophila punctata*); Dalla Torre, 1897:411 (in catalog of world Hymenoptera); R. Bohart and Menke, 1976:153 (as tentative synonym of *Ammophila sabulosa*).

Ammophila sabulosa kamtschatica Gussakovskij, 1932:4, ♀. Syntypes: ♀, Russia: Kamchatka: Elisovo at 39°47'N 48°2'E (Stockholm). Synonymized with *Ammophila sabulosa* by Nemkov *in* Nemkov, Kazenas, Budrys, and Antropov, 1995:388. – R. Bohart and Menke, 1976:153 (in checklist of world Sphecidae); Danilov, 2016:350 (one syntype female preserved in Zoological Institute, Sankt-Petersburg, Russia).

As *Sphex lutarius* (which actually is *Mimesa lutaria*): Panzer, 1799, Heft 65:14 (in revision of German insects, illustration of habitus).

204. *saengeri* Dollfuss

Ammophila kohli Dollfuss, 2015a:348, ♀, ♂. Holotype: ♂, Namibia: Outjo District: Ugab River 11 km southeast of Outjo (CAS). Junior primary homonym of *Ammophila kohlii* Gussakovskij, 1928, now in *Eremnophila* (Article 58.14). – Dollfuss, 2015a:311, 316 (in key to Sub-Saharan *Ammophila*), 2015b:426 (locality records from Namibia); Medetov, Embergenov, Kholmatov, Elmurodova, Rakhimov, and Tajibaeva, 2024:418 (Uzbekistan: distribution).

Ammophila saengeri Dollfuss, 2019b:875. Substitute name for *Ammophila kohli* Dollfuss, 2015.

205. sarekandana Balthasar

Ammophila sarekandana Balthasar, 1957b:192, ♀. Holotype: ♀, Afghanistan: Badakhshan: Sarekanda (originally V. Balthasar collection, now NMPC). – R. Bohart and Menke, 1976:153 (in checklist of world Sphecidae); Dollfuss, 2013a:393, 403 (in key to *Ammophila* of Palearctic Region and India), 483 (in revision of *Ammophila* of Palearctic Region and India), 2013b:583 (locality records from Kyrgyzstan); Dunford, Turbyville, and Leavengood, 2014:10 (listed as medically important in Afghanistan); Dolfuss, 2015b:433 (India: Kashmir: Kischtwar: Inshan at 33°30'N 75°30'E); Olszewski and Danilov, 2020:192 (first records from Tajikistan: Varzob District: 5 km northeast of Kalon at 39°05'N 68°87'E); Danilov, 2020:317 (specimens from Tajikistan in Institute of Systematics and Ecology of Animals, Novosibirsk, Russia); Medetov, Embergenov, Kholmatov, Elmurodova, Rakhimov, and Tajibaeva, 2024:418 (Uzbekistan: distribution).

As *Ammophila afghanica*: Balthasar, 1957:192, ♂ only (Afghanistan: Badakhshan: Sarekanda), corrected to *Ammophila sarekandana* by Dollfuss, 2013a:483.

206. sareptana Kohl

Ammophila sareptana Kohl, 1884a:378, ♂. Lectotype: ♂, Russia: Sarepta, now Krasnoarmeysk near Volgograd (NHMW), designated by Dollfuss, 2013a:484. – Ed. André, 1886:58 (in revision of Sphecidae of Europe and Algeria), 1888:2* (bibliographic references); Dalla Torre, 1897:410 (in catalog of world Hymenoptera); Kohl, 1906b:333 (in revision of Palearctic Ammophilini); Gussakovskij, 1930c:205 (description of ♀, Ukraine: Crimea; Russia: Stavropol Kray; Kazakhstan: north of Alma Ata); Bytinski-Salz, 1956:223 (Turkey: Kuşehir); de Beaumont, 1967a:266 (Turkey); Kazenas, 1968b:342 (Kazakhstan: Alma Ata Oblast'), 1972b:100 (Kazakhstan); R. Bohart and Menke, 1976:153 (in checklist of world Sphecidae); Kazenas, 1978b:36 (in key to Sphecidae of Kazakhstan and Central Asia); Pulawski, 1978:181 (in key to Sphecidae of European part of USSR); Dollfuss, 1989:7 (type material in NHMW); Voblenko, Gorobchishin, and Nesterov, 1996:14 (Ukraine: Polesye Region), 1998:48 (Ukraine: Kiev and surroundings); Kazenas, 1998b:181 (in Sphecid Fauna of Kazakhstan); Esenbekova and Kazenas, 2000:14 (southeastern Kazakhstan: 10 km northwest of Chemolgan, 12 km north of Sary-Ozek); Kazenas, 2001b:18 (in checklist of Sphecidae of Kazakhstan and Central Asia), 2002a:39 (geographic distribution, collecting localities in Kazakhstan); Shkuratov, 2002b:138 (Russia: Rostov Oblast': Rostovskiy Nature Reserve at 46°27'N 42°41'E), 2004:72 (Russia: Rostov Oblast'); Shorenko, 2005a:163 (Ukraine: Crimea), 2005b:97 (Ukraine: Crimea: Karadagh Nature Reserve); Kazenas, 2008a:98 (southeastern Kazakhstan: Arkharly, Malaysary, Kzyl-Agach, 12 km south of Sary-Ozek, 5-10 km northwest of Chemolgan); Ljubomirov and Yildirim, 2008:37 (in catalog of Sphecidae of Turkey); Shorenko, 2009:367 (in list of Sphecidae *sensu lato* of Crimea); Danilov, 2010b:44 (distribution of Tethyan type); Protsenko, Fateryga, Ivanov, and Puzanov, 2012:54 (Ukraine: Crimea); Dollfuss, 2013a:393, 403 (in key to *Ammophila* of Palearctic Region and India), 484 (in revision of *Ammophila* of Palearctic Region and India), 2013b:584 (locality records from Kazakhstan, Kyrgyzstan, and Turkey); Yildirim, 2014:30 (Turkey: distribution by biogeographic provinces); Ivanov, Fateryga, and Filatov, 2015:300 (Crimea: Karadag Nature Reserve, a protected species); Koçak and Kemal, 2015:277 (in checklist of Hymenoptera of Turkey); Shorenko, 2015:312 (in list of Sphecidae *sensu lato* of Crimea); Yildirim, Ljubomirov, Özbek, and Yüksel, 2016:7 (Turkey: Kars: Sarikamış); Danilov, 2017b:212 (in catalog of Sphecidae s.s. of Russia); Shorenko, 2017:76 (in Crimea collected in May through September), 2018:126 (Crimea, including localities, habitats, and number of specimens); Bitsch, Barbier, and Jacobs *in* Bitsch, Barbier, Gayubo, Jacobs, Leclercq, and Schmidt, 2020:96 (in Sphecid Fauna of Europe); Danilov, 2020:317 (specimens from Kazakhstan in Institute of Systematics and Ecology of Animals, Novosibirsk, Russia); Shorenko, 2020:47 (Crimea: Karadag Nature Reserve); Kaplan and Yildirim, 2023:1692 (in checklist of Sphecidae *sensu lato* of Turkey).

207. saussurei (du Buysson)

Coloptera saussurei du Buysson, 1898a:357, ♀ (as *Saussurei*, incorrect original capitalization). Holotype or syntypes: ♀, South Africa: Gauteng: Hamanskraal (MNHN). – As *Sphex saussurei*: Arnold, 1920:32 (new generic assignment, in revision of southern African *Ammophila*), 1928b:259 (in revision of southern African *Ammophila*), 1930:16 (in checklist of Afrotropical Sphecidae). – As *Ammophila saussurei*: Leclercq, 1955h:93 (new generic assignment, bibliographic references); R. Bohart and Menke, 1976:259 (in checklist of world Sphecidae); S. Gess and F. Gess, 2003:97 (Namibia: visiting flowers of *Hermbsstaedtia odorata* (Butch.) T. Cooke, Amaranthaceae); Dollfuss, 2015a:310, 313 (in key to Sub-Saharan *Ammophila*), 366 (in revision of Sub-Saharan *Ammophila*; Angola, Namibia, Mozambique, South Africa, Tanzania, Zimbabwe), 2015b:434 (locality records from Mozambique, Namibia, South Africa, Tanzania, and Zimbabwe).

208. schalleri Dollfuss

Ammophila schalleri Dollfuss, 2015a:367, ♀, ♂. Holotype: ♂, Ethiopia: Sidamo Province: near Bitata (OÖLM). Paratypes: Burkina Faso, Kenya, Senegal. – Dollfuss, 2015a:312, 317 (in key to Sub-Saharan *Ammophila*), 2015b:434 (locality records from Ethiopia and Kenya).

209. schmideggeri Dollfuss

Ammophila schmideggeri Dollfuss, 2013a:485, ♀, ♂. Holotype: ♀, Israel: Negev Desert 45 km south of Beer Sheva and 5 km SSE Sede Boqer: Wadi N'Aqef at 34°48'N 30°49'E (coll. Schmid-Egger, Berlin). – Dollfuss, 2013a:392, 401 (in key to *Ammophila* of Palearctic Region and India), 485 (in revision of *Ammophila* of Palearctic Region and India).

210. separanda F. Morawitz

Ammophila separanda F. Morawitz, 1891a:204, ♀, ♂. Lectotype: ♀, European Kazakhstan: Ryn-Peski (ZIN), designated by Danilov, 2015a:542. – Dalla Torre, 1897:410 (in catalog of world Hymenoptera); Kohl, 1906b:321 (as a variety of *Ammophila campestris*), 375 (original description copied); Myartseva, 1971a:77 (in key to *Ammophila* of Turkmenistan), 1971b:180 (ranges slightly outside Turanian Province); Kazenas, 1972b:101 (Kazakhstan); Myartseva, 1972a:86 (Turkmenistan); Kazenas, 1974b:109 (feeding on flowers of *Statice gmelini* Willd., Plumbaginaceae, in Kazakhstan), 111 (feeding on flowers of *Thymus marschallianus* Willd., Lamiaceae, and *Saussurea* sp., Asteraceae, in Kazakhstan); R. Bohart and Menke, 1976:153 (in checklist of world Sphecidae, as tentative synonym of *Ammophila campestris*); Kazenas, 1978b:37 (in key to Sphecidae of Kazakhstan and Central Asia); Pulawski, 1978:182 (in key to Sphecidae of European part of USSR); Nazarova, 1998:40 (Tajikistan: Tigrovaya Balka Nature Reserve); Danilov, 2010b:45 (distribution of Tethyan type); Dollfuss, 2013a:394, 404 (in key to *Ammophila* of Palearctic Region and India), 486 (in revision of *Ammophila* of Palearctic Region and India), 2013b:584 (locality records from Kazakhstan and Turkmenistan); Danilov, 2014b:520, 521 (in key to Sphecidae s.s. of Siberia, not yet found in Siberia), 2015a:542 (redescription, locality records from Kazakhstan, southern part of European Russia, Tajikistan, Turkmenistan, Uzbekistan); Mokrousov, 2015:537 (southeastern European Russia); Danilov, 2016:338 (lectotype preserved in Zoological Institute, Sankt-Petersburg, Russia), 2017b:212 (in catalog of Sphecidae s.s. of Russia); Danilov, 2020:317 (specimens from Russia: Astrakhan' Oblast' and Dagestan in Institute of Systematics and Ecology of Animals, Novosibirsk, Russia); Maharramov, Mokrousov, and Proshchalykin, 2020:45 (Azarbaijan: Nakichivan Autonomous Republic).

211. sickmanni Kohl

Ammophila sickmanni Kohl, 1901d:151, ♀. Lectotype: ♀, China: Tientsin or Kalgan (NHMW), designated by Dollfuss, 2013a:487. – Kohl, 1906b:340 (in revision of Palearctic Ammophilini); Gussakovskij, 1938:3 (China: Kiangsu Province); Tsuneki, 1967j:10, 11 (in key to Ammophilini of East Asia; as *sickmanni sickmanni*), 15 (description of ♂, Korea), 1974a:360 (Korea); R. Bohart and Menke, 1976:153 (in checklist of world Sphecidae); Tsuneki, 1982b:14 (known from Korea); Paik, 1985:197 (in list of Sphecidae of Korea); Tsuneki, 1991:199 (Korea); Q. Li, J. Li, and J. Yang, 1994:290 (in revision of *Ammophila* of Shandong Province, China, as *sickmanni sickmanni*); Nemkov *in* Nemkov, Kazenas, Budrys, et Antropov, 1995:387 (in key to Sphecidae of Russian Far East); Wu and Zhou, 1996a:55 (in revision in Economic Insect Fauna of China, as *Ammophila sickmanni sickmanni*); Wu, Zhou, Q. Li, and Yang, 2003:809 (China: Fujian Province, as *Ammophila sickmanni sickmanni*); Q. Li and J. He, 2004:1121 (in hymenopterous fauna of Zhejiang Province, China, as *Ammophila sickmanni sickmanni*); Q. Li and L. Yang, 2005:883 (China: Gansu: Quinling Range and South Mountains, as *Ammophila sickmanni sickmanni*); Hua, 2006:275 (in list of Chinese insects, geographic distribution); Nemkov, 2008b:17 and 2009b:50 (in new catalog of Sphecidae and Crabronidae of Asiatic Russia); Danilov, 2010b:45 (distribution of eastern Palearctic type); Nemkov, 2012c:434 (in catalog of Sphecidae of Russian Far East); Dollfuss, 2013a:389, 394, 400 (in key to *Ammophila* of Palearctic Region and India), 487 (in revision of *Ammophila* of Palearctic Region and India), 2013b:584 (locality records from China and Mongolia); Danilov, 2014a:427 (Russia: Siberia: Altay Republic, Altayskiy Kray, Buryatia, Novosibirsk Oblast', Tyva), 2014b:519, 520 (in key to Sphecidae s.s. of Siberia); J.-K. Kim, 2014:417 (in catalog of Sphecidae *sensu lato* of Korean Peninsula); Kim, Yeo, and Kim, 2014:275 (in key to *Ammophila* of South Korea), 278 (in revision of Sphecidae *sensu stricto* of South Korea); Danilov, 2017b:212 (in catalog of Sphecidae s.s. of Russia); Jacobs and Liebig, 2018:135 (Russia: Primorskiy Kray: Anisimovka, Kalinovka, and Poshiga); Ch. Wang, Bashir, Q. Li, and Ma, 2018:298, 301 (in key to *Ammophila* of China); Danilov, 2020:317 (specimen from Zabaikalskiy Kray of Russia in Institute of Systematics and Ecology of Animals, Novosibirsk, Russia).

Ammophila subassimilis Strand, 1913a:86, ♀, ♂. Lectotype: Taiwan: Taihorin (DEI), designated by Dollfuss, 2013a:487. Synonymized with *Ammophila sickmanni* by Dollfuss, 2013a:487. – Strand, 1927:253 (in list of species described by the author); Sonan, 1942:133 (as new synonym of *Ammophila vagabunda*); nec Tsuneki, 1967i:383 (= *Ammophila formosensis*); Tsuneki, 1967j:5 (Taiwan), 10, 11 (in key to Ammophilini of East Asia), 17 (comparison with *Ammophila sickmanni wusheensis*); Oehlke and Wudowenz, 1974:425 (syntypes in DEI); R. Bohart and Menke, 1976:153 (in checklist of world Sphecidae); Porter, Stange, and Wang, 1999:6 (in checklist of Sphecidae of Taiwan); Hua, 2006:275 (in list of Chinese insects, geographic distribution).

Ammophila sjoestedti Gussakovskij, 1934a:6, ♀ (as *sjoestedti*, incorrect diacritic mark), junior primary homonym of *Ammophila sjoestedti* Cameron, 1910. Holotype: ♀, China: Gansu Province: no specific locality (NRS). Synonymized with *Ammophila sickmanni* by Dollfuss, 2013a:487. – R. Bohart and Menke, 1976:153 (in checklist of world Sphecidae); Q. Li and L. Yang, 2005:884 (China: Gansu: Quinling Range and South Mountains); Hua, 2006:275 (in list of Chinese insects, geographic distribution); Danilov, 2016:350 (one syntype female preserved in Zoological Institute, Sankt-Petersburg, Russia).

ssp. *wusheensis* Tsuneki

Ammophila sickmanni wusheensis Tsuneki, 1967j:16, ♀, ♂. Holotype: ♀, Taiwan: Nantou Prefecture: Chienching (originally K. Tsuneki collection, now USNM). – Tsuneki, 1967j:5 (Taiwan), 10, 11 (in key to Ammophilini of East Asia), 1971f:5 (Taiwan; discussion); Murota, 1973b:116 (Taiwan); R. Bohart and Menke, 1976:153 (in checklist of world Sphecidae); Nuhn and Menke, 1994:26 (holotype transferred to USNM); Porter, Stange, and Wang, 1999:5 (in checklist of Sphecidae of Taiwan); Hua, 2006:275 (in list of Chinese insects, geographic distribution); Dollfuss, 2013a:487 (listed in synonymy of *Ammophila sickmanni*).

212. *sinensis* Sickmann

Ammophila sinensis Sickmann, 1894:17, ♀. Syntypes: China: Hopei Province: Tientsin (Münster). – Dalla Torre, 1897:410 (in catalog of world Hymenoptera); Kohl, 1906b:334 (in revision of Palearctic Ammophilini); Gussakovskij, 1930c:207 (Russia: Chita and Stavropol oblast's; Kazakhstan: Semipalatinsk Oblast', now Semey Oblast'); R. Bohart and Menke, 1976:153 (in checklist of world Sphecidae); Kazenas, 1978b:36 (in key to Sphecidae of Kazakhstan and Central Asia); Nemkov *in* Nemkov, Kazenas, Budrys, and Antropov, 1995:386 (in key to Sphecidae of Russian Far East); Kazenas, 1998b:182 (in Sphecid Fauna of Kazakhstan), 2001b:18 (in checklist of Sphecidae of Kazakhstan and Central Asia), 2002a:39 (geographic distribution, collecting localities in Kazakhstan); Yildirim and Ljubomirov, 2005:1788 (first record from Turkey: Erzurum: Güngörmez); Hua, 2006:275 (in list of Chinese insects, geographic distribution); Yildirim and Ljubomirov, 2007:116 (Turkey: Erzincan: Kemaliye: Başpınar; Erzurum: Dutçu: Komyolu); Ljubomirov and Yildirim, 2008:37 (in catalog of Sphecidae of Turkey); Nemkov, 2008b:17 (in catalog of Sphecidae of Asiatic Russia); Danilov, 2009:57 (Russia: Western Siberia: Kulundinskaya Steppe); Nemkov, 2009b:51 (in new catalog of Sphecidae and Crabronidae of Asiatic Russia); Danilov, 2010b:45 (distribution of Scythian type); Yildirim, 2012:75 (Turkey: Erzurum: Tortum: Derekapı); Akulov and Proshchalykin, 2013:111 (Russia: Siberia: Krasnoyarsk Krai: Minusinsk); Dollfuss, 2013a:391, 488 (in key to *Ammophila* of Palearctic Region and India), 2013b:584 (locality records from China and Mongolia); Danilov, 2014a:427 (Russia: Siberia: several areas), 2014b:519 (in key to Sphecidae s.s. of Siberia); Yildirim, 2014:30 (Turkey: distribution by biogeographic provinces); Koçak and Kemal, 2015:278 (in checklist of Hymenoptera of Turkey); Samin, Bagriacik, and Monaem, 2015:194 (Iran: Guilan: Lahijan); Danilov, 2017b:213 (in catalog of Sphecidae s.s. of Russia); Jahantigh, Rakhshani, Mokhtari, and Ramroodi, 2017:17 (Iran: known from Guilan Province); Ch. Wang, Bashir, Q. Li, and Ma, 2018:299, 302 (in key to *Ammophila* of China); Danilov, 2020:317 (specimens from Russia: Siberia in Institute of Systematics and Ecology of Animals, Novosibirsk, Russia); Kaplan and Yildirim, 2023:1692 (in checklist of Sphecidae *sensu lato* of Turkey).

Ammophila planicollaris Li and C. Yang, 1990:259, ♂. Holotype: ♂, China: Nei Mongol: Junggar Banner, Ih Ju Leage: Mount Sheshan (Beijing Agricultural University). Synonymized with *Ammophila sinensis* by Dollfuss, 2013a:488. – Hua, 2006:275 (in list of Chinese insects, geographic distribution).

213. *smithii* F. Smith

Ammophila smithii F. Smith, 1856:217, ♀ (as *Smithii*, incorrect original capitalization; authorship attributed to J.S. Baly). Holotype or syntypes: ♀, India: no specific locality (originally J.S. Baly's collection, now BMNH?). – F. Smith, 1871a:359 (in catalog of Oriental Aculeata); Cameron, 1889:94 (in list of Sphecidae of Oriental Region); Bingham, 1897:232 (original description copied); Dalla Torre, 1897:410 (in catalog of world Hymenoptera); Nurse, 1903a:518 (redescription); Ramakrishna Aiyar, 1916:554 (reference to Nurse, 1903); R. Bohart and Menke, 1976:153 (in checklist of world Sphecidae); Jha and Farooqi, 1994:9 (description and illustration of male genitalia); Dollfuss, 2013a:388, 397 (in key to *Ammophila* of Palearctic Region and India), 490 (in revision of *Ammophila* of Palearctic Region and India).

214. *snizeki* Dollfuss

Ammophila snizeki Dollfuss, 2015a:369, ♀. Holotype, ♀, South Africa: Northern Cape Province: Van Zylrus (OOLM). – Dollfuss, 2015a:311 (in key to Sub-Saharan *Ammophila*).

215. *stangei* Menke

Ammophila stangei Menke, 1964a:15, ♀, ♂. Holotype: ♂, USA: California: Nevada County: Boca (UCD). – Evans, 1970:486 (Wyoming: Jackson Hole); Horning and Barr, 1970:105 (USA: Idaho: Craters of the Moon National Monument); R. Bohart and Menke, 1976:153 (in checklist of world Sphecidae); Krombein, 1979b:1594 (in catalog of North American Hymenoptera); Menke, 1983b:21 (Nebraska: Dawes County: north of Crawford); G. Ferguson, 1984a:299 (prey of *Philanthus zebratus*); Rosenheim, 1987:740 (California: Nevada County: Sagehen Creek near Hobart Mills); Field, Ohl, and Kennedy, 2011:734 (in molecular cladistic analysis of Ammophilini); Danilov, 2014:355 (a pair of paratypes preserved in Zoological Institute, Sankt-Petersburg, Russia); Field, Gonzalez-Voyer, and Boulton, 2020:7 (evolution of parental care); Menke, 2020:134 (in revision of North and Central American *Ammophila*).

216. *strenua* Cresson

Ammophila strenua Cresson, 1865b:459, ♀. Holotype: ♀, USA: Colorado Territory: no specific locality (ANSP). – Cresson, 1887:274 (in catalog of North American Hymenoptera); Ashmead, 1890:34 (in checklist of Hymenoptera of Colorado); Dalla Torre, 1897:410 (in catalog of world Hymenoptera); Ashmead, 1899d:354 (in checklist of North American Sphecidae); Melander, 1903:157 (diagnostic characters), 161 (in key to North American Ammophilini), 163 (bibliographic references, geographic distribution); Viereck, 1903a:68 (New Mexico: Beulah); Snow, 1906:133 (Arizona: Baboquivari, Oak Creek 20 mi. southwest of Flagstaff); Cresson, 1916:94 (holotype in ANSP); Murray *in* Muesebeck, Krombein, and Townes, 1951:977 (in catalog of North American Hymenoptera); Evans, 1970:486 (Wyoming: Jackson Hole); Horning and Barr, 1970:105 (USA: Idaho: Craters of the Moon National Monument); Steiner, 1973:26 (Canada: Northwest Territories); R. Bohart and Menke, 1976:153 (in checklist of world Sphecidae); Krombein, 1979b:1594 (in catalog of North American Hymenoptera); Menke, 1983b:21 (Nebraska: Dawes County: southeast of Crawford), 1986c:35 (Utah: San Juan County: southeast of Natural Bridges National Monument), 1994d:15 (California: Monterey County: Parkfield area); Blades and Maier, 1996:71 (Canada: British Columbia: Osoyoos - Mount Kobau area at 119°40'W 49°05'N); Finnamore, 1997:894 (expected to occur in Yukon); Weissmann and Kondratieff, 1999:77 (Colorado: Great Sand Dunes National Monument); Amarante, 2002:67 (in catalog of Neotropical Sphecidae); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:669 (in checklist of Mexican Sphecidae); Field, Ohl, and Kennedy, 2011:734 (in molecular cladistic analysis of Ammophilini); Stevens and Menke, 2014:220 (Arizona: Grand Canyon ecoregion); Ratzlaff, 2016:28 (Canada: British Columbia: from Krombein, 1979); Menke, 2020:78 (in revision of North and Central American *Ammophila*); Buck and Bennett, 2025:223 (in checklist of Sphecidae *sensu lato* of Canada, Alaska, and Greenland: Canada: British Columbia, first record from Alberta: no specific locality). – **As *Sphex strenuus***: J. Smith, 1910:677 (new generic assignment, in new list of insects of New Jersey); Mickel, 1918b:405 (in catalog of Nebraskan Sphecidae); Fernald, 1934:136 (in revision of North American and West Indian *Ammophila*).

Sphex dubius Fernald, 1934:139, ♂, junior secondary homonym of *Ammophila dubia* Kohl, 1901. Holotype: ♂, USA: either Arizona: Flagstaff, or Colorado, or New Mexico (ANSP). Synonymized with *Ammophila strenua* by Menke, 1967a:3.

Ammophila denningi Murray *in* Muesebeck, Krombein, and Townes, 1951:975. Substitute name for *Sphex dubius* Fernald, 1934. Synonymized with *Ammophila strenua* by Menke, 1965c:1 and 1967a:3.

217. *striata* Mocsáry

Ammophila striata Mocsáry, 1879:200, ♀. Holotype: ♀, Russia: Siberia: no specific locality (TMB). – nec Kohl, 1884a:382 (= *Ammophila adelpha*); Ed. André, 1886:66 (in revision of Sphecidae of Europe and Algeria); Dalla Torre, 1897:410 (in catalog of world Hymenoptera); Kohl, 1906b:329 (in revision of Palearctic Ammophilini); Gussakovskij, 1930c:204 (description of ♂; Russia: Primorskiy Krai); de Beaumont, 1960:4 (Turkey: Ak Chehir, Lake Wan; diagnostic characters), 1967a:267 (Turkey); R. Bohart and Menke, 1976:153 (in checklist of world Sphecidae); Kazenas, 1986:237 (rare in Kazakhstan, needs protection); Bitsch, Barbier, Gayubo, Schmidt, and Ohl, 1997:87 (in Sphecid Fauna of Western Europe, recorded from Spain: Albarracin in Teruel Province); Kazenas, 1998b:184 (in Sphecid Fauna of Kazakhstan), 2001b:18 (in checklist of Sphecidae of Kazakhstan and Central Asia), 2002a:39 (geographic distribution, collecting localities in Kazakhstan), 2007a:90 (Kazakhstan: Akmala Oblast': Kurgandzhin Nature Reserve and vicinity); Kazenas, 2008a:98 (southeastern Kazakhstan: Kurday Pass in Zailiyskiy Alatau); Ljubomirov and Yildirim, 2008:37 (in catalog of Sphecidae of Turkey); Danilov, 2010b:44 (distribution of Tethyan type); Dollfuss, 2013a:391, 402 (in key to *Ammophila* of Palearctic Region and India), 491 (in revision of *Ammophila* of Palearctic Region and India); Yildirim, 2014:30 (Turkey: distribution by biogeographic provinces, as *strata striata*); Koçak and Kemal, 2015:278 (in checklist of Hymenoptera of Turkey); Danilov, 2017b:213 (in catalog of Sphecidae s.s. of Russia); Kemal and Koçak, 2018:43 (Turkey: in list of pterygot insects of Van Province); Gülmez, 2019:3 (Turkey: Ankara Province: no specific locality); Bitsch, Barbier, and Jacobs *in* Bitsch, Barbier, Gayubo, Jacobs, Leclercq, and Schmidt, 2020:97 (in Sphecid Fauna of Europe); Danilov, 2020:317 (specimen from Kyrgyzstan in Institute of Systematics and Ecology of Animals, Novosibirsk, Russia); Can and Gülmez, 2021a:309 (Turkey: Gümüşhane: Kelkit: Ağıl); Kaplan and Yildirim, 2023:1692 (in checklist of Sphecidae *sensu lato* of Turkey).

ssp. *nadigi* Roth

Ammophila nadigi Roth, 1932:82, ♀ (as *Nadigi*, incorrect original capitalization). Holotype: ♀, Morocco: Ifran (originally A. Nadig collection, now Zurich). – Nadig, 1933:101 (Morocco: Ifrane; original description copied); Leclercq, 1955h:76 (bibliographic references); Giner Marí, 1959:387 (Morocco). – **As *Ammophila striata nadigi***: de Beaumont, 1960e:5 (new status; diagnostic characters; Morocco, Spain: Albaracín); R. Bohart and Menke, 1976:153 (in checklist of world Sphecidae); Dollfuss, 2013a:491 (in revision of *Ammophila* of Palearctic Region and India).

218. *striaticollis* F. Morawitz

Ammophila striaticollis F. Morawitz, 1889a:127, ♀. Holotype: ♀, China: Hutoho [= China: Shanxi: Xinzhou Prefecture: Fanshi County at 39°13'N 113°31'E] (ZIN). – Dalla Torre, 1897:410 (in catalog of world Hymenoptera); Kohl, 1906b:376 (original description copied), 320 (as new synonym of *Ammophila campestris*); Dollfuss, 2013a:393 (in key to *Ammophila* of Palearctic Region and India), 492 (in revision of *Ammophila* of Palearctic Region and India); Danilov, 2016:338 (holotype preserved in Zoological Institute, Sankt-Petersburg, Russia); Ch. Wang, Bashir, Q. Li, and Ma, 2018:300 (in key to *Ammophila* of China).

219. *strumosa* Kohl

Ammophila quadraticollis var. *strumosa* Kohl, 1906:355, ♀. Lectotype: ♀, Palestine: Jericho (NHMW), designated by Dollfuss, 2013a:492. – von Schulthess, 1926b:209 (Tunisia). – **As *Ammophila strumosa***: Roth, 1928:200 (new status; revision, description of ♂); Alfieri, 1946:133 (in revision of Egyptian *Ammophila*); Giner Marí, 1945b:362 (Morocco: Western Sahara: Aserifa), 1947:18 (Morocco: Western Sahara); de Beaumont, 1951e:267 (Morocco); de Beaumont and Bytinski-Salz, 1955:38 (Israel); Leclercq, 1955h:86 (bibliographic references); de Beaumont, 1958a:290 (illustration of genitalia); Grandi, 1959b:287 (Algeria: Goriana in Hodna district); de Beaumont, 1963b:19 (in revision of *Ammophila nasuta* species group); R. Bohart and Menke, 1976:153 (in checklist of world Sphecidae); Roche and Zalat, 1994:114 (Egypt: Sinai Peninsula); Roche, 2007a:18 (in checklist of Egyptian Sphecidae, redescription), 2007b:2 (in checklist of Egyptian Ampulicidae, Sphecidae, and Crabronidae); Murai and Amr, 2011:118 (recorded from Syria by Kohl, 1906); Dollfuss, 2013a:388, 397 (in key to *Ammophila* of Palearctic Region and India), 492 (in revision of *Ammophila* of Palearctic Region and India), 2013b:584 (locality records from Morocco and Tunisia); Ben Khedher, Yildirim, Braham, and Ljubomirov, 2020a:307 (in list of Tunisian Sphecidae *sensu stricto*; new record: Tunisia: Sidi Bouzid: Bouhedma National Park).

As *Ammophila hemilauta*: Bischoff, 1933:6 (Morocco: Marrakech), corrected to *Ammophila strumosa* by de Beaumont, 1963b:20.

220. *tekkensis* Gussakovskij

Ammophila tekkensis Gussakovskij, 1930c:206, ♀, ♂. Syntypes: ♀, ♂, Turkmenistan: Kara Kum desert, and Uzbekistan: Khiva at 41°23'N 60°22'E (ZIN). – Gussakovskij, 1933b:274 (Iran); R. Bohart and Menke, 1976:153 (in checklist of world Sphecidae); Kazenas, 1978b:36 (in key to Sphecidae of Kazakhstan and Central Asia), 1998b:185 (in Sphecid Fauna of Kazakhstan), 2001b:18 (in checklist of Sphecidae of Kazakhstan and Central Asia), 2002a:39 (geographic distribution, collecting localities in Kazakhstan), 2008a:98 (southeastern Kazakhstan: lower course of Kurta River: village Kazakhstan); Danilov, 2010b:44 (distribution of Tethyan type); Dollfuss, 2013a:389, 391, 399, 401 (in key to *Ammophila* of Palearctic Region and India), 493 (in revision of *Ammophila* of Palearctic Region and India), 2013b:584 (locality records from Kazakhstan and Uzbekistan); Danilov, 2016:351 (syntypes preserved in Zoological Institute, Sankt-Petersburg, Russia); Danilov and Mokrousov, 2017a:111 (first record from Russia: Astrakhan Oblast', Kalmykia); Danilov, 2017b:213 (in catalog of Sphecidae s.s. of Russia); Jahantigh, Rakhshani, Mokhtari, and Ramroodi, 2017:17 (Iran: known from Sistan-o Baluchestan Province); Danilov, 2020:317 (specimens from Kazakhstan in Institute of Systematics and Ecology of Animals, Novosibirsk, Russia); Embergenov, Élmurodova, Amirov and Kimyonazarov, 2022:47 (Turkmenistan: Karakum Desert); Medetov, Embergenov, Kholmatov, Elmurodova, Rakhimov, and Tajibaeva, 2024:418 (Uzbekistan: distribution).

221. *terminata* F. Smith

Ammophila apicalis Brullé, 1839:92, sex not stated, junior primary homonym of *Ammophila apicalis* Guérin-Méneville, 1835. Holotype or syntypes: Canary Islands: no specific locality (MNHN?). – Brullé, 1840:pl. 3 fig.22 (illustration of whole specimen); Kohl, 1893a:35 (Austria: Niederösterreich: Arnsdorf and Oberweiden); Dalla Torre, 1897:395 (in catalog of world Hymenoptera); Antiga and Bofill, 1904:3 (Spain: Cataluña Province); Saunders, 1904a:202 (Canary Islands: Tenerife); Kohl, 1906b:331 (in revision of Palearctic *Ammophilini*); Schmiedeknecht, 1907:246 (in key to Hymenoptera of Central Europe); de Gaulle, 1908:103 (in catalog of French Hymenoptera); Honoré, 1919:268 (France: Seine-et-Oise: Lardy); Noskiewicz, 1922a:9 (Ukraine: Lviv area); Berland, 1925d:29 (in Sphecid Fauna of France); Coulon, 1925:115 (Canary Islands); Kuznetzov-Ugamskij, 1927:249 (Kazakhstan: Auliye-Ata, now Dzhambul); Roth, 1928:192 (common in southern Europe, but very rare in North Africa), 223 (nesting habits, as var. *mocsaryi*), 1929:182 (in revision of Spanish *Ammophilini*); Schmiedeknecht, 1930:706 (in keys to Hymenoptera of North and Central Europe); Guiglia, 1932c:3 (Italy: Valle d'Aosta: Parco Nazionale del Gran Paradiso); Grandi, 1934:130 (Italy: Abruzzi: Campo Pericoli); Zavadil, 1932:96 (Czechoslovakia, forma *mocsaryi*), 1934:187 (Slovakia); Bernard, 1935:60 (France: Var: Fréjus area), 1936c:287 (France: Bouches-du-Rhône: Port-de-Bouc; Var: Fréjus); Crèvecoeur and Maréchal, 1936:249 (Belgium: Lanaecken and Laeken); J. Muller, 1936:163 (first record from Belgium); Bischoff, 1937b:1 (Canary Islands); Zavadil, Šusterka, and Baťa, 1937:213 (in catalog of Sphecidae of Czechoslovakia); Kuntze and Noskiewicz, 1938:379 (in Poland known only from Podole region, now Ukraine); Móczár, 1938d:80 (Hungary: Pótharasz puszta); Balthasar, 1941b:112 (Czech Republic: eastern Moravia); Giner Marí, 1943a:71 (in Sphecid Fauna of Spain); de Andrade, 1949:7 (Portugal); Móczár, 1953:309 (Hungary); Nouvel and Ribaut, 1953:176 (France: Hautes-Pyrénées: Cauterets); de Beaumont, 1954b:2 (Canary Islands); Hertzog, 1954:99 (France: Bouches-du-Rhône: Camargue); de Beaumont, 1955c:56 (effects of stylopization); Harant and Leclercq, 1955:250 (France: Hérault: Palavas-les-Flots); Leclercq, 1955h:87 (bibliographic references); Vogrin, 1955:30 (Yugoslavia); Bytinski-Salz, 1956:224 (Turkey: Altinkum, Keşis, Pendik, Ulu Dag); Ceballos, 1956:359 (in catalog of Hymenoptera of Spain); Hertzog, 1956:144 (prey: geometrid caterpillars); Morel, Nouvel, and Ribaut, 1956:336 (France: Département des Pyrénées-Orientales); Bajári, 1957a:14 (in key to Hungarian Sphecidae); Morel, Nouvel, and Ribaut, 1958:8 (France: Pyrénées-Orientales: Banyuls-sur-Mer area); Pulawski, 1958a:163 (Bulgaria: Sandanski); de Beaumont, 1958c:201 (Swiss National Park); de Beaumont, 1959a:7 (Italy); Scobiola Palade, 1959:498 (first record from Romania: Constanța Region: Eforia, description and illustration of male genitalia); Noskiewicz and Pulawski, 1960:38 (in key to Polish Sphecidae, not yet found in Poland); Scobiola, 1960b:235 (Romania: several localities); Atanassov, 1962:126 (Bulgaria: Petrich area); de Beaumont, 1962:19 (Spain), 1964c:25 (in Sphecid Fauna of Switzerland); Menke, 1964:151 (nomenclatural history); de Beaumont, 1968:254 (Canary Islands); Kazenas, 1968b:342 (Kazakhstan: Alma Ata Oblast'); Benedek, 1969a:83 (Hungary; marshy meadow); Zangheri, 1969:1699 (Italy: in catalog of flora and fauna of Romagna Region); Balthasar, 1972:428 (in Sphecid Fauna of Czechoslovakia); Simon Thomas, 1972:174 (France: Gironde, Landes, Lot-et-Garonne), 1976:3 (France: Lot-et-Garonne: Forêt de Campet); Kolesnikov, 1977:317 (Russia: Bryansk Oblast'); Marion, 1978:85 (France); Schmidt, 1981:223 (Germany: specimen recorded from Kaiserstuhl by Miotk, 1979 is *Podalonia affinis*); Mingo and Gayubo, 1983:163 (Spain); Pádr *in* Šedivý, 1989a:166 (in checklist of Czechoslovakian Sphecidae), 1990:68 (Czech Republic: Praha area).

Ammophila terminata F. Smith, 1856:210. Substitute name for *Ammophila apicalis* Brullé, 1839. – Menke, 1964b:151, 152 (synonymy); de Beaumont, 1967a:268 (Turkey), 1968a:254 (Canary Islands: Lanzarote, Fuerteventura, Gran Canaria, Tenerife); Simon Thomas, 1969a:120 (Canary Islands: Tenerife); Kazenas, 1972b:100 (Kazakhstan), 1974b:109 (feeding on flowers of *Tamarix* sp., Tamaricaceae, *Statice gmelini* Willd., Plumbaginaceae, *Euphorbia* spp., Euphorbiaceae, in Kazakhstan), 110 (feeding on flowers of *Nitraria schoberi* L., *Peganum harmala* L., Zygophyllaceae, and *Daucus carota* L., Apiaceae, in Kazakhstan), 111 (feeding on flowers of *Lepidium crassifolium* W. et K., Brassicaceae, in Kazakhstan), 112 (feeding on flowers of *Salsola* sp., Chenopodiaceae, in Kazakhstan); R. Bohart and Menke, 1976:153 (in checklist of world Sphecidae); Báez and Ortega, 1978:191 (Canary Islands); Kazenas, 1978b:37 (in key to Sphecidae of Kazakhstan and Central Asia); Mityaev, Matesova, Kulenova, Kazenas, and Zhdanko, 1980:115 (Russia: Siberia: Altayskiy Krai: basin of Aley River); Dollfuss, 1983a:75 (Austria: endangered in Niederösterreich), 1983b:3 (in catalog of Sphecidae of Austria), 1988:21 (Austria: Niederösterreich: Oberweiden); Chinin, 1991:111 (Russia: Samara Oblast'); Day, 1991:xii (summary of European Endangered Hymenoptera Lists); Dollfuss, 1991:33 (in key to Sphecidae of North and Central Europe); Gorobchishin, 1993:46 (Ukraine: Kanev Nature Reserve); Hohmann, La Roche, Ortega, and Barquín, 1993:199 (detailed records from Canary Islands); Gorobchishin, 1995:17 (Ukraine: Kanev Nature Reserve); Negrisolo *in* Minelli, Ruffo, and La Posta, 1995b:2 (in catalog of Italian fauna); Nemkov *in* Nemkov, Kazenas, Budrys, and Antropov, 1995:387 (in key to Sphecidae of Russian Far East); Gorobchishin, 1996:53 (Ukraine: Kanev Nature Reserve); Minoranskiy and Shkuratov, 1996:80 (Russia: Rostov Oblast'); Voblenko, Gorobchishin, and Nesterov, 1996:14 (Ukraine: Polesye Region); Bitsch, Barbier, Gayubo, Schmidt, and Ohl, 1997:89 (in Sphecid Fauna of Western Europe); Kazenas, 1998b:186 (in Sphecid Fauna of Kazakhstan), 187 (as *terminata terminata*); Anan'eva and Kochetkov, 1999:6 (Russia: Ryazan Oblast': no specific locality); Zehnder and Zettel, 1999:131 (Switzerland: recolonization of flooded area in Valais Canton); Blösch, 2000:137 (in Sphecid Fauna of Germany: may occur in Germany); Esenbekova and Kazenas, 2000:14 (southeastern Kazakhstan: 8 km east of Bakanas, 3 km northeast of Borandysu, 10 km northwest of Chemolgan, 10 km northwest of Chundzha, near Kapchagay); Shkuratov, 2000:54 (Russia: Rostov Oblast': Vëshenskaya village area at 49°37'N 41°45'E); Zettel, 2000:24 (Austria: Drösing); Kazenas, 2001b:18 (in checklist of Sphecidae of Kazakhstan and Central Asia), 114 (review of known biology); Kazenas and Esenbekova, 2001:133 (Kazakhstan: Almatinskiy Nature Reserve); Kazenas, 2002a:39 (geographic distribution, collecting localities in Kazakhstan); Shkuratov, 2002b:138 (Russia: Rostov Oblast': Rostovskiy Nature Reserve at

46°27'N 42°41' E); Shlyakhtenok and Skibinska, 2002:32 (Belorussia: no specific locality); Hellrigl, 2004a:172 (Italy: Trentino-Alto Adige, as Südtirol: Vinschgau = Val Venosta: Sankt Martin in Kofel); Kazenas, 2004b:100 (Kazakhstan: western Tien Shan Mountains), 2004d:28 (Kazakhstan: northern Caspian region); Majzlan and Deván, 2004:32 (Slovakia: Malacky-Široké); Shkuratov, 2004a:72 (Russia: Rostov Oblast'), 2004b:164 (Russia: Rostov Oblast': Gosudarstvennyi Muzei-Zapovednik M.A. Sholokhova); Gülmez and Tüzün, 2005:51 (Turkey: Ankara Province); Straka, 2005a:399 (endangered in Czech Republic); Hua, 2006:275 (in list of Chinese insects, geographic distribution); Alieva and Humbatov, 2007:77 (nesting and prey, from literature); Jacobs, 2007:46, 47 (in key to Sphecidae of Germany, not yet found in Germany); Kazenas, 2007a:90 (Kazakhstan: Akmala Oblast': Kurgandzhin Nature Reserve and vicinity); Vepřek and Straka, 2007:199 (in catalog of Sphecidae of Czech Republic and Slovakia, known from Moravia and Slovakia only), 211 (record from Bohemia by Zavdil, 1937, is unreliable and not accepted; vaucher specimen could not be located); Danilov, 2008:346 (Russia: Altayskiy Krai: Barnaul area); Danilov and Tshernyshev, 2008:41 (Russia: Novosibirsk Oblast': Karasuk area); Dvořák, Bogusch, Malenovský, Bezděčka, Bezděčková, Holý, Liška, Macek, Roller, Říha, Smetana, Straka, and Šima, 2008:65 (Czech Republic: Hády Hill near Brno); Kochetkov, Bol'shakova, Butenko, and Prikloński, 2008:262 (Russia: Ryazan' Oblast': Oka Nature Reserve); Larnhof, 2008:45 (Austria: Niederösterreich: Nature Reserve "in den Sandbergen" near Drösing); Nemkov, 2008b:17 (in catalog of Sphecidae of Asiatic Russia); Baños-Picón, Asís, Gayubo, and Tormos, 2009:310 (Spain: frequency of specimens collected with hand nets and Malaise traps); Danilov, 2009:57 (Russia: Western Siberia: Kulundinskaya Steppe); Nemkov, 2009b:51 (in new catalog of Sphecidae and Crabronidae of Asiatic Russia); Danilov, 2010b:45 (distribution of transpalearctic type); Rudoiskatel', 2010:147 (Russia: southern Ural Mountains); Shorenko and Konovalov, 2010:10 (Ukraine: Khar'kov, Zaporozhskaya, and Luganskaya oblast's); Smetana, Roller, Beneš, Bogusch, Dvořák, Holý, Karas, Macek, Straka, Šima, Tyrner, Vepřek, and Zeman, 2010:100 (Western Slovakia: recorded from Borská Nížina); Tüzün and Yüksel, 2010:4469 (Turkey: Niğde Province); Baghirov, 2011b:139 (Russia: Altay Republic: Onguday); Danilov, 2011b:205 (Russia: Zabaikal'skiy Krai: Daur'skiy Nature Reserve); Feoktistov, 2011:85 (Russia: Mordovian Nature Reserve); Wiesbauer and Zettel, 2011:269 (Austria: Niederösterreich: March = Morava lowland); Boillat, 2012:229 (Switzerland: in checklist of insects of Canton de Genève); Kazenas, 2012b:168 (Kazakhstan: Korgalzhin State Nature Reserve); Prisiy, 2012:46 (Russia: Belgorod Oblast'); Protsenko, Fateryga, Ivanov, and Puzanov, 2012:54 (Ukraine: Crimea); Akulov and Proshchalykin, 2013:111 (Russia: Siberia: Krasnoyarsk Krai: Minusinsk); Dollfuss, 2013a:392, 393, 402, 403 (in key to *Ammophila* of Palearctic Region and India), 494 (in revision of *Ammophila* of Palearctic Region and India), 2013b:585 (locality records from China, Czech Republic, France, Hungary, Kazakhstan, Kyrgyzstan, Mongolia, Portugal, Slovakia, Spain, Tunisia, and Turkey); Kazenas, 2013a:15 (color photograph of male, short information on geographic distribution and nesting habits); Shlyakhtenok, 2013:134 (in annotated catalog of aculeate wasps of Belorussia); Danilov, 2014a:427 (Russia: Siberia: several areas), 2014b:519, 521 (in key to Sphecidae s.s. of Siberia); Kazenas, 2014a:133 (Kazakhstan: Karatau Mountain Range); Koçak and Kemal, 2015:278 (in checklist of Hymenoptera of Turkey); Shorenko, 2015:312 (in list of Sphecidae *sensu lato* of Crimea); Levárdá and Matache, 2016:40 (in catalog of Sphecidae s.s. of Romania); Yildirim, Ljubomirov, Özbek, and Yüksel, 2016:7 (Turkey: Bayburt: Kopdağı, as *terminata terminata*); Danilov, 2017b:213 (in catalog of Sphecidae s.s. of Russia); Shorenko, 2017:76 (in Crimea collected in September); Jacobs and Liebig, 2018:135 (Russia: Buryat Republic: East Sayan: 30 km northwest of Mondy); Shorenko, 2018:126 (Crimea, including localities, habitats, and number of specimens); Ch. Wang, Bashir, Q. Li, and Ma, 2018:299, 302 (in key to *Ammophila* of China); Baghirov and Nesterovitch, 2019:45 (Russia: Western Siberia: Yamalo-Nenets Autonomous District: near Khanymey village); Gülmez, 2019:3 (Turkey: Ankara and Sivas provinces: no specific localities); Ruchin and Antropov, 2019a:13219 (Russia: Mordovian State Nature Reserve, determination tentative); Ben Khedher, Yildirim, Braham, and Ljubomirov, 2020a:308 (in list of Tunisian Sphecidae *sensu stricto*; new records: Tunisia: Le Kef and Mahdia provinces); Bitsch, Barbier, and Jacobs *in* Bitsch, Barbier, Gayubo, Jacobs, Leclercq, and Schmidt, 2020:97 (in Sphecidae Fauna of Europe); Danilov, 2020:317 (specimens from Hungary, Kazakhstan, Kyrgyzstan, Mongolia, and Russia: European and Siberia in Institute of Systematics and Ecology of Animals, Novosibirsk, Russia, as *terminata terminata*); Olszewski and Danilov, 2020:193 (Spain: Valencia: Petrer); Shorenko, 2020:47 (Crimea: Karadag Nature Reserve); Can and Gülmez, 2021a:309 (Turkey: Gümüşhane: Kelkit: Ağıl); Cross, Baldock, and Wood, 2021:15 (in list of Sphecidae *sensu lato* of Portugal); Embergenov, Akhmedov, and Medetov, 2023:24 (Uzbekistan: southern Lake Aral region); Kaplan and Yildirim, 2023:1692 (in checklist of Sphecidae *sensu lato* of Turkey, as *terminata terminata*); Medetov, Embergenov, Kholmatov, Elmurodova, Rakhimov, and Tajibaeva, 2024:418 (Uzbekistan: distribution).

Ammophila mocsaryi Frivaldszky, 1876:352, [♀, ♂] (as *Mocsáryi*, incorrect original capitalization and diacritic mark). Syntypes: Hungary: Budapest and Temes Komitat (now: Romania: Timiș District): Grebenác (TMB). Synonymized with *Ammophila apicalis* Brullé by Kohl, 1906:331, synonymy confirmed by Dollfuss, 2013a:331. – Kohl, 1880:183 (Austria: Bozen area, now Italy: Trentino-Alto Adige: Bolzano), 1880:237 (description of ♂); Marquet, 1881:177 (southern France, as *Moksari*); Sajó, 1882:5 (Hungary); Kohl, 1883e:675 (Switzerland); von Heyden, 1884:116 (Germany: Frankfurt am Main); Ed. André, 1886:68 (in revision of Sphecidae of Europe and Algeria), 1888:2* (bibliographic references); Medina, 1894a:259 (Spain: Pozuelo de Calatrava); Dalla Torre, 1897:404 (in catalog of world Hymenoptera); Mocsáry, 1897:79 (Kingdom of Hungary, some localities are in today's Romania and Slovakia); Medina, 1898:153 (Portugal: Mamede); Ferton, 1905:97 (homing); Olivier, 1910:163 (Algeria: Bou Saâda); Strand, 1915:97 (Italy: Calabria: Aspromonte); Ferton, 1923:80 (malaxation of prey), 111 (material from nest is evacuated in flight and deposited on narrow area), 294 (easily finds nest when carrying prey); Haris, 2016:14 (in list of species described by J. Frivaldszky from Carpathian Basin). – **As *Podalonia apicalis* var. *mocsaryi***: Bischoff, 1931:8 (new generic assignment, new status, Spain). – **As *Ammophila apicalis* var. *mocsaryi***: Bischoff, 1933:6 (Morocco); Šnoflák *in* Zavdil and Šnoflák, 1948:99 (in key to Sphecidae of Czechoslovakia); Ceballos, 1956:359 (in catalog of Hymenoptera of Spain); Diniz, 1959:26 (Portugal: Lisboa, Quinta do Mato). – **As *Ammophila apicalis mocsaryi***: de Andrade, 1949:7 (new status, Portugal); Ceballos, 1964:86 (in supplement to catalog of Spanish Sphecidae); Diniz, 1965:2 (Portugal: seven localities); Isensee, Lese-mann, and Röseler, 1965:611 (Spain: Gerona: no specific locality); Suárez, 1969:27 (Spain: Almería Province); Benedek, 1979:227 (Hungary: Bakony Hills). – **As *Ammophila terminata mocsaryi***: R. Bohart and Menke, 1976:153 (new subspecific generic assignment, in checklist of world Sphecidae); Gayubo, 1981a:142 (northern Spain: Sierra de Béjar), 1983c:234 (Spain: Salamanca Province); Pagliano, 1984:368 (Italy); Chevin and Chevin, 1985:38 (France: Aude); Gayubo, 1985c:167 (Spain: Valladolid: Puenteduro, San Miguel de Arroyo, Traspinedo); Józán, 1985a:180 (Hungary), 1985b:55 (Hungary south of Lake Balaton), 76 (floral records), 83 (ecological and zoogeographic characteristics); Pagliano, 1985:16 (Italy); Gayubo, 1986b:37 (Spain: Andalucía), 1986c:30 (Spain: Zamora Province); Gayubo and Heras, 1986:33 (Spain: Segovia Province; floral records); Gayubo and Sanza, 1986:33 (Spain: Burgos); Gayubo and Tormos, 1986a:10 (Spain: Castellón de la Plana); Józán, 1986:368 (Hungary: Kiskunság National Park); Asís and Jiménez, 1987:25 (Spain: Castellón Province); Karsai, 1988:99 (Hungary: Kiskunság National Park); Gayubo, Asís, and Tormos, 1990a:13 (Spain); Pagliano, 1990:61 (in catalog of Italian Sphecidae); Gayubo, Borsato, and Osella, 1991:396 (Italy: Calabria), 1991:280 (Greece); Józán, 1991:602 (Hungary: Bátorliget Nature Reserve); Hamon, Tussac, and Fonfria, 1992:407, 410 (in key to French *Ammophilini*), 412 (distribution in France); Józán, 1992b:171 (Hungary: Boronka-melléki Protected Area); Torregrosa, Gayubo, Tormos, and Asís, 1993:11 (Spain: Alicante Province); Józán, 1995:104 (Hungary: projected Duna-Dráva National Park); Negrisoló *in* Minelli, Ruffo, and La Posta, 1995b:2 (in catalog of Italian fauna); Józán, 1998:310 (Hungary: Duna-Dráva National Park); Gayubo, García, Torres, and González, 1999:89 (Spain: Soria Province); González, Gayubo, and Torres, 1999:354 (Spain: Valladolid: Viana de Cega); Gayubo, González, and Torres, 2000:184 (Spain: Salamanca Province); Józán, 2001:277 (Hungary: Somogy County); Drewes, 2003:133 (Italy: Bolzano-Alto Adige; Spain: Figueras); Gayubo and Özbek, 2005:13 (Turkey: Erzurum: University campus, Tortum); Józán, 2003: 226 (Hungary: Látányi Puszta Nature Conservation Area); Pagliano and Negrisoló, 2005:69 (in Sphecidae Fauna of Italy); Magdalou, 2006b:109 (France: Pyrénées-Orientales: Mas Larrieu Nature Reserve near Argelès-sur-Mer), 2006c:7 (France: Pyrénées-Orientales: Réserve Naturelle du Mas-Larrieu); G. Turrisi and R. Turrisi, 2007:115 (Italy: Sicilia: Mount Etna: Botanical Garden Nuova Gussonea and vicinity); Ljubomirov and Yildirim, 2008:39 (in catalog of Sphecidae of Turkey); Gayubo, González, Tormos, and Asís, 2009:362 (Spain: Valladolid: Reserva Natural Riberas de Castronuño – Vega del Duero); González, Gayubo, Asís, and Tormos, 2009:622 (Spain: Salamanca and Zamora provinces: Arribes del Duero Natural Park); Józán, 2011:178 (in checklist of Sphecidae *sensu lato* of Hungary); Yildirim, 2012:75 (Turkey: Bayburt: Kop Mountain; Kars: Sarikamis: Karakurt); 2014:30 (Turkey: distribution by biogeographic provinces); Magdalou, 2017:14 (France: Pyrénées-Orientales: Réserves Naturelles Catalanes: Mas Larrieu); Kaplan and Yildirim, 2023:1692 (in checklist of Sphecidae *sensu lato* of Turkey).

Ammophila minuta Frivaldszky, 1877:352 (as *Mocsáryi*'s MS name), not available (proposed in synonymy of *Ammophila mocsaryi*, Article 11e).

Ammophila rhaetica Kohl, 1879:400, ♀. Lectotype: ♀, Austria: Sankt Justina and Vierglberge near Bozen, now Italy: Alto Adige: Bolzano area (NHMW), designated by Dollfuss, 2013a:495. Synonymized with *Ammophila mocsaryi* by Kohl, 1880:183. – Ed. André, 1886:67 (in revision of Sphecidae of Europe and Algeria), 1888:2* (bibliographic references); Kohl, 1889a:20 (as valid species).

Ammophila julii Fabre, 1879:322, [♀] (as *Julii*, incorrect original capitalization). Syntypes: France: no specific locality (MNHN). Synonymized with *Ammophila apicalis* by Dalla Torre, 1897:404. – von Dalla Torre, 1881:155 (original description translated into German); Fauvel, 1883:162 (original description copied); Berland, 1923a:173 (*Ammophila julii* is a synonym of *apicalis*).

Ammophila kirgisisca F. Morawitz, 1891a:203, ♀, ♂. Syntypes: European Kazakhstan: Ryn-Peski: Kirgizskaya (ZIN). Synonymized with *Ammophila apicalis* by Kohl, 1906:332, synonymy confirmed by Dollfuss, 2013a:495. – Dalla Torre, 1897:403 (in catalog of world Hymenoptera); R. Bohart and Menke, 1976:153 (in checklist of world Sphecidae, as tentative synonym of *Ammophila terminata mocsaryi*); Danilov, 2016:337 (syntypes preserved in Zoological Institute, Sankt-Petersburg, Russia).

Ammophila gegen Tsuneki, 1971k:171, ♂, ♀. Holotype: ♂, Mongolia: Central Gobi Aymag: Delgerhangay ul (TMB). Synonymized with *Ammophila terminata* by Nemkov *in* Nemkov, Kazenas, Budrys, and Antropov, 1995:387, synonymy confirmed by Dollfuss, 2013a:494. – R. Bohart and Menke, 1976:152 (in checklist of world Sphecidae); Wu and Zhou, 1996a:50 (in revision in Economic Insect Fauna of China).

ssp. *turanica* Kazenas

Ammophila terminata turanica Kazenas, 1998b:188, ♀, ♂. Holotype: ♀, Kazakhstan: near Ayak-Kalkan in Ili River valley 35 km northeast of Chilik (ZIN). – Dollfuss, 2013a:495 (listed in synonymy of *Ammophila terminata*); Danilov, 2020:317 (specimens from Kazakhstan in Institute of Systematics and Ecology of Animals, Novosibirsk, Russia).

Ammophila terminata turanica Kazenas, 2000d:18, ♀, ♂. Objective synonym of *Ammophila terminata turanica* Kazenas, 1998b:188.

ssp. *turkestanica* Kohl

Ammophila apicalis var. *turkestanica* Kohl, 1906:332, sex not stated. Holotype or syntypes: Turkestan, now Tajikistan, Turkmenistan, or Uzbekistan (depository unknown, not in NHMW: Dollfuss 2013a:296). – Kohl, 1906:254 (in key to Palearctic Ammophilini, misspelled *turkestanica*). – **As *Ammophila terminata turkestanica***: R. Bohart and Menke, 1976:154 (new status, in checklist of world Sphecidae); Kazenas, 1978b:37 (in key to Sphecidae of Kazakhstan and Central Asia, misspelled *turkestanica*), 1998b:188 (in Sphecid Fauna of Kazakhstan), 2001b:18 (in checklist of Sphecidae of Kazakhstan and Central Asia); Dollfuss, 2013a:392, 402 (in key to *Ammophila* of Palearctic Region and India), 495 (in revision of *Ammophila* of Palearctic Region and India: Kazakhstan: 10 km east of Djambul), 2013b:585 (locality records from China and Kazakhstan); Danilov, 2020:317 (specimens from Kazakhstan in Institute of Systematics and Ecology of Animals, Novosibirsk, Russia). – **As *Ammophila turkestanica***: Medetov, Embergenov, Kholmatov, Elmurodova, Rakhimov, and Tajibaeva, 2024:418 (new status, Uzbekistan: distribution).

222. *theryi* (Gribodo)

Coleoptera theryi Gribodo, 1894a:3, ♀, ♂ (as *Theryi*, incorrect original capitalization). Lectotype: ♂, Algeria: Biskra (Genoa), designated by Dollfuss, 2013a:496. – Zavattari, 1913a:4 (omitted from Dalla Torre's catalog, 1897); de Beaumont, 1950e:261 (study of female syntype); Penati and Mariotti, 2015:124 (in list of Hymenoptera described by G. Gribodo). – **As *Ammophila barbara theryi***: de Beaumont, 1950e:261 (new generic assignment, new status), 1960c:4 (subspecific status confirmed; diagnosis). – **As *Ammophila theryi***: R. Bohart and Menke, 1976:154 (full species status, in checklist of world Sphecidae); Dollfuss, 2013a:395, 404 (in key to *Ammophila* of Palearctic Region and India), 496 (in revision of *Ammophila* of Palearctic Region and India), 2013b:586 (locality records from Jordan, Morocco, and Syria), 2015a:310, 314 (in key to Sub-Saharan *Ammophila*), 369 (in revision of Sub-Saharan *Ammophila*); Jahantigh, Rakhshani, Mokhtari, and Ramroodi, 2017:17 (Iran: known from Sistan-o Baluchestan Province); Kaplan and Yildirim, 2023:1692 (in checklist of Sphecidae *sensu lato* of Turkey).

Ammophila judaeorum Kohl, 1901d:149, ♀, ♂. Lectotype: ♀, Palestine: Jericho (NHMW), designated by Dollfuss, 2013a:496. Synonymized with *Ammophila theryi* by Dollfuss, 2013a:496. – Kohl, 1906b:318 (in revision of Palearctic Ammophilini); nec Morice, 1911:73 and Giner Marí, 1945b:362 (= *Ammophila barbara*); Roth, 1928:187 (comparison with *Ammophila barbara*); Gussakovskij, 1933b:274 (Iran); Balthasar, 1954b:281 (Palestine: Wadi el Kelt near Jericho); de Beaumont and Bytinski-Salz, 1955:36 (Israel); R. Bohart and Menke, 1976:152 (in checklist of world Sphecidae); Dollfuss, 1989:7 (type material in NHMW). – **As *Ammophila barbara judaeorum***: de Beaumont, 1960e:4 (new status); Roche and Zalat, 1994:114 (Egypt: Sinai Peninsula); Ljubomirov and Yildirim, 2008:33 (in catalog of Sphecidae of Turkey); Yildirim, 2014:30 (Turkey: distribution by biogeographic provinces); Kaplan and Yildirim, 2023:1691 (in checklist of Sphecidae *sensu lato* of Turkey). Nec *Ammophila judaeorum* (= *Ammophila barbara*): W. Schulz, 1905b:32; Morice, 1911:73; Giner Marí, 1945b:362, 1947:18.

Ammophila barbara var. *airensis* Berland, 1950:296, ♀. Holotype: ♀, Niger: Aïr: Agadez (MNHN). Synonymized with *Ammophila theryi* by Dollfuss, 2013a:496. – de Beaumont, 1960e:4 (diagnostic characters). – **As *Ammophila airensis***: R. Bohart and Menke, 1976:150 (new status; in checklist of world Sphecidae).

223. *touareg* Ed. André

Ammophila touareg Ed. André, 1886:65, ♀, ♂ (as *Touareg*, incorrect original capitalization). Syntypes: Algeria: Sebdou in Oran Province (MNHN). – Ed. André, 1888:2* (bibliographic reference); Kohl, 1889a:20 (as new synonym of *Ammophila sabulosa*); Dollfuss, 2013a:391, 400 (in key to *Ammophila* of Palearctic Region and India), 497 (full species status, in revision of *Ammophila* of Palearctic Region and India), 2013b:586 (Algeria: Bouira, Morocco: Ifrane); Fresno, 2018:226 (first record from Europe and Spain: Salamanca: Béjar). – **As *Ammophila sabulosa* var. *touareg***: Nadig, 1933:100 (new status, Morocco: Ifrane). – **As *Ammophila sabulosa touareg***: Roth, 1928:193 (new status, in revision of North African Ammophilini), 222 (habitat), 231 (nocturnal resting); Giner Marí, 1945b:359 (e. Morocco: Ain Zorah); de Beaumont, 1950f:396 (Morocco), 1951e:265 (Morocco); Giner Marí, 1959:387 (Morocco); Suárez *in* Giner Marí, 1959:400 (name correctly used by Giner Marí, 1959:387); R. Bohart and Menke, 1976:153 (in checklist of world Sphecidae).

Ammophila oraniensis Roth, 1928:194, ♀. Holotype: ♀, Algeria: Oran (MNHN). Synonymized with .. – Leclercq, 1955h:76 (bibliographic reference).

224. *tsunekii* Menke

Ammophila tomentosa Tsuneki, 1971k:174, ♀, junior secondary homonym of *Ammophila tomentosa* (Arnold, 1920). Holotype: ♀, Mongolia: Central Gobi Aymag: Hoot Bulag (TMB).

Ammophila tsunekii Menke *in* Bohart and Menke, 1976:154. Substitute name for *Ammophila tomentosa* Tsuneki. – Dollfuss, 2013a:393, 403 (in key to *Ammophila* of Palearctic Region and India), 498 (in revision of *Ammophila* of Palearctic Region and India), 2013b:586 (locality records from Mongolia); Danilov, 2020:318 (specimens from Mongolia in Institute of Systematics and Ecology of Animals, Novosibirsk, Russia).

225. *tuberculiscutis* (Turner)

Sphex tuberculiscutis Turner, 1919c:396, ♀, ♂. Syntypes: Kenya: Kibwei, Masongaleni, Mtito Andei [as Mitto Andei], and Tanzania: Ukamba (BMNH). – Arnold, 1928b:260 (in revision of southern African *Ammophila*), 1930:16 (in checklist of Afrotropical Sphecidae). – **As *Ammophila tuberculiscutis***: Leclercq, 1955h:94 (new generic assignment, bibliographic references); R. Bohart and Menke, 1976:154 (in checklist of world Sphecidae); Dollfuss, 2015a:309, 313 (in key to Sub-Saharan *Ammophila*), 371 (in revision of Sub-Saharan *Ammophila*); Kenya, Namibia, 2015b:434 (locality records from Kenya).

226. *turneri* Dollfuss

Ammophila turneri Dollfuss, 2015a:372, ♀, ♂. Holotype: ♂, South Africa: Western Cape Province: Swellendam (BMNH). – Dollfuss, 2015a:311, 315 (in key to Sub-Saharan *Ammophila*), 2015b:434 (South Africa: Eastern Cape Province: 70 km southwest of Queenstown at 32°07'S 26°16'E).

227. *tyrannica* Cameron

Ammophila tyrannica Cameron, 1890:pl. IX, Fig. 11. ♀. Holotype: ? India: no specific locality (BMNH or OXUM). – Dalla Torre, 1897:411 (in catalog of world Hymenoptera); R. Bohart and Menke, 1976:154 (in checklist of world Sphecidae).

228. *unita* Menke

Ammophila uinta Menke, 1965c:1, nomen nudum. Objective synonym of *Ammophila unita* Menke, 1966b.

Ammophila unita Menke, 1966b:35, ♀, ♂. Holotype: ♂, USA: Colorado: Moffat County: Castle Park in Dinosaur National Monument (USNM). – R. Bohart and Menke, 1976:154 (in checklist of world Sphecidae); Krombein, 1979b:1594 (in catalog of North American Hymenoptera); Menke, 1994f:21 (Utah: Calf Creek Falls State Park and Monticello area); Stevens and Menke, 2014:220 (Arizona: Grand Canyon ecoregion); Menke, 2020:135 (in revision of North and Central American *Ammophila*).

229. *untumoris* Yang and Q. Li

Ammophila untumoris Yang and Q. Li, 1989:108, ♀. Holotype: ♀, China: Shaanxi Province: Ganquan County: Quingquan (Beijing Agricult. Univ.). – Hua, 2006:275 (in list of Chinese insects, geographic distribution); Dollfuss, 2013a:499 (in revision of *Ammophila* of Palearctic Region and India, original description translated from Chinese into English); Ch. Wang, Bashir, Q. Li, and Ma, 2018:299 (in key to *Ammophila* of China).

230. *urnaria* Dahlbom

Ammophila urnaria Dahlbom, 1843:14, ♀, ♂ (authorship attributed to Klug). Lectotype (sex not stated): USA: Pennsylvania or South Carolina: no specific locality (ZMHU), designated by Menke, 1965c:1. – Dahlbom, 1845:430 (in key to *Ammophila*); F. Smith, 1856:223 (in catalog of Hymenoptera in British Museum); Cresson, 1863:319 (in catalog of North American Hymenoptera); A. Costa, 1864b:111 (specimen from Carolina, USA, in Museo Zoologico di Napoli); Taschenberg, 1869:433 (Illinois); Cresson, 1887:274 (in catalog of North American Hymenoptera); Dalla Torre, 1897:411 (in catalog of world Hymenoptera); G. Peckham and E. Peckham, 1898:6 (nesting habits); Ashmead,

1899d:354 (in checklist of North American Sphecidae); J. Smith, 1900:524 (in list of insects of New Jersey); Melander, 1903:157 (diagnostic characters), 161 (in key to North American Ammophilini), 163 (bibliographic references, geographic distribution); Viereck, 1903d:121 (Maryland: Chestertown); G. Peckham and E. Peckham, 1905:18 (popular account of nesting habits); Barth, 1910:119 (nest structure); E. Nielsen, 1921:325 (review of the Peckhams observation on prey paralyzing); Picard, 1925b:161 (review of observations on stinging sequence); G. Carpenter, 1930b:292, 295, 297 (nest closure); Frisch, 1940:345 (use of tool described by the Peckhams, 1898, is not unique to this species and is innate, instinctive act); Murray *in* Muesebeck, Krombein, and Townes, 1951:977 (in catalog of North American Hymenoptera); Evans and Lin, 1956a:146 (description of larva); Evans, 1959d:462 (nesting behavior, as *Ammophila urnaria urnaria*), 1963a:153 (photograph of female with prey), 1963c:Fig. 7 after p. 38 (photograph of female with prey), 58 (homing); Kurczewski and Kurczewski, 1963:147 (Pennsylvania: Presque Isle State Park, as *urnarius*); Evans, 1975a:264 (slow colonizer of new habitats); R. Bohart and Menke, 1976:154 (in checklist of world Sphecidae); Krombein, 1979b:1594 (in catalog of North American Hymenoptera); Casolari and Casolari Moreno, 1980:100 (specimens in M. Spinola collection, Torino); Finnamore, 1982:36 (in Sphecid Fauna of southern Quebec); Menke, 1983b:21 (Nebraska: Cherry County: Valentine and Nenzel areas, and Dawes County: southeast of Crawford); Brockmann, 1985b:312 (nest closure summary); Piek and Spanjer, 1986:179 (in list of Sphecidae with known prey); Steiner, 1986:99 (references to papers on nesting habits); O'Brien, 1989b:213 (distribution in Michigan); Spofford, Kurczewski, and Downes, 1989:256, 260, 261 (nest parasites: *Hilarella hilarella* (Zetterstedt), *Senotainia vigilans* Allen, and *Sphenometopa tergata* (Coquillett), miltogrammine flies, and undetermined Miltogrammini); Kurczewski and Acciavatti, 1990:60 (New York: Cayuga County); Spofford and Kurczewski, 1990:745, 749, 750 (nest parasites: *Hilarella hilarella* (Zetterstedt), *Senotainia vigilans* Allen, *Sphenometopa tergata* (Coquillett), and unknown species of Miltogrammini, Sarcophagidae), 1992:996 (species of miltogrammine parasites listed), 1002 (counter-cleptoparasitic behavior: freeze-stop and face-off, diversionary flight), 1003 (chasing flight), 1004 (post-larvipositional counter-cleptoparasitic behavior: abandon burrow), 1005 (abandon prey, clean burrow); Ahlstrom, 1995:107 (in checklist of insects of North Carolina); Kurczewski, 1998d:250 (pine barrens in upstate New York); Kurczewski and Spofford, 1998:99 (alternative nesting strategies); Sugar et al., 1998:15 (Canada: southern Ontario); Buck, 2004:24 (Canada: in checklist of Sphecidae of Ontario); McCravy, Bara, Hessler, Luxmore, Stinebaker, and Jenkins, 2009:113 (Illinois: Hancock County: Alice L. Kibbe Life Science Station); Miller, Pearce, and O'Neill, 2009:3 (known to be parasitized by *Paraxenos lugubris* (Pierce), Strepsiptera); Field, Ohl, and Kennedy, 2011:734 (in molecular cladistic analysis of Ammophilini); Dollfuss, 2015b:434 (locality records from Michigan); Field, Shreeves, Kennedy, Brace, and Gilbert, 2015:1899 (sex-biased parental care and sexual size dimorphism); Lechner, 2019:153-154 (Iowa: Sioux City, parasitized by strepsipteran *Paraxenos lugubris* Pierce); Field, Gonzalez-Voyer, and Boulton, 2020:7 (evolution of parental care); Menke, 2020:104 (in revision of North and Central American *Ammophila*); Buck and Bennett, 2025:223 (in checklist of Sphecidae sensu lato of Canada, Alaska, and Greenland: Canada: Manitoba, New Brunswick, Nova Scotia, Ontario, Prince Edward Island, Quebec, Saskatchewan, first record from Alberta: no specific locality). – **As *Sphex urnarius***: J. Smith, 1910:677 (new generic assignment, in new list of insects of New Jersey, as *urnaria* Klug); J. Parker, 1915:75 (nesting habits); Rohwer, 1916b:682 (in catalog of Hymenoptera of Connecticut, as *urnaria* Klug); Mickel, 1918b:402 (in catalog of Nebraskan Sphecidae); Rohwer *in* Viereck, 1925:682 (in key to Sphecidae of Connecticut); Hendrickson, 1930:159 (Iowa); G. Carpenter, 1930b:292 (nest closure); Fernald, 1931a:447 (as new synonym of *Sphex arvensis*), 1934:121 (in revision of North American and West Indian *Ammophila*); Krombein, 1936:98 (New York: Buffalo; floral records); Brimley, 1938:444 (North Carolina: statewide, as *urnaria*); Britton, 1938:149 (in addition to checklist of insects of Connecticut); Murray, 1938:30 (redescription); Dreisbach, 1944:269, 270 (in key to *Ammophila* of Michigan), 274 (Michigan: locality records); Strickland, 1947:129 (Canada: Alberta); Krombein, 1952a:94 (USA: Virginia: Westmoreland State Park); Krombein and Evans, 1954:234 (Florida); Krombein, 1958a:52 (USA: West Virginia: Lost River State Park), 1958f:192 (in supplement to catalog of North American Hymenoptera: description of larva by Evans and Lin, 1956a, reported), as *urnarius urnarius*, 1963f:276 (Maryland: Plummers Island near Washington, D.C.).

Ammophila inepta Cresson, 1873:209, ♀. Lectotype: ♀, Texas: no specific locality (ANSP), designated by Cresson, 1916:94. Synonymized with *Ammophila urnaria* by Murray, 1938:30. – Cresson, 1887:274 (in catalog of North American Hymenoptera); Dalla Torre, 1897:403 (in catalog of world Hymenoptera); Ashmead, 1899d:354 (in checklist of North American Sphecidae); J. Smith, 1900:524 (in list of insects of New Jersey); Fernald, 1931a:447 (as new synonym of *Sphex arvensis*).

Sphex arvensis floridensis Fernald, 1933:236. Nomen nudum (prey carrying).

Sphex floridensis Fernald, 1934:126, ♀, ♂. Holotype: ♀, USA: Florida: Orlando (originally H. Fernald collection, now USNM). Synonymized with *Ammophila urnaria* by R. Bohart and Menke, 1976:154. – Fernald, 1943a:290 (Florida). – **As *Sphex urnarius floridensis***: Murray, 1938:36 (new status); Krombein and Evans, 1954:234 (Florida: Paradise Key), 1955:233 (Florida). – **As *Ammophila urnaria floridensis***: Murray *in* Muesebeck, Krombein, and Townes, 1951:977 (new generic assignment, in catalog of North American Hymenoptera).

As *Ammophila conditor*: Harrington, 1902:224 (Canada: Ontario: Ottawa), corrected to *Ammophila urnaria* by Buck, 2004:75.

As *Sphex conditor*: Faull, 1913:384 (new generic assignment, Canada: Toronto region), corrected to *Ammophila urnaria* by Buck, 2004:75.

231. *vagabunda* F. Smith

Ammophila vagabunda F. Smith, 1856:218, ♀. Syntypes: China: Tei-tung and Foo-chou-foo; Indonesia: Sumatra: no specific locality; and northern India: no specific locality (BMNH). – F. Smith, 1871a:359 (in catalog of Oriental Aculeata); Cameron, 1889:94 (in list of Oriental Sphecidae); Bingham, 1897:231 (in revision of wasps and bees of British India, now India and Pakistan); Dalla Torre, 1897:411 (in catalog of world Hymenoptera); Sonan, 1942:132 (in revision of Ammophilini of Taiwan); Dollfuss, 2013a:389, 390, 400 (in key to *Ammophila* of Palearctic Region and India), 500 (in revision of *Ammophila* of Palearctic Region and India, as full species), 2013b:586 (locality records from China, Japan, Korea, Mongolia, Russia: Vladivostok, Tajikistan, and Turkey); Danilov, 2014b:519, 520 (in key to Sphecidae s.s. of Siberia, not yet found in Siberia); J.-K. Kim, 2014:417 (in catalog of Sphecidae sensu lato of Korean Peninsula); Kim, Yeo, and Kim, 2014:275 (in key to *Ammophila* of South Korea), 279 (in revision of Sphecidae sensu stricto of South Korea); Danilov, 2017b:213 (in catalog of Sphecidae s.s. of Russia); Jacobs and Liebig, 2018:135 (Russia: Primorskiy Krai: Anisimovka, Novonezhino, and Poshiga); Ch. Wang, Bashir, Q. Li, and Ma, 2018:299, 301 (in key to *Ammophila* of China); Danilov, 2020:318 (specimens from Japan and eastern Russia in Institute of Systematics and Ecology of Animals, Novosibirsk, Russia); Komeda, 2021b:63 (Japan: Honshu: Yamanashi Prefecture); Terayama, 2021:18 (Japan: Port of Tokyo Wild Bird Park); Kaplan and Yildirim, 2023:1692 (in checklist of Sphecidae sensu lato of Turkey). – **As *Ammophila sabulosa vagabunda***: R. Bohart and Menke, 1976:153 (new status, in checklist of world Sphecidae); Zhou and Wu, 1993a:670 (China: Wuling Mountains), 1993b:725 (China: Longqi Mountain Nature Reserve); Q. Li and C. Yang, 1995b:573 (China: Zhejiang Province: Baishanzu Mountain), 1995c:271 (China: Zhejiang Province: Gutianshan); Wu and Zhou, 1996a:54 (in revision in Economic Insect Fauna of China); Porter, Stange, and Wang, 1999:5 (in checklist of Sphecidae of Taiwan); Q. Li and He, 2001:755 (China: Tianmushan Nature Reserve at 30°22'N 119°26'E); Wu, Zhou, Q. Li, and Yang, 2003:808 (China: Fujian Province); Q. Li and He, 2004:1121 (China: in hymenopterous fauna of Zhejiang Province); Hua, 2006:275 (in list of Chinese insects, geographic distribution).

Ammophila solowiyofkae Matsumura, 1911:111, ♀. Syntypes: Russia: Island of Sakhalin: Solovievka and Galkinovraskoye, now Dolinsk (depository?). Synonymized with *Ammophila vagabunda* by Dollfuss, 2013a:500. – R. Bohart and Menke, 1976:153 (in checklist of world Sphecidae, possibly senior synonym of *Ammophila sabulosa nipponica*). – **As *Ammophila sabulosa solowiyofkae***: Nemkov, 2005a:141 (new status, Russia: Island of Sakhalin), 2006b:166 (Russia: Primorskiy Krai: Kedrovaya Pad' Nature Reserve); Hua, 2006:275 (in list of Chinese insects, geographic distribution); Nemkov, 2007b (Russia: Kuril Islands: Island of Kunashir), 2007c:997 (in Appendix to Key to identification of Sphecidae of Far East of Russia); Nemkov, 2009b:50 (in new catalog of Sphecidae and Crabronidae of Asiatic Russia), 2009c:235 (Russia: Primorskiy Krai: Lazovskiy Nature Reserve), 2012c:434 (in catalog of Sphecidae of Russian Far East).

As *Ammophila sabulosa*: Sickmann, 1895:216 (China: Tientsing), corrected to *Ammophila sabulosa nipponica* by Tsuneki, 1971m:2.

As *Ammophila infesta*: Yasumatsu, 1942c:103 (China: Beijing), corrected to *Ammophila sabulosa nipponica* by Tsuneki, 1971m:2.

Ammophila sabulosa nipponica Tsuneki, 1967j:23, ♀, ♂. Holotype: ♀, Japan: Fukui Prefecture: Ohno (originally K. Tsuneki collection, now?). Synonymized with *Ammophila sabulosa solowiyofkae* by Nemkov, 2005a:141. – Tsuneki, 1967j:11, 12 (in key to Ammophilini of East Asia); Haneda, 1968a:45 (Japan); Nambu, 1968b:26 (Japan: Saitama Prefecture); Tsuneki, 1968i:3 (nesting habits), 1968j:1 (diagnostic characters), 1968k:8 (nesting habits), 1968l:50 (South Korea: Island of Quelpart, now Island of Cheju), 1969e:24 (Japan: specimens in Osaka Museum of Natural History), 1969i:59 (Japan: Fukui Prefecture: Taichōdzi temple); Tano, 1971:82 (Japan: Shikoku: Mount Tsurugi, as *Ammophila sabulosa japonica*); Tsuneki, 1971m:2 (China: Peking: Tiendang), 1974a:360 (North Korea); Nambu, 1975b:70 (Japan: Saitama Prefecture); Tsuneki, 1976d:288 (China: Heilungkiang), 1979d:9 (Japan); Kazenas, 1980e:81 (Russia: Far East); Tsuneki, 1982b:2 (Korea; status confirmed), 14 (known from Korea), 1982g:56 (known from Ryukyu archipelago); Paik, 1985:197 (in list of Sphecidae of Korea); Piek and Spanjer, 1986:179 (in list of Sphecidae with known prey); Steiner, 1986:99 (references to papers on nesting habits); Sk. Yamane and Ikudome, 1990:102 (distribution in Ryukyu Islands, Japan); Tsuneki, 1991:199 (Korea); Nemkov, 1992b:244 (Russia: Far East: Khingan Nature Reserve); Nemkov *in* Nemkov, Kazenas, Budrys, et Antropov, 1995:387 (in key to Sphecidae of Russian Far East); Wu and Zhou, 1996a:54 (in revision in Economic Insect Fauna of China); Haneda, 2003:3 (Japan: Nagasaki Prefecture: Tsushima); Haneda and Tano, 2003:11 (Japan: Nagasaki Prefecture: Tsushima); Kurokawa, 2003:60 (Japan: city of Fukui: Egamichou); Haneda, Nosaka, Tano, Kurokawa, and Murota, 2004:30 (Japan: Gifu Prefecture); Suda, 2004:36 (Japan: Yamanashi Prefecture); Haneda, Inoue, Nozaka, Tano, Kurokawa, H. Murota, and T. Murota, 2005:64 (Japan: Fukui Prefecture: Mount Monju); Haneda, Nozaka, Tano, Kurokawa, and Murota, 2005:43 (Japan: Gifu Prefecture); Kinota, Haneda, and Tano, 2005:29 (Japan: Hokkaido); Negoro, Haneda, and Tano, 2005:43

(Japan: Toyama Prefecture); Haneda, Nozaka, Tano, Kurokawa and Murota, 2006a:18 (Japan: Toyama Prefecture), 2006b:47 (Japan: Nagasaki Prefecture: Tsushima); Ohkusa and Tajima, 2008:74 (Japan: central Honshu: Aichi Prefecture), 2010:11 (Japan: Island of Honshu: Shiga Prefecture); N. Yamamoto, 2011:11 (Japan: Kyūshū: mainland Nagasaki Prefecture).

232. *varipes* Cresson

Ammophila varipes Cresson, 1865b:457, ♀, ♂. Lectotype: ♀, USA: Colorado Territory: no specific locality (ANSP), designated by Cresson, 1916:95. – Cresson, 1868:378 (New Mexico), 1875:714 (Colorado, New Mexico), 1876:208 (Utah: Spring Lake), 1887:274 (in catalog of North American Hymenoptera); Cameron, 1888a:19 (Mexico, redescription); Ashmead, 1890:34 (in checklist of Hymenoptera of Colorado); W. Fox, 1893d:9 (Mexico: Baja California); Dalla Torre, 1897:411 (in catalog of world Hymenoptera, as *variipes*); Ashmead, 1899d:354 (in checklist of North American Sphecidae, as *variipes*); Viereck, 1903a:68 (New Mexico: Beulah); Snow, 1906:7 (Arizona: Humphrey's Peak, Oak Creek 20 mi. southwest of Flagstaff); Strand, 1910:13 (Texas, as *variipes*); Hendrickson, 1930:159 (Iowa); Fernald, 1931a:448 (as new synonym of *Sphex breviceps*); Murray *in* Muesebeck, Krombein, and Townes, 1951:977 (in catalog of North American Hymenoptera); R. Bohart and Menke, 1976:154 (in checklist of world Sphecidae); Kumar, Lavigne, Lloyd, and Pfadt, 1976:51 (USA: Colorado: Pawnee National Grassland); Krombein, 1979b:1594 (in catalog of North American Hymenoptera); Menke, 1983b:21 (Nebraska: Hooker County: Mullen area, and Dawes County: north of Crawford), 1994f:21 (Arizona: Snowflake); Amarante, 2002:67 (in catalog of Neotropical Sphecidae); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:669 (in checklist of Mexican Sphecidae); Stevens and Menke, 2014:220 (Arizona: Grand Canyon ecoregion); Menke, 2020:79 (in revision of North and Central American *Ammophila*); Buck and Bennett, 2025:223 (in checklist of Sphecidae sensu lato of Canada, Alaska, and Greenland: Canada: Alberta, first record from Saskatchewan: no specific locality).

Ammophila comanche Cameron, 1888a:19, sex not stated. Holotype or syntypes: Mexico: northern Sonora: no specific locality (BMNH). Synonymized with *Ammophila varipes* by Fernald, 1931a:448, and by Menke, 1965c:1, and 1967a:3 (as new synonym). – Dalla Torre, 1897:398 (in catalog of world Hymenoptera); Ashmead, 1899d:354 (in checklist of North American Sphecidae); Melander, 1903:160 (in key to North American Ammophilini), 164 (bibliographic references, geographic distribution).

233. *vetuberosa* Q. Li and J. Yang

Ammophila vetuberosa Q. Li and J. Yang *in* Q. Li, J. Li, and J. Yang, 1994:290, ♂. Holotype: ♂, China: Shandong Province: Dongying City: Xianhe Town (Shandong Agricult. Univ.). – Dollfuss, 2013a:403 (in key to *Ammophila* of Palearctic Region and India), 501 (in revision of *Ammophila* of Palearctic Region and India, China: Nei Mongol: Odos); Danilov, 2014a:427 (Russia: Siberia: Irkutsk Oblast': railroad station Mal'ta), 2014b:519, 521 (in key to Sphecidae s.s. of Siberia), 2015a:543 (description of ♀, redescription of ♂, locality records from China, Mongolia, and Russia: Irkutsk Oblast'), 2017b:213 (in catalog of Sphecidae s.s. of Russia); Ch. Wang, Bashir, Q. Li, and Ma, 2018:300, 302 (in key to *Ammophila* of China); Danilov, 2020:318 (specimens from Mongolia in Institute of Systematics and Ecology of Animals, Novosibirsk, Russia).

234. *vulcania* du Buysson

Ammophila vulcania du Buysson, 1897:256, ♂. Holotype or syntypes: South Africa: Gauteng: Makapan near Johannesburg (MNHN). – Guiglia, 1943c:76 (Ethiopia: Gamo Gofa: Sagan – Omo region), 1950:245 (Ethiopia: Gamo Gofa: Caschei); Leclercq, 1955h:88 (bibliographic references); R. Bohart and Menke, 1976:154 (in checklist of world Sphecidae); Gess, 1981:19 (South Africa: Hilton Farm 18 km west-northwest of Grahamstown; nesting in friable soils); Weaving, 1988:327-349 (prey selection), 1989a:1-16 (South Africa; nesting habits: one large caterpillar per cell), 1989b:847-871 (habitat selection and nest construction); S. Gess and F. Gess, 2003:97 (Namibia: visiting flowers of *Emilia marlothiana* (O. Hoffm) C. Jeffrey, Asteraceae, *Geigeria* sp., Asteraceae, and *Anchusa capensis* Thunb., Boraginaceae); Field, Ohl, and Kennedy, 2011:734 (in molecular cladistic analysis of Ammophilini); Dollfuss, 2015a:310, 314 (in key to Sub-Saharan *Ammophila*), 373 (in revision of Sub-Saharan *Ammophila*; Benin, Namibia, Senegal, South Africa, Tanzania, Zambia, Zimbabwe), 2015b:434 (locality records from Benin, Namibia, Senegal, South Africa, Tanzania, Zambia, and Zimbabwe); Field, Shreeves, Kennedy, Brace, and Gilbert, 2015:1899 (sex-biased parental care and sexual size dimorphism); Field, Gonzalez-Voyer, and Boulton, 2020:7 (evolution of parental care). – **As *Sphex vulcania***: Arnold, 1920:35 (new generic assignment, in revision of southern African *Ammophila*, description of ♀), 1928b:262 (in revision of southern African *Ammophila*), 1930:17 (in checklist of Afrotropical Sphecidae).

235. *wahlbergi* Dahlbom

Ammophila wahlbergi Dahlbom, 1845:431, sex not stated (as *Wahlbergi*, incorrect original capitalization). Holotype or syntypes: South Africa: Port Natal, now Durban (Lund). – Dalla Torre, 1897:411 (in catalog of world Hymenoptera); Leclercq, 1955h:93 (bibliographic references, as species incertae sedis); R. Bohart and Menke, 1976:154 (in checklist of world Sphecidae). – **As *Sphex wahlbergi***: Arnold, 1920:25 (new generic assignment, unrecognizable species).

236. *wrightii* (Cresson)

Coloptera wrightii Cresson, 1868:378, ♀ (as *Wrightii*, incorrect original capitalization). Holotype: ♀, USA: New Mexico: no specific locality (ANSP). – Cresson, 1887:274 (in catalog of North American Hymenoptera); E. Schwarz, 1896:24 (sleeping aggregations); Ashmead, 1899d:354 (in checklist of North American Sphecidae); Melander, 1903:164 (bibliographic references, geographic distribution); H. Smith, 1908b:328 (in revision of Nebraskan Sphecidae); Cresson, 1916:95 (holotype in ANSP); Mickel, 1918b:400 (in revision on Nebraskan Sphecidae). – **As *Sphex wrightii***: Fernald, 1934:38 (new generic assignment, in revision of North American and West Indian *Ammophila*); Hicks, 1934b:150 (nesting habits). – **As *Ammophila wrightii***: Dalla Torre, 1897:412 (new generic assignment, in catalog of world Hymenoptera); Melander, 1903:162 (in key to North American Ammophilini); Murray *in* Muesebeck, Krombein, and Townes, 1951:977 (in catalog of North American Hymenoptera); Powell, 1964b:242 (review of Hicks, 1934 observations); Menke, 1965b:259 (Hicks, 1934b, correctly identified this species); Hurd and Linsley, 1975:116 (Arizona: Cochise County: Douglas; on flowers of *Larrea tridentata* (De Candolle) Coville, Zygophyllaceae); R. Bohart and Menke, 1976:154 (in checklist of world Sphecidae); Kumar, Lavigne, Lloyd, and Pfadt, 1976:51 (Colorado: Pawnee National Grassland); Krombein, 1979b:1594 (in catalog of North American Hymenoptera); Rust, Hanks and Bechtel, 1983:406 (Nevada: Churchill County: Blow Sand Mountains); Brockmann, 1985b:312 (nest closure summary); Menke, 1986c:35 (Arizona: Navajo County: Hopi Reservation), 36 (Arizona: Cochise County: 3 mi. east of Willcox); Steiner, 1986:99 (references to papers on nesting habits); Menke, 1994f:21 (Arizona: Snowflake); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:669 (in checklist of Mexican Sphecidae); Ohl and Linde, 2003:149 (number of ovarioles); Field, Ohl, and Kennedy, 2011:734 (in molecular cladistic analysis of Ammophilini); Stevens and Menke, 2014:220 (Arizona: Grand Canyon ecoregion); Dollfuss, 2015b:434 (locality records from Texas); Field, Shreeves, Kennedy, Brace, and Gilbert, 2015:1899 (sex-biased parental care and sexual size dimorphism); Field, Gonzalez-Voyer, and Boulton, 2020:7 (evolution of parental care); Menke, 2020:136 (in revision of North and Central American *Ammophila*).

237. *xinjiangana* Q. Li and Ch. Yang

Ammophila xinjiangana Q. Li and Ch. Yang, 1989:34, ♂. Holotype: ♂, China: Xinjiang Province: Urumqi (Beijing Agricult. Univ.). – Hua, 2006:275 (in list of Chinese insects, geographic distribution); Dollfuss, 2012a:501 (in revision of *Ammophila* of Palearctic Region and India, original description translated from Chinese to English); Ch. Wang, Bashir, Q. Li, and Ma, 2018:299 (in key to *Ammophila* of China).

238. *yaroslavi* Danilov

Ammophila yaroslavi Danilov, 2018:326, ♀, ♂. Holotype: ♂, Turkmenistan: Repetek at 38°34'N 63°10'E (ZIN). Paratype: Kazakhstan.

239. *zambiensis* Dollfuss

Ammophila zambiensis Dollfuss, 2015a:75, ♂. Holotype: ♂, Zambia: North-Western Province: 150 km south of Mwinilunga at 13°11'S 24°14'E (OÖLM). – Dollfuss, 2015a:318 (in key to Sub-Saharan *Ammophila*), 375 (in revision of Sub-Saharan *Ammophila*), 2015b:434 (locality records from Zambia).

240. *xanthoptera* Cameron

Ammophila xanthoptera Cameron, 1888a:8, ♀. Holotype or syntypes: Guatemala: Calderas (BMNH). – W. Fox, 1895c:266 (Mexico: Baja California Sur); Melander, 1903:160 (in key to North American Ammophilini), 163 (bibliographic references, geographic distribution); R. Bohart and Menke, 1976:154 (in checklist of world Sphecidae); Krombein, 1979b:1594 (in catalog of North American Hymenoptera); Brockmann, 1985b:312 (nest closure summary); Steiner, 1986:99 (references to papers on nesting habits); Menke, 1994f:20 (New Mexico: Zuni); Amarante, 2002:67 (in catalog of Neotropical Sphecidae); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:669 (in checklist of Mexican Sphecidae); Stevens and Menke, 2014:220 (Arizona: Grand Canyon ecoregion). – **As *Ammophila xanthoptera***: Dalla Torre, 1897:412 (in catalog of world Hymenoptera); Ashmead, 1899d:354 (in checklist of North American Sphecidae); Snow, 1906:133 (Arizona: Oak Creek 20 mi. southwest of Flagstaff); Murray *in* Muesebeck, Krombein, and Townes, 1951:977 (in catalog of North American Hymenoptera); Evans, 1959d:465 (observations on nesting by Hicks, 1932).

Ammophila trichiosoma Cameron, 1888a:11, ♂. Holotype or syntypes: ♂, Guatemala: Capetillo (BMNH). Synonymized with *Ammophila xanthoptera* by Menke, 1965c:1 and by R. Bohart and Menke, 1976:154 (as new synonym). – Dalla Torre, 1897:410 (in catalog of world

Hymenoptera); Ashmead, 1899d:354 (in checklist of North American Sphecidae); Melander, 1903:162 (in key to North American Ammophilini), 164 (bibliographic references, geographic distribution); Murray *in* Muesebeck, Krombein, and Townes, 1951:977 (in catalog of North American Hymenoptera); Amarante, 2005a:14 (correction to his 2002 catalog). – **As *Sphex trichiosomus***: Fernald, 1934:105 (new generic assignment, in revision of North American and West Indian *Ammophila*).

Ammophila xanthoptera Cameron, 1900:xi. Unjustified emendation of *Ammophila zanthoptera*. – **As *Sphex xanthopterus***: nec Hicks, 1932c:193, 1933c:49, and 1934a:39 = *Ammophila placida*; Fernald, 1934:63 (in revision of North American and West Indian *Ammophila*).

241. zapoteca Menke

Ammophila zapoteca Menke, 2020:62, ♀. Holotype: ♀, Mexico: Oaxaca: 1 mi. northwest of Huajuapán (Kansas State University, Manhattan, Kansas).

242. zetteli Dollfuss

Ammophila zetteli Dollfuss, 2015a:376, ♀, ♂. Holotype: ♂, Kenya: Mount Kenya: west of Chogoria, Chog-Route (coll. H. Zettel, Wien, Austria). Paratypes: Angola, Cameroon, Kenya, Zaire, Zambia. – Dollfuss, 2015a:311, 316 (in key to Sub-Saharan *Ammophila*), 2015b:435 (Zambia: 50 km east of Mwinilunga at 11°43'S 24°47'E).

243. zimmermannae Dollfuss

Ammophila zimmermannae Dollfuss, 2013a:502, ♀, ♂. Holotype: ♂, Kazakhstan: Darbaza 40 km north of Tashkent (OÖLM). – Dollfuss, 2013a:388, 396 (in key to *Ammophila* of Palearctic Region and India).

sp.

C. Robertson, 1892:104 (visiting flowers of *Lycopus sinuatus* Ell., Lamiaceae); W. Fox, 1894c:101 (Mexico: Baja California); Sickmann, 1894:216 (China: Hopei Province: Tientsin); Snow, 1906:133 (Arizona); Ducke, 1908b:82 (Brazil: Ceará State); Titus, 1909:319 (Michigan: Lake Superior: Isle Royale); C. Turner, 1911:13 (nesting habits); R. Turner, 1911b:369 (Seychelles Islands); Hungerford and Williams, 1912:245 (Kansas, nesting habits); Ferton, 1912a:367 (presence of foreign egg in nest); 366 (unusual prey: a hairy caterpillar); Broomley, 1914:197 (prey of asilid *Deromyia umbrina* Loew at Southbridge, Massachusetts); Poulton, 1918:xxxvi (Brazil, prey); Rau, 1933:183 (Panama: Island of Barro Colorado); de Beaumont, 1953a:172 (Mauritania, sp. aff. *rubripes*); Bytinski-Salz, 1956:223 (Turkey: Uludagh, sp. aff. *campestris*); de Beaumont, 1961e:2 (Iraq; sp. near *propinqua*), 1964a:290 (Swiss Alpes, sp. near *campestris*); Powell, 1964b:256 (species 1b of Menke, nest construction, nest closure, prey: geometrid caterpillars, progressive provisioning); de Beaumont, 1967a:266 (sp. aff. *gracillima*), 268 (Turkey, sp. aff. *campestris* and sp. aff. *terminata*), 1967b:504 (South Africa), 1969:81 (Turkey); I. Robertson, 1969:480 (Tanzania: Ilonga, sp. near *ferrugineipes*); de Beaumont, 1970a:388 (Afghanistan, sp. aff. *heydeni*, sp. aff. *gracillima*), 1970c:2 (Iran: Baluchestan, sp. aff. *gracillima*), 3 (Iran: Baluchestan, sp. aff. *heydeni*); Kazenas, 1972b:101 (Kazakhstan); Esmaili and Rastegar, 1974:46 (Iran); Simon Thomas, 1976:3 (France: Lot-et-Garonne: Forêt de Campet, sp. aff. *heydeni*); Báez and Ortega, 1978:191 (Canary Islands, sp. aff. *concolor*); Heithaus, 1979:193 (Costa Rica: Guanacaste: Hacienda las Ciruelas 30.5 km northwest of Cañas); Guichard, 1980:225 (Oman); Hilchie, 1982:107 (Alberta: Empress); Kingsley, Bailowitz, and R. Smith, 1987:18 (Arizona: Organ Pipe Cactus National Monument: Quitobaquito Springs area); F. Fernández, 1990:24 (Colombia: Meta: Parque Nacional Natural La Macarena); Amarante, 1993:19 (northeastern Brazil); Naumann, 1998:182 (Australia: northwest Queensland: Musselbrook area, approximately 18°40'S 138°23'E, sp. near *aurifera*); Meagher and Mitchell, 1999:368 (collected in pheromone- and synthetic floral volatile-baited traps), Esenkobova and Kazenas, 2000:14 (southeastern Kazakhstan, sp. aff. *tekkensis*); Peñavar and Martínez-Delclòs, 2000:111 (*Ammophila* aff. *sabulosa*, Lower Miocene of Spain: Castellón: Ribesalbes); Meagher, 2001a:78 (effectiveness of different colored pheromone-baited traps), 2001b:291 (Florida: Alachua County: collected in traps baited with pheromone and synthetic floral volatile compound); Skevington et al., 2001:127 (Canada: Ontario: Lambton County); S. Gess and F. Gess, 2003:97 (Namibia: visiting flowers of *Psilocaulon glareosum* (Berger) Dinter and Schwant. and *Limeum myosotis* H. Walter, Molluginaceae, and *Zygophyllum stapffii* Schinz, Zygophyllaceae); Q. Li and He, 2004:1119 (China: in hymenopterous fauna of Zhejiang Province); Gayubo and Özbek, 2005:13 (Turkey, *Ammophila gracillima* species group); Ruíz Cancino, Coronado Blanco, and Horta Vega, 2005:170 (Mexico: recorded from Tamaulipas); Horta Vega, Pinson Domínguez, Barrientos Lozano, and Correa Sandoval, 2007: 47 (Mexico: Tamaulipas); Gayubo, González, Tormos, and Asís, 2008:136 (Spain: Salamanca: Parque Natural de Las Batuecas – Sierra de Francia, sp. near *rubriventris*); Ljubomirov and Yildirim, 2008:39 (in catalog of Sphecidae of Turkey); Gayubo, González, Tormos, and Asís, 2009:362 (Spain: Valladolid: Reserva Natural Riberas de Castromoño – Vega del Duero, near *Ammophila rubriventris*); Silvestre, Demétrio, Trad, de Oliveira Lima, Auko, and de Souza, 2014:70 (Brazil: Mato Grosso do Sul: dry forests in Bodoquena Mountain Range and Brazilian Chaco, two species); Dollfuss, 2015b:435 (locality records from South America); Jahantigh, Rakhshani, Mokhtari, and Ramroodi, 2017:17 (Iran: known from Markazi and Sistan-o Baluchestan provinces); Vardy, 2017:14 (Argentina, prey carying); Cope, Campbell, Grodsky, and Ellis, 2019:6 (Florida: collected in emergence traps); Lechner, 2019:152-154 (Iowa: Sioux City, parasitized by strepsipteran *Paraxenos lugubris* Pierce); Weiser, 2019:10 (Germany: Baden-Württemberg: Schwetzingen Hardt: colonization of deforested area); Gadallah, 2020d:80 (in list of aculeate wasps of Arabian Peninsula).

SPECIES OF UNCLEAR IDENTITY

Ammophila arenaria: Cabrera La Rosa, 1993:72 (Peru: La Molina).

FOSSIL AMMOPHILA

***amnosa* Heer**

Ammophila amnosa Heer, 1865:.. Miocene. Nomen nudum?

***antiquella* Cockerell**

Ammophila antiquella Cockerell, 1906: 49, sex not stated. Holotype: USA: Colorado: Florissant, Lower Oligocene (MCZ).

***inferna* Heer**

Ammophila inferna Heer, 1865:.. Miocene.

sp. aff. *sabulosa* (Linnaeus, 1758)

Ammophila aff. *sabulosa* (Linnaeus, 1758) Peñalver and Martínez-Delclòs, 2000:111, sex unknown. Holotype: sex unknown. Spain: Castellón: Ribesalbes (Manuel Saura Vilar, Onda, Castellón, Spain, personal collection). Age: Lower Miocen.

NOMINA NUDA IN AMMOPHILA

Ammophila argentea Brullé, 1839:93. – F. Smith, 1856:211 (listed as synonym of *Ammophila argentea* Lepeletier de Saint Fargeau); Dours, 1874:141 (in catalog of Hymenoptera of France).

Amophila argentilatera Casolari and Casolari Moreno, 1980:100 (specimens in M. Spinola collection, Torino). – Pagliano, 2008:514 (specimens in M. Spinola collection, Torino).

Ammophila caetিনosa Casolari and Casolari Moreno, 1980:100 (specimens in M. Spinola collection, Torino). – Pagliano, 2008:510 (specimen in M. Spinola collection, Torino, is a *Podalonia*).

Ammophila coromandelica Pagliano, 2008:514 (specimen in M. Spinola collection, Torino).

Ammophila cretica Casolari and Casolari Moreno, 1980:100 (specimens in M. Spinola collection, Torino). – Pagliano, 2008:514 (specimens in M. Spinola collection, Torino).

Ammophila cyanigastra Casolari and Casolari Moreno, 1980:100 (specimens in M. Spinola collection, Torino). – Pagliano, 2008:512 (specimens in M. Spinola collection, Torino).

Ammophila chalybeate Casolari and Casolari Moreno, 1980:100 (specimens in M. – Pagliano, 2008:510 (specimens in M. Spinola collection, Torino).

Ammophila cubensis Casolari and Casolari Moreno, 1980:100 (specimens in M. Spinola collection, Torino). – Pagliano, 2008:513 (specimens in M. Spinola collection, Torino).

Ammophila eurystoma Kohl: Dollfuss, 1989:7 (type material in NHMW).

Ammophila flavipennis Pagliano, 2008:513 (specimens in M. Spinola collection, Torino).

Ammophila fulvicaulis Harris, 1835. Catalog of the insects of Massachusetts, 2nd edit. – Cresson, 1863:318 (in catalog of North American Hymenoptera).

Ammophila gigantea Schoberlin, 1888:61, sex not stated. Holotype or syntypes: Switzerland?: Oeningen Beken (location unknown). Fossil.

Ammophila guatemalensis Cameron: Dollfuss, 1989:7 (type material in NHMW).

Ammophila impressicollis Kohl: Dollfuss, 1989:7 (type material in NHMW).

Ammophila lateralis Casolari and Casolari Moreno, 1980:100 (specimens in M. Spinola collection, Torino). – Pagliano, 2008:511 (specimens in M. Spinola collection, Torino).

Ammophila lineatocollis Cameron: Brauns, 1917:241.

Ammophila lugubris Harris, 1835. Catalogue of the insects of Massachusetts, 2nd edit. – Cresson, 1863:318 (in catalog of North American Hymenoptera).

Ammophila melicena Casolari and Casolari Moreno, 1980:100 (specimen in M. Spinola collection, Torino). – Pagliano, 2008:510 (specimen in M. Spinola collection, Torino, is a *Podalonia*).

Ammophila minima Schoberlin, 1888:61, sex not stated. Holotype or syntypes: Switzerland?: Oeninger Beken (location unknown). Fossil.

Ammophila minor Lepeletier de Saint Fargeau: R. Bohart and Menke, 1976:152. Lepeletier (1845:379) used the word “Minor” in the Latin diagnosis as a size descriptor of a variety, translating it “Plus petit” in French.

Ammophila punctuosa Kohl: Dollfuss, 1989:7 (type material in NHMW).

Ammophila reichei Casolari and Casolari Moreno, 1980:100 (specimens in M. Spinola collection, Torino). – Pagliano, 2008:511 (specimen in M. Spinola collection, Torino).

Ammophila rubra Dours, 1874:141 (in catalog of Hymenoptera of France: Corse).

Ammophila rubricollis Casolari and Casolari Moreno, 1980:100 (specimens in M. Spinola collection, Torino). – Pagliano, 2008:514 (specimens in M. Spinola collection, Torino).

Miscus stygicus Harris, 1835. Catalogue of the insects of Massachusetts, 2nd edition. – Cresson, 1863:317 (in catalog of North American Hymenoptera).

Ammophila vestita Casolari and Casolari Moreno, 1980:101 (specimens in M. Spinola collection, Torino). – Pagliano, 2008:514 (specimen in M. Spinola collection, Torino).

Ammophila waltlii Casolari and Casolari Moreno, 1980:100 (specimens in M. Spinola collection, Torino). – Pagliano, 2008:512 (specimens in M. Spinola collection, Torino).

SPECIES DESCRIBED IN AMMOPHILA AND TRANSFERRED TO OTHER GENERA

algira Kohl, 1901 = *Parapsammophila*

alpestris Cameron, 1888 = *Podalonia*

andrei F. Morawitz, 1889 = *Podalonia*

apicata , 1897 = *Isodontia*

arenaria Latreille, ... = ?; Duméril, 1860:950 (example of *Sphex*).

argentata Lepeletier de Saint Fargeau 1845 = *Podalonia tydei argentata*

argentea W. Kirby, 1798 = *Podalonia hirsuta* (Scopoli, 1763)

argentifrons Cresson, 1865 = *Podalonia*

atriceps F. Smith, 1856 = *Podalonia*

aureonotata Cameron, 1888 = *Eremnophila*

bimaculigera Strand, 1910 = *Eremnophila opulenta* (Guérin Méneville, 1838)

bocandei Spinola, 1831 = *Chalybion*

bolanica Nurse, 1903 = *Podalonia hirsuta mervensis* (Radoszkowski, 1887)

brasiliانا Brèthes, 1909 = *Eremnophila binodis* (Fabricius, 1798)

caelebs Kohl, 1901 = *Parapsammophila algira* Kohl, 1901

cementaria F. Smith, 1856 = *Podalonia violaceipennis* (Lepeletier de Saint Fargeau, 1845)

clypeata Mocsáry, 1883 = *Hoplammophila*

communis Cresson, 1865 = *Podalonia atriceps* F. Smith, 1856

concolor Brullé, 1839 = *Podalonia affinis concolor*

confalonierii Guiglia, 1932 = *Podalonia minax* (Kohl, 1901)

cyanea Cameron, 1908 = *Chalybion ammophiloides* Hensen, 1988

cyanipennis Lepeletier de Saint Fargeau, 1845 = *Parapsammophila*

durga Nurse, 1903 = *Podalonia*

ebenina Spinola, 1839 = *Podalonia*

elegans F. Smith, 1856 = *Eremochares dives* (Brullé, 1833)

erythrocephala F. Smith, 1856 = *Parapsammophila*

erythropus F. Smith, 1856 = *Podalonia*

eugenia F. Smith, 1856 = *Eremnophila eximia* (Lepeletier de Saint Fargeau, 1845)

eximia Lepeletier de Saint Fargeau, 1845 = *Eremnophila*

festiva F. Smith, 1856 = *Eremochares dives* Brullé, 1833

foeniformis Perty, 1833, in *Ammophilus* = *Penepodium*

foleyi de Beaumont, 1956 = *Parapsammophila*

friedrichi Schrottky, 1909 = *Eremnophila eximia* (Lepeletier de Saint Fargeau, 1845)

fumigata Perty, 1833 = *Podium*

funerea Nurse, 1903 = *Parapsammophila*

fuscipennis F. Smith, 1870 = *Parapsammophila*

gibba Alfieri, 1961 = *Parapsammophila algira* (Kohl, 1901)

grandis Gistel, 1857 = *Hoplammophila armata* (Illiger, 1807)

grossa Cresson, 1872 = *Podalonia*

guiana Cameron, 1912 = *Eremnophila binodis* (Fabricius, 1798)

hirticeps Cameron, 1889 = *Podalonia*

hirticeps F. Morawitz, 1893 = *Podalonia turcestanica* (Dalla Torre, 1897)

iridipennis Cameron, 1888 = ? *Eremnophila melanaria* (Dahlbom, 1843)

jason Cameron, 1888 = *Podalonia*

klugii Lepeletier de Saint Fargeau, 1845 = *Podalonia tydei* (Le Guillou, 1841)

kohlui Gusakovskij, 1928 = *Eremochares*

limbata Kriechbaumer, 1869 = *Eremochares dives* Brullé, 1833

lanuginosa Marquet, 1879 = *Podalonia tydei* (Le Guillou, 1841)

longipilosella Cameron, 1908 = *Podalonia canescens* (Dahlbom, 1843)

luctuosa F. Smith, 1856 = *Podalonia*

ludovicus F. Smith, 1856 = *Parapsammophila*

mandibulata W.F. Kirby, 1889 = *Podalonia*

melanaria Dahlbom, 1843 = *Eremnophila*

melanopus Lucas, 1849 = *Eremochares dives* Brullé, 1833

mexicana de Saussure, 1867 = *Podalonia*

merceti Kohl, 1906 = *Podalonia*

miliaris Cameron, 1888 = ? *Eremnophila melanaria* (Dahlbom, 1845)

montana Cameron, 1888 = *Podalonia*

morrisoni Cameron, 1888 = *Podalonia*

nigra Brullé, 1839 = *Podalonia affinis concolor* (Brullé, 1839)

nigritaria Walker, 1871 = *Eremochares dives* (Brullé, 1833)

nigrohirta Kohl, 1888 = *Podalonia*

opulenta Guérin-Méneville, 1838 = *Eremnophila*

piceiventris Cameron, 1888 = ? *Podalonia atriceps* (F. Smith, 1856)

ponderosa Gerstaecker, 1871 = *Parapsammophila*

psilocera Kohl, 1888 = *Podalonia*

quadridentata Cameron, 1888 = *Podalonia*

reticollis A. Costa, 1864 = *Parapsammophila cyanipennis* (Lepeletier de Saint Fargeau, 1845)

rhinoceros Strand, 1913 = *Hoplammophila aemulans* (Kohl, 1901)

spinipes F. Smith, 1878 = ? *Podalonia tydei* (Le Guillou, 1841)

strenua Walker, 1871, junior primary homonym of *Ammophila strenua* Cresson, 1865= ? *Podalonia dispar* (Taschenberg, 1869)

robusta Cresson, 1865 = *Podalonia*

sonorensis Cameron, 1888 = *Podalonia*

suspiciosa F. Smith = *Podalonia*

trimaculigera Strand, 1910 = *Eremnophila eximia* (Lepeletier de Saint Fargeau, 1845)

turcestanica Dalla Torre, 1897:411 = *Podalonia*

valida Cresson, 1865 = *Podalonia*

violaceipennis Cameron, 1889 = ? *Paraspammophila erythrocephala* (Fabricius, 1782)

violaceipennis Lepeletier de Saint Fargeau, 1845 = *Podalonia*

walkeri Dalla Torre, 1897 = *Podalonia dispar* (Taschenberg, 1869)