Last updated: 12 June 2023

AMMOPLANUS

Ammoplanus Giraud, 1869:469. Type species: *Ammoplanus perrisi* Giraud, 1869, designated by Pate, 1937c:7.

Hoplocrabron De Stefani Perez, 1887:60. Type species: *Hoplocrabron marathroicus* De-Stefani, 1887, by monotypy.

Ceballosia Giner Marí, 1943c:285, junior homonym of *Ceballosia* Mercet, 1921. Type species: *Ammoplanus rjabovi* Gussakovskij, 1931, by original designation.

Revisions: Blüthgen, 1954:140 (key to species of Central Europe); Leclercq, 1959a:24 (key to Afrotropical species); Marshakov, 1976a (USSR); Bouček, 2001 (Palearctic species); Bouček and Gayubo, 2001 (Iberian Peninsula); N. Smith, 2009 and 2012b:216 (North America).

Review of biology: Kazenas, 2001b:138.

1. *alpinensis* N. Smith

Ammoplanus alpinensis N. Smith, 2009:314, ♀, ♂. Holotype: ♀, USA, California; Alpine County: Hope Valley (UCD). All specimens collected above 2,300 m.

2. *angularis* Gussakovskij

Ammoplanus angularis Gussakovskij, 1952:222, ♀, ♂. Lectotype: ♀, Uzbekistan: Guzar District: Kamashi (ZIN), designated by Marshakov, 1976a:679. – R. Bohart and Menke, 1976:198 (in checklist of world Sphecidae); Marshakov, 1976a:676 (in key to Palearctic *Ammoplanus*), 679 (geographic distribution); Kazenas, 1978b:160, 161 (in key to Sphecidae of Kazakhstan and Central Asia); Marshakov, 1979b:367 (Mongolia, redescription); Bouček, 2000:868 (in revision of Palearctic *Ammoplanus*); Kazenas, 2001:23 (in checklist of Sphecidae of Kazakhstan and Central Asia); Sakenin, Samin, and Bagriacik, 2010:17 (Iran: Golestan: Gonbad); Jahantigh, Rakhshani; Mokhtari, and Ramroodi, 2017:71 (Iran: known from Golestan Province).

3. *atacamensis* Sielfeld

Ammoplanus atacamensis Sielfeld, 1980a:68, ♀, ♂. Holotype: ♀, Chile: Atacama: Vallenar (W.H. Sielfeld coll.). – Sielfeld, 1980b:72 (in checklist of Chilean Sphecidae); Amarante, 2002:51 (in catalog of Neotropical Crabronidae), 2005a:11 (correction to his 2002 catalog).

4. *atlasensis* Bouček

Ammoplanus atlasensis Bouček, 2001:870, ♂. Holotype: ♂, Morocco: Asni Imlil in High Atlas southeast of Marrakech (BMNH). – Schwarz-Waubke, Schwarz, F. Gusenleitner, J. Gusenleitner, Malicky, Malicky-Ruzicka, and Vogtenhuber, 2003:446 (paratype in Biologiezentrum, Linz, Austria).

5. *bifidus* N. Smith

Ammoplanus bifidus N. Smith, 2009:321, ♀, ♂. Holotype: ♂, USA: California: Tulare County: Kern River Canyon 4-7 mi. east of Johnsondale (UCD).

6. *bischoffi* Maréchal

Ammoplanus bischoffi Maréchal, 1938a:404, ♂ (as *Bischoffi*, incorrect original capitalization). Holotype: ♂, Italy: Aosta: Gressan (ZMHU). – Blüthgen, 1954:141 (in key to *Ammoplanus* of Central Europe); R. Bohart and Menke, 1976:198 (in checklist of world Sphecidae); Marshakov, 1976a:676, 677 (in key to Palearctic *Ammoplanus*), 679 (synonymy, geographic distribution); Pulawski, 1978:252 (in key to Sphecidae of European part of USSR); Marshakov, 1979b:369 (Mongolia, redescription); Pagliano, 1990:118 (in catalog of Italian Sphecidae); Dollfuss, 1991:87 (in key to Sphecidae of North and Central Europe); Budrys *in* Nemkov, Kazenas, Budrys, et Antropov, 1995:405 (in key to Sphecidae of Russian Far East); Negrisolo *in* Minelli, Ruffo, and La Posta, 1995b:12 (in catalog of Italian fauna, presence in Italy needs confirmation); Bouček and Gayubo, 2001:61 (taxonomic history); Bouček, 2001:871 (in revision of Palearctic *Ammoplanus*: France, Italy, Portugal, Spain); Bouček *in* Bitsch et al., 2001:133 (in Sphecid Fauna of Western Europe); Gayubo, González, Tormos, and Asís, 2008:139 (Spain: Salamanca: Parque Natural de Las Batuecas – Sierra de Francia); González, Gayubo, Asís, and Tormos, 2009:623 (Spain: Salamanca and Zamora provinces: Arribes del Duero Natural Park); Bouček, Fernández Gayubo, and Bitsch *in* Bitsch, Antropov, Bouček, Dollfuss, Fernández Gayubo, and K. Schmidt, 2022:26 (in revision of Sphecidae *sensu lato* of Europe).

As *Ammoplanus serratus* (♂ only): Marshakov, 1976a:675 (in key to Palearctic *Ammoplanus*), corrected to *Ammoplanus bischoffi* by Marshakov, 1979b:369.

7. *biscopula* Bouček

Ammoplanus biscopula Bouček, 2001:872, ♂. Holotype: ♂, Israel: Negev Desert: Road 90 N Zin (Tel Aviv University, Zoological Institute).

8. *biskrensis* Bouček

Ammoplanus biskrensis Bouček, 2001:874, ♂. Holotype: ♂, Algeria: Biskra (Lausanne).

9. *blascoi* Bouček and Gayubo

Ammoplanus blascoi Bouček and Gayubo, 2001:55, ♀, ♂. Holotype: ♂, Spain: Zaragoza: Pina de Ebro (Univ. Salamanca). – Bouček, 2001:875 (in revision of Palearctic *Ammoplanus*); Bouček *in* Bitsch et al., 2001:134 (in Sphecid Fauna of Western Europe); J. Fernández, 2002:121 (species description recor; Bouček, Fernández Gayubo, and Bitsch *in* Bitsch, Antropov, Bouček, Dollfuss, Fernández Gayubo, and K. Schmidt, 20 (in revision of Sphecidae *sensu lato* of Europe)ded).

10. *ceballosi* Giner Marí

Ammoplanus ceballosi Giner Marí, 1943c:292, ♀. Holotype: ♀, Spain: Teruel: Albarracín (Museo Nacional de Ciencias Naturales, Madrid). – Giner Marí, 1943c:294 (listed in subgenus *Ceballosia*); Ceballos, 1956:355 (in catalog of Hymenoptera of Spain); R. Bohart and Menke, 1976:198 (in checklist of world Sphecidae); Gayubo, 1981a:148 (N Spain: Sierra de Béjar), 1984a:168 (Spain: previously recorded from Salamanca Province); Mingo and Gayubo, 1984:114 (Spain); Gayubo, 1991b:144 (incorrectly labeled ♂ in coll. Giner Marí); Gayubo, González, and Torres, 2000:184 (Spain: Salamanca Province); Bouček and Gayubo, 2001:61 (description of ♂); Bouček, 2001: 2001:875 (in revision of Palearctic *Ammoplanus*); Bouček *in* Bitsch et al., 2001:135 (in Sphecid Fauna of Western Europe); Cruz-Sánchez, Gayubo, González, and Torres, 2005:219 (Spain: Salamanca: San Martín del Castañar); Bitsch, Dollfuss, Bouček, Schmidt, Schmid-Egger, Gayubo, Antropov, and Barbier, 2007:458 (recorded by Bouček from southern France, Italy, and Switzerland); Gayubo, González, Tormos, and Asís, 2008:139 (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, 2009:623 (Spain: Salamanca and Zamora provinces: Arribes del Duero Natural Park); Pagliano, 2009:188 (Italy: Piemonte: San Benedetto Belbo, Valdieri); Cruz-Sánchez, Asís, Gayubo, Tormos, and González, 2011:498 (Spain: Salamanca and Zamora provinces: Arribes del Duero Natural Park: effects of wildfire), 501 (exclusive species of burned areas); Vieira, Oliveira, Brewster, and Gayubo, 2013:18 (Portugal: Douro International Natural Park and Serras de Aire e Candeeiros Natural Park; Cross, Baldock, and Wood, 2021:58 (in catalog of Sphecidae *sensu lato* of Portugal); Bouček, Fernández Gayubo, and Bitsch *in* Bitsch, Antropov, Bouček, Dollfuss, Fernández Gayubo, and K. Schmidt, 2022:28 (in revision of Sphecidae *sensu lato* of Europe).

11. *chemehuevi* Pate

Ammoplanus chemehuevi Pate, 1943b:151, ♀, ♂. Holotype: ♂, California: Riverside County: Palm Springs (ANSP). – Krombein *in* Muesebeck, Krombein, and Townes, 1951:969 (in catalog of North American Hymenoptera); R. Bohart and Menke, 1976:198 (in checklist of world Sphecidae); Krombein, 1979b:1611 (in catalog of North American Hymenoptera); H. Allen, 1995:15 (type in ANSP); N. Smith, 2009:322 (in revision of North American *Ammoplanus*).

12. *clemente* Menke

Ammoplanus clemente Menke, 1997a:133, ♀ Holotype: ♀, USA: California: San Clemente Island (USNM). – N. Smith, 2009:315 (in revision of North American *Ammoplanus*).

13. *curvidens* Tsuneki

Ammoplanus curvidens Tsuneki, 1972a:220, ♂. Holotype: ♂, Mongolia: Khövsgöl Aymag: 84 km west of Mörön (TMB). – R. Bohart and Menke, 1976:198 (in checklist of world Sphecidae); Marshakov, 1976a:679 (as new synonym of *Ammoplanus bischoffi*); Bouček, 2001:878 (in revision of Palearctic *Ammoplanus*); Bouček and Gayubo, 2001:61 (resurrected from synonymy).

14. *denesi* Bouček

Ammoplanus denesi Bouček, 2001:879, ♂. Holotype: ♂, Turkey: Karadut in Nemrut Dagi (OÖML). – Schwarz-Waubke, Schwarz, F. Gusenleitner, J. Gusenleitner, Malicky, Malicky-Ruzicka, and Vogtenhuber, 2003:446 (holotype in Biologiezentrum, Linz, Austria); Ljubomirov and Yildirim, 2008:58 (in catalog of Crabronidae of Turkey); Yıldırım, Ljubomirov, and Lelej, 2014:10 (distribution in Turkey by biogeographic provinces), 19 (is an endemic of Turkey); Koçak and Kemal, 2015:136 (in checklist of Hymenoptera of Turkey); Kaplan and Yildirim, 2021:81 (in catalog of Crabronidae of Turkey), 2023:1678 (in checklist of Sphecidae sensu lato of Turkey).

15. *diversipes* Gussakovskij

Ammoplanus diversipes Gussakovskij, 1931b:452, ♂. Lectotype: ♂, Turkmenistan: Firuza (ZIN), designated by Marshakov, 1976a:679. – Giner Marí, 1943c:293 (listed in subgenus *Ceballosia*); R. Bohart and Menke, 1976:198 (in checklist of world Sphecidae); Marshakov, 1976a:676 (in key to Palearctic *Ammoplanus*), 679 (geographic distribution); Kazenas, 1978b:160 (in key to Sphecidae of Kazakhstan and Central Asia); Bouček, 2001:879 (in revision of Palearctic *Ammoplanus*); Kazenas, 2001:23 (in checklist of Sphecidae of Kazakhstan and Central Asia); Sakenin, Samin, Bagriacik, and Rastegar, 2011:2 (Iran: Khorasan: Serax); Schmid-Egger, 2014:522 (United Arab Emirates); Jahantigh, Rakhshani; Mokhtari, and Ramroodi, 2017:72 (Iran: known from Khorasan-e Razavi Province); Gadallah, 2020b:60 (in list of aculeate wasps of Arabian Peninsula).

16. *dusmeti* Giner Marí

Ammoplanus dusmeti Giner Marí, 1943c:289, ♀, ♂. Syntypes: Spain (Museo Nacional de Ciencias Naturales, Madrid).– Giner Marí, 1943c:293 (listed in subgenus *Ammoplanus* s.s.); de Beaumont, 1957a:151 (Morocco); Ceballos, 1956:355 (in catalog of Hymenoptera of Spain), 1959:228 (in supplement to catalog of Spanish Sphecidae, as *dusmenti*); R. Bohart and Menke, 1976:198 (in checklist of world Sphecidae); Marshakov, 1976a:679 (as new synonym of *Ammoplanus bischoffi*); Gayubo, 1981a:148 (northern Spain: Sierra de Béjar), 1984a:168 (Spain: previously recorded from Salamanca Province), 1991b:144 (maybe good species, differences with *bischoffi*); Bouček, 2001:880 (in revision of Palearctic *Ammoplanus*); Bouček and Gayubo, 2001:61, 62 (resurrected from synonymy); Bouček *in* Bitsch et al., 2001:136 (in Sphecid Fauna of Western Europe); Martin Albaladeo and Izquierdo Moya, 2006:120 (syntypes in Museo Nacional de Ciencias Naturales); L. Ma, X.X. Chen, and Q. Li, 2011c:239 (first record from China: Inner Mongolia and Liaoning: several localities); Cross, Baldock, and Wood, 2021:58 (in catalog of Sphecidae *sensu lato* of Portugal); Bouček, Fernández Gayubo, and Bitsch *in* Bitsch, Antropov, Bouček, Dollfuss, Fernández Gayubo, and K. Schmidt, 2022:29 (in revision of Sphecidae *sensu lato* of Europe).

17. *freidbergi* Bouček

Ammoplanus freidbergi Bouček, 2001, ♂. Holotype: ♂, Israel: Enot Zukim (Tel Aviv University, Zoological Institute).

18. *gegen* Tsuneki

Ammoplanus gegen Tsuneki, 1972a:219, ♀. Holotype: ♀, Mongolia: Central Aymag: Zuun-Khara (TMB). – R. Bohart and Menke, 1976:198 (in checklist of world Sphecidae). – Bouček and Gayubo, 2001:62 (first record from Spain: Zaragoza; description of ♂); Bouček, 2001:882 (in revision of Palearctic *Ammoplanus*); Bouček *in* Bitsch et al., 2001:137 (in Sphecid Fauna of Western Europe); Tyrner, 2001:129 (first record from Czech Republic: Počerady); Saure, 2005:13 (first record from Germany: Berlin); Straka, 2005a:396 (critically endangered in Czech Republic); Saure, 2006:130 (Germany: Berlin); Jacobs, 2007:86, 88 (in key to Crabronidae of Germany); Saure, 2007:81 (in checklist of Aculeata of Brandenburg Land, Germany); Bitsch, Dollfuss, Bouček, Schmidt, Schmid-Egger, Gayubo, Antropov, and Barbier, 2007:458 (recorded from Germany by Saure, 2006); Vepřek and Straka, 2007:201 (in catalog of Sphecidae of Czech Republic and Slovakia, known only from Bohemia and Moravia), 219 (records from Czech Republic summarized by Bouček, 2001); Schmid-Egger, 2010a:13 (in red list of Aculeata of Germany: relatively common); Cruz-Sánchez, Asís, Gayubo, Tormos, and González, 2011:498 (Spain: Salamanca and Zamora provinces: Arribes del Duero Natural Park: effects of wildfire), 501 (exclusive species of control areas); Reder, 2011:11 (Germany: Rheinland-Pfalz: Gundersheim at 49°41'N 8°10'E); Saure, 2011b:6 (comparison with *Ammoplanus kaszabi*), 8 (distribution in Germany discussed), 2011c:197 (Germany: Berlin-Spandau: Fort Hahneberg); A. Scholz and Liebig, 2013:16 (Germany: Sachsen: in list of Sphecidae *sensu lato*); Bitsch, 2014:406 (record from Germany by Reder, 2011 reported); Stolle and Saure, 2016:921 (Germany: in list of Sphecidae *sensu lato* of Sachsen-Anhalt); Mokrousov, 2017c:3 (Russia: Volgograd Oblast' Gorodishche), 2017e:246 (in catalog of Pemphredoninae of Russia); Olszewski, Wiśniowski, and Ljubomirov, 2021:83 (in commented list of Sphecidae *sensu lato* of Poland; first record from Poland: Ojców National Park at 52°57'46" N 18°34'12"E, and Hebdów); Bouček, Fernández Gayubo, and Bitsch *in* Bitsch, Antropov, Bouček, Dollfuss, Fernández Gayubo, and K. Schmidt, 2022:30 (in revision of Sphecidae *sensu lato* of Europe).

Ammoplanus subcompressus Marshakov, 1976a:680, ♀h, ♂. Holotype: ♂, Tajikistan: Kondara Canyon 35 km north of Dushanbe (ZIN). Synonymized with *Ammoplanus gegen* by Bouček *in* Bitsch et al., 2001:137 and by Bouček, 2001:882. – Dollfuss, Gusenleitner, and Bregant, 1998:510 (first record from Austria: Burgenland: Neusiedl am See); Kazenas, 2001:23 (in checklist of Sphecidae of Kazakhstan and Central Asia).

19. *gilberti* N. Smith

Ammoplanus gilberti N. Smith, 2009:324, ♀, ♂. Holotype: ♂, USA: California: Kings County: Sunflower Valley (UCD).

20. *hofferi* Šnoflák

Ammoplanus hofferi Šnoflák, 1943c:92, ♀, ♂. Syntypes: Czech Republic: Brumovice (originally A. Hoffer coll., now Moravske Zemské Museum, Brno). – Šnoflák, 1944a:143 (Czech Republic: serpentine steppe near Mohelno); Balthasar, 1948:140 (Slovakia: Kovačov, Parkan); Šnoflák *in* Zavadil and Šnoflák, 1948:43 (in key to Sphecidae of Czechoslovakia); Blüthgen, 1949:88 (may occur in Germany), 1954:141 (in key to *Ammoplanus* of Central Europe), 143 (Czech Republic: Brno, Mohelno); Bajári, 1957a:92 (in key to Hungarian Sphecidae), 1957b:140 (first record from Hungary); Krysiński,

1957:307 (first record from Poland: Przemyśl); Noskiewicz and Puławski, 1960:71 (in key to Polish Sphecidae); Benedek, 1968:75 (Hungary, visiting flowers of *Angelica silvestris* L.), 1969a:84 (Hungary; hygrophilous meadow), 1969b:421 (Hungary: Csopak, collected in vicinity of aphid *Hyalopteritena* pruni (Geoffroy)), 1970:101 (Hungary: Tapolca); Balthasar, 1972:171 (in Sphecid Fauna of Czechoslovakia); R. Bohart and Menke, 1976:198 (in checklist of world Sphecidae); Pulawski, 1978:252 (in key to Sphecidae of European part of USSR); Benedek, 1979:234 (Hungary: Bakony Hills); Dollfuss, 1983a:76 (endangered in Niederösterreich, Austria), 77 (endangered in Burgenland, Austria), 1983b:9 (in catalog of Sphecidae of Austria), 1987:19 (Austria), 1988:23 (Austria: Niederösterreich: Oberweiden); Pádr *in* Šedivy, 1989a:169 (in checklist of Czechoslovakian Sphecidae); Dollfuss, 1991:87 (in key to Sphecidae of North and Central Europe); Józan, 1992c:289 (Hungary: Zselic Hills); Dollfuss, 1994:101 (endangered in Austria); Voblenko, Gorobchishin, and Nesterov, 1996:14 (Ukraine: Polesye Region); Celary, 1997:58 (in checklist of Animals of Poland); Dollfuss, Gusenleitner, and Bregant, 1998:510 (Austria: summary of collecting records from Burgenland); Józan, 1998:306, 311 (Hungary: Duna-Dráva National Park); Gusenleitner, 1999:594 (Austria: Linz); Józan, 2000:107 (Hungary: Bakony Mountains: Balatoncsicsó, Kapolcs); Bouček, 2001:885 (in revision of Palearctic *Ammoplanus*); Bouček *in* Bitsch et al., 2001:138 (in Sphecid Fauna of Western Europe); Józan, 2001:278 (Hungary: Somogy County); Zettel, Gross, and Mazzucco, 2001:71 (Austria: Wien); Schwarz-Waubke, Schwarz, F. Gusenleitner, J. Gusenleitner, Malicky, Malicky-Ruzicka, and Vogtenhuber, 2003:446 (syntype in Biologiezentrum, Linz, Austria); Dollfuss, 2004a:124 (Bulgaria, Slovakia, Turkey); Skibińska *in* Bogdanowicz, Chudzicka, Pilipiuk, and Skibińska, 2004:354 (in catalog of Polish Crabronidae); Wiśniowski, 2004:42 and 60 (in checklist of Polish Sphecidae); Straka, 2005a:396 (critically endangered in Czech Republic); Jacobs, 2007:86, 87 (in key to Crabronidae of Germany, not yet found in Germany); Józan, 2007:179 (Hungary: Zselic hills); Vepřek and Straka, 2007:201 (in catalog of Sphecidae of Czech Republic and Slovakia), 220 (Moravia: Tasovice); Ljubomirov and Yildirim, 2008:58 (in catalog of Crabronidae of Turkey); Józan, 2011:179 (in checklist of Sphecidae *sensu lato* of Hungary); Sakenin, Samin, Bagriacik, and Rastegar, 2011:2 (Iran: West Azerbaijan: Ourmieh); Yıldırım, Ljubomirov, and Lelej, 2014:10 (distribution in Turkey by biogeographic provinces); Koçak and Kemal, 2015:136 (in checklist of Hymenoptera of Turkey); Haris, 2016:29 (in list of species described by J. Šnoflák from Carpathian Basin); Jahantigh, Rakhshani; Mokhtari, and Ramroodi, 2017:72 (Iran: known from West Azerbaijan Province); Mokrousov, Proshchalykin, Aliyev, and Maharramov, 2019:6 (Azerbaijan: Nakhichevan Autonomous Republic); Kaplan and Yildirim, 2021:81 (in catalog of Crabronidae of Turkey); Olszewski, Wiśniowski, and Ljubomirov, 2021:83 (in commented list of Sphecidae *sensu lato* of Poland); Bouček, Fernández Gayubo, and Bitsch *in* Bitsch, Antropov, Bouček, Dollfuss, Fernández Gayubo, and K. Schmidt, 2022:31 (in revision of Sphecidae *sensu lato* of Europe); Kaplan and Yildirim, 2023:1678 (in checklist of Sphecidae *sensu lato* of Turkey)

21. *insularis* Giner Marí

Ammoplanus insularis Giner Marí, 1943a:30, ♂. Holotype: ♂, Spain: Balearic Islands: Ibiza: San Augustín (Museo Nacional de Ciencias Naturales, Madrid). – Giner Marí, 1943c:291 (in revision of Spanish *Ammoplanus*), 294 (listed in subgenus *Ceballosia*); Ceballos, 1956:355 (in catalog of Hymenoptera of Spain); Nouvel and Ribaut, 1958:15 (France: Pyrénées-

Orientales: Banyuls-sur-Mer); R. Bohart and Menke, 1976:198 (in checklist of world Sphecidae); Marshakov, 1976a:677 (in key to Palearctic *Ammoplanus*), 681 (geographic distribution); Gayubo, 1981c:196 (Spain: Salamanca Province, description of ♀), 1984a:168 (Spain: Salamanca Province); Mingo and Gayubo, 1984:115 (Spain), 1991b:145 (Spain: Alicante, Almería, and Zaragoza Provinces); Bouček, 2001:886 (in revision of Palearctic *Ammoplanus*); Bouček and Gayubo, 2001:63 (redescription); Bouček *in* Bitsch et al., 2001:139 (in Sphecid Fauna of Western Europe); Baños-Picón, Asís, Gayubo, and Tormos, 2009:310 (Spain: frequency of specimens collected with hand nets and Malaise traps); Bouček, Fernández Gayubo, and Bitsch *in* Bitsch, Antropov, Bouček, Dollfuss, Fernández Gayubo, and K. Schmidt, 2022:32 (in revision of Sphecidae *sensu lato* of Europe).

22. *kaplanae* Bouček

Ammoplanus kaplanae Bouček, 2001:♀. Holotype: ♀, Israel: Enot Zukim (Tel Aviv University, Zoological Institute).

23. *kaszabi* Tsuneki

Ammoplanus kaszabi Tsuneki, 1972a:214, ♀, ♂. Holotype: ♂, Mongolia: Central Aymag: Ulaan-Khodag (TMB). – R. Bohart and Menke, 1976:198 (in checklist of world Sphecidae); Bouček, 2001:889 (in revision of Palearctic *Ammoplanus*); Bouček and Gayubo, 2001:61 (first record from Spain: Salamanca and Zaragoza); Bouček *in* Bitsch et al., 2001:141 (in Sphecid Fauna of Western Europe: France: Hautes-Alpes Department); Dollfuss, 2004a:124 (Turkey: Karadut area 50 km NE Adiyaman); Vepřek and Straka, 2007:201 (in catalog of Sphecidae of Czech Republic and Slovakia, known only from Moravia), 220 (Moravia: Lednice); Ljubomirov and Yildirim, 2008:59 (in catalog of Crabronidae of Turkey); Nemkov, 2008b:19 (in catalog of Crabronidae of Asiatic Russia); González, Gayubo, Asís, and Tormos, 2009:623 (Spain: Salamanca and Zamora provinces: Arribes del Duero Natural Park); Nemkov, 2009b:73 (in new catalog of Sphecidae and Crabronidae of Asiatic Russia); Bogusch, Straka, Macek, Dvořák, Vepřek, and Říha, 2011:94 (Czech Republic: Radnice); Saure, 2011b:5 (first record from Germany: Brandenburg: Pimpinellenberg near Oderberg at 52°86'N 14°02'E), 6 (comparison with *Ammoplanus gegen*), 8 (distribution in Germany discussed); A. Scholz and Liebig, 2013:16 (Germany: Sachsen: in list of Sphecidae *sensu lato*); Yıldırım, Ljubomirov, and Lelej, 2014:10 (distribution in Turkey by biogeographic provinces); Bitsch, 2014:406 (record from Germany by Saure, 2011b reported); Koçak and Kemal, 2015:137 (in checklist of Hymenoptera of Turkey); Mokrousov, 2017c:3 (Russia: Chel'yabinsk, Irkutsk, Krasnoyarsk, Orenburg, and Volgograd oblast's, Altai Republic, Altaiskiy Kray), 2017e:246 (in catalog of Pemphredoninae of Russia); Kejval, Blažej, and Erhart, 2020:109 (western Czech Republic); Kaplan and Yildirim, 2021:81 (in catalog of Crabronidae of Turkey); Olszewski, Wiśniowski, and Ljubomirov, 2021:83 (in commented list of Sphecidae *sensu lato* of Poland; first record from Poland: Ojców National Park at 52°57'46" N 18°34'12"E); Bouček, Fernández Gayubo, and Bitsch *in* Bitsch, Antropov, Bouček, Dollfuss, Fernández Gayubo, and K. Schmidt, 2022:33 (in revision of Sphecidae *sensu lato* of Europe); Kaplan and Yildirim, 2023:1679 (in checklist of Sphecidae *sensu lato* of Turkey).

Ammoplanus crudelis Marshakov, 1976a:680, ♀. Holotype: ♀, Mongolia: Oriental Aymag: 32 km southeast of Salkhit on river Nurmegin-gol (ZIN). Synonymized with *Ammoplanus kaszabi* by Bouček, 2001:889. – Marshakov, 1979b:370

(Mongolia); Nemkov, 1986:96 (Russia: Irkutsk Oblast'); Budrys *in* Nemkov, Kazenas, Budrys, et Antropov, 1995:405 (in key to Sphecidae of Russian Far East).

As *Ammoplanus transcaspicus* (part): Baghirov, 2010:679 (first record from Russia: Altai Territories: village Kosh-Agach), 2011b:151 (Russia: Altay Republic: Kosh-Agach), corrected to *Ammoplanus kaszabi* by Mokrousov, 2017c:3.

24. *kazenasi* Bouček

Ammoplanus kazenasi Bouček, 2001:890. Holotype: ♂, Turkmenistan: Kara Kala District: left bank of Sumbar River (BMNH).

25. *kohlii* Kohl

Ammoplanus kohlii Schmiedeknecht, 1896:159, nomen nudum (as *Kohlii*, incorrect original capitalization).

Ammoplanus kohlii Kohl, 1898a:326, ♂ (as *Kohlii*, incorrect original capitalization, authorship attributed to Schmiedeknecht). Lectotype: ♂, Algeria: Hammam-Bou-Hadjar near Oran (NHMW), designated by Bouček, 2001:892. – R. Bohart and Menke, 1976:198 (in checklist of world Sphecidae); Bouček, 2001:892 (in revision of Palearctic *Ammoplanus*); Bouček *in* Bitsch et al., 2001:142 (in Sphecid Fauna of Western Europe); Gayubo, González, Tormos, and Asís, 2008:139 (Spain: Salamanca: Parque Natural de Las Batuecas – Sierra de Francia), 2009:363 (Spain: Valladolid: Reserva Natural Riberas de Castronuño – Vega del Duero); González, Gayubo, Asís, and Tormos, 2009:623 (Spain: Salamanca and Zamora provinces: Arribes del Duero Natural Park); Sakenin, Samin, Bagriacik, and Rastegar, 2011:2 (Iran: Kermanshah: Paveh); Vieira, Oliveira, Brewster, and Gayubo, 2013:18 (Portugal: Douro International Natural Park and Serras de Aire e Candeeiros Natural Park); Jahantigh, Rakhshani; Mokhtari, and Ramroodi, 2017:72 (Iran: known from Kermanshah Province); Cross, Baldock, and Wood, 2021:58 (in catalog of Sphecidae *sensu lato* of Portugal); Bouček, Fernández Gayubo, and Bitsch *in* Bitsch, Antropov, Bouček, Dollfuss, Fernández Gayubo, and K. Schmidt, 2022:35 (in revision of Sphecidae *sensu lato* of Europe).

Ammoplanus zarcoi Giner Marí, 1943c:290, ♀, ♂. Lectotype: ♀, Spain: Madrid area (Museo Nacional de Ciencias Naturales, Madrid), designated by Bouček, 2001:892. Synonymized with *Ammoplanus kohlii* by Bouček, 2001:892 and Bouček *in* Bitsch et al., 2001:142. – Giner Marí, 1943c:293 (listed in subgenus *Ammoplanus* s.s.); Ceballos, 1956:356 (in catalog of Hymenoptera of Spain); R. Bohart and Menke, 1976:198 (in checklist of world Sphecidae); Marshakov, 1976a:681 (as new synonym of *Ammoplanus shestakovi)*; Gayubo, 1991b:146 (synonymy with *shestakovi* unfounded).

Ammoplanus suarezi Gayubo, 1987b:67, ♂. Holotype: ♂, Spain: Ciudad Real: La Solana (Salamanca Univ.). Synonymized with *Ammoplanus kohlii* by Bouček and Gayubo, 2001:64 and by Bouček, 2001:892. – Gayubo, 1991b:146 (no additional material).

26. *kondarensis* Marshakov

Ammoplanus kondarensis Marshakov, 1976a:681, ♀,♂. Holotype: ♀, Tajikistan: Kondara Canyon 35 km north of Dushanbe (ZIN). – Bouček, 2001:895 (in revision of Palearctic *Ammoplanus*); Kazenas, 2001:23 (in checklist of Sphecidae of Ka-

zakhstan and Central Asia); L. Ma, X.X. Chen, and Q. Li, 2011c:239 (first record from China: Inner Mongolia: Batuwan at 39°48'N 110°19'E).

27. *loti* Pate

Ammoplanus loti Pate, 1943b:146, ♀. Holotype: ♀, USA: California: Riverside County: Riverside (ANSP). – Krombein *in* Muesebeck, Krombein, and Townes, 1951:969 (in catalog of North American Hymenoptera); R. Bohart and Menke, 1976:198 (in checklist of world Sphecidae); Krombein, 1979b:1611 (in catalog of North American Hymenoptera); H. Allen, 1995:15 (type in ANSP); N. Smith, 2009:325 (in revision of North American *Ammoplanus*).

Ammoplanus sechi Pate, 1943b:149, ♂. Holotype: ♂, USA: California: Riverside County: Palm Spring Canyon near Palm Springs (ANSP). Synonymized with *Ammoplanus loti* by N. Smith, 2009:325. – Krombein *in* Muesebeck, Krombein, and Townes, 1951:969 (in catalog of North American Hymenoptera); R. Bohart and Menke, 1976:198 (in checklist of world Sphecidae); Krombein, 1979b:1611 (in catalog of North American Hymenoptera); H. Allen, 1995:15 (type in ANSP).

28. *mandibularis* Cameron

Ammoplanus mandibularis Cameron, 1903:178, ♀. Holotype or syntypes: ♀, South Africa: Cape Province: Pearston (BMNH or TMP). – Arnold, 1930:9 (in checklist of Afrotropical Sphecidae); Pate, 1937b:104 (placed in subgenus *Ammoplanus*); Giner Marí, 1943c:293 (tentatively listed in subgenus *Ammoplanus* s.s.); Leclercq, 1959a:25 (in key to Afrotropical *Ammoplanus*), 27 (South Africa: Cape Province, description of ♂); R. Bohart and Menke, 1976:198 (in checklist of world Sphecidae); Bouček, 2001:924 (in list of Afrotropical *Ammoplanus*); Dollfuss, 2004a:124 (South Africa).

Ammoplanus capensis Brauns, 1911a:239 (South Africa). Nomen nudum.

Ammoplanus capensis Arnold, 1923c:58, ♀ (authorship attributed to Brauns). Holotype: ♀, South Africa: Eastern Cape Province: Willowmore (TMP). Synonymized with *Ammoplanus mandibularis* by Arnold, 1927:118. – Giner Marí, 1943c:293 (listed in subgenus *Ammoplanus* s.s.).

29. *marathroicus* (De Stefani Perez)

Ammoplanus perrisi Giraud, 1869: 471, ♂ only. Synonymized with *Ammoplanus handlirschi* by Maréchal, 1938a:399, synonymy confirmed by Bouček, 2001,

Hoplocrabron marathroicus De Stefani Perez, 1887:60, ♀, ♂. Syntypes: Italy: Sicilia: no specific locality (lost). Neotype: ♂, Italy: Sicilia: no specific locality (Lausanne), designated by Bouček, 2001:896. – Kohl, 1890a:61 (as new synonym of *Ammoplanus perrisi*); De Stefani Perez, 1894:216 (Italy: Sicilia), 1895:228 (in catalog of Sicilian Hymenoptera). – **As *Ammoplanus marathroicus***: Kohl, 1890a:62 (new combination, as synonym of *Ammoplanus perrisi*); Dalla Torre, 1897:363 (in catalog of world Hymenoptera, as synonym of *Ammoplanus perrisi*); Gussakovskij, 1931b:455 (original description copied); Giner Marí, 1943c:294 (listed in subgenus *Ceballosia*); R. Bohart and Menke, 1976:198 (in checklist of world Sphecidae); Pagliano, 1990:118 (in catalog of Italian Sphecidae); Bouček, 2001:896 (in revision of Palearctic *Ammoplanus*); Bouček *in* Bitsch et al., 2001:144 (in Sphecid Fauna of Western Europe) Kazenas, 2002a:54 (geographic distribution in Kazakhstan: Uryl 27 km east of Bolshenarynskiy); Wiśniowski, 2002:70 (Poland: Ojców National Park);

Schmid-Egger, 2003:749 (Italy: Sicilia: Agrigento); Wiśniowski *in* Dylewska and Wiśniowski, 2003:149 (Poland: Ojców National Park); Dollfuss, 2004a:124 (Bulgaria, Jordan, Kazakhstan, Kyrgyzstan, Morocco, Syria, Tunisia, Turkey); Liška, 2004:89 (Slovakia: (Vah River valley near Trenčin); Skibińska *in* Bogdanowicz, Chudzicka, Pilipiuk, and Skibińska, 2004:354 (in catalog of Polish Crabronidae); Stolle et al., 2004:371 (Germany: Sachsen-Anhalt: in red list of Sphecidae); Wiśniowski, 2004:43 and 60 (in checklist of Polish Sphecidae); Pagliano and Negrisolo, 2005:486 (in Sphecid Fauna of Italy); Saure, 2005:13 (Germany: Berlin); Straka, 2005a:402 (vulnerable in Czech Republic); Wiśniowski, 2005a:312 (Poland: Ojców National Park; occurring only in xerothermic grasslands); Ziska and Saure, 2005:80 (Germany: Berlin: Biesenhorster Sand); Liška, 2006:88 (Slovakia: Váh river valley near Trenčin, as *marathriocus*); Saure, 2006:131 (Germany: Berlin); Jacobs, 2007:86, 88 (in key to Crabronidae of Germany); Saure, 2007:81 (Germany: in checklist of Aculeata of Brandenburg Land); Vago, 2007:174 (France: département du Nord); Vepřek and Straka, 2007:201 (in catalog of Sphecidae of Czech Republic and Slovakia), 220 (recorded from Slovakia by Bouček, 2001); Ljubomirov and Yildirim, 2008:59 (in catalog of Crabronidae of Turkey); Nemkov, 2008b:19 (in catalog of Crabronidae of Asiatic Russia); Wiśniowski, 2008:635 (Poland: Ojców National Park, collected in 1995); Debuyser and Vago, 2009:3 (in list of Sphecidae *sensu lato* of northern France); Nemkov, 2009b:73 (in new catalog of Sphecidae and Crabronidae of Asiatic Russia); Mokrousov, 2010a:63 (Russia: Nizhniy Novgorod Oblast': no specific localities), 2010b:100 (Russia: Nizhniy Novgorod Oblast': no specific localities); Schmid-Egger, 2010a:14 (in red list of Aculeata of Germany: rare); van der Smissen, 2010b:383 (France: Ardèche: Font Just, Saint-Thomé); Baghirov, 2011b:151 (Russia: Altay Republic: Chemal, Kuray); L. Ma, X.X. Chen, and Q. Li, 2011c:239 (first record from China: Inner Mongolia: several localities); Sakenin, Samin, Bagriacik, and Rastegar, 2011:2 (Iran: Ilam: Mehran); Prisniy, 2012:47 (Russia: Belgorod Oblast'); Saure, 2011b:8 (distribution in Germany discussed); Standfuss and Standfuss, 2012:427 (Greece: Thessalia: Magnisia Peninsula at 39°N 23°E); Bitsch, 2014:406 (records from France by Vago, 2007 and van der Smissen, 2010b reported); Yıldırım, Ljubomirov, and Lelej, 2014:10 (distribution in Turkey by biogeographic provinces); Creutzburg, 1015:4 (Germany: first record from Thüringen: Westliche Schmücke at 51°16'40"N 11°12'41"E and Schwellenburg at 51°01'52"N, 10°57'05"E); Koçak and Kemal, 2015:137 (in checklist of Hymenoptera of Turkey); Stolle and Saure, 2016:921 (Germany: in list of Sphecidae *sensu lato* of Sachsen-Anhalt); Wiśniowski, 2016:127 (Poland: Ojców National Park); Jahantigh, Rakhshani. Mokhtari, and Ramroodi, 2017:72 (Iran: known from Ilam Province); Mokrousov, 2017e:246 (in catalog of Pemphredoninae of Russia); Kemal and Koçak, 2018:33 (Turkey: in list of pterygot insects of Van Province); Kejval, Blažej, and Erhart, 2020:109 (western Czech Republic); Kaplan and Yildirim, 2021:81 (in catalog of Crabronidae of Turkey); Olszewski, Wiśniowski, and Ljubomirov, 2021:83 (in commented list of Sphecidae *sensu lato* of Poland); Bouček, Fernández Gayubo, and Bitsch *in* Bitsch, Antropov, Bouček, Dollfuss, Fernández Gayubo, and K. Schmidt, 2022:36 (in revision of Sphecidae *sensu lato* of Europe); Kaplan and Yildirim, 2023:1679 (in checklist of Sphecidae *sensu lato* of Turkey).

Ammoplanus handlirschi Gussakovskij, 1931b:448, ♀. Holotype: ♀, Austria: Türkenschanze in Vienna (NHMW). Synonymized with *Ammoplanus marathroicus* by Bouček, 2001:896 and by Bouček *in* Bitsch et al., 2001:144. – Zavadil, Šustera, and Bat'a, 1937:175 (in catalog of Sphecidae of Czechoslovakia); Maréchal, 1938a:403 (comparison with *Ammoplanus*

wesmaeli); Zavadil, 1939:121 (Czech Republic: Morava: Čejč); Balthasar, 1941a:105 (Czech Republic: Bzenecko area); Giner Marí, 1943c:293 (listed *in subgenus Ammoplanus* s.s.); Šnoflák, 1944a:143 (Czech Republic: serpentine steppe near Mohelno); L. Ahrens, 1948:88 (visiting flowers of Compositae; prey: larval thrips); Šnoflák *in* Zavadil and Šnoflák, 1948:43 (in key to Sphecidae of Czechoslovakia); Blüthgen, 1949:88 (may occur in Germany), 1951:232 (first record from Germany: Dessau/Mulde); Gussakovskij, 1952:323 (synonymy, geographic distribution); Blüthgen, 1954:141 (in key to *Ammoplanus* of Central Europe), 143 (Germany: Sachsen: Dessau); Macko and Noskiewicz, 1954:180, 191 (Poland: Dolny Śląsk: Stolec at 50°35'N 16°53'E); Bajári, 1957a:92 (in key to Hungarian Sphecidae), 1957b:140 (first record from Hungary); Wolf, 1959b:28 (known from Germany, but not from Nassau); Noskiewicz and Puławski, 1960:71 (in key to Polish Sphecidae); Miczulski, 1967:189 (Poland: Sławin near Lublin); Benedek, 1969a:84 (Hungary: hygrophilous meadow), 1970:101 (Hungary: Tapolca); Oehlke, 1970:755 (Democratic Germany); Balthasar, 1972:171 (in Sphecid Fauna of Czechoslovakia); Erlandsson, 1974:81 (Italy); R. Bohart and Menke, 1976:198 (in checklist of world Sphecidae); Marshakov, 1976a:676 (in key to Palearctic *Ammoplanus*), 678 (geographic distribution, synonymy); Kazenas, 1978b:160, 161 (in key to Sphecidae of Kazakhstan and Central Asia); Pulawski, 1978:252 (in key to Sphecidae of European part of USSR); Benedek, 1979:234 (Hungary: Bakony Hills); Marshakov, 1979b:364 (Mongolia, discussion of synonymy); Pagliano, 1980:133 (Italy: Piemonte); Dollfuss, 1983a:76 (endangered in Niederösterreich, Austria), 77 (endangered in Burgenland, Austria), 78 (endangered in Oberösterreich, Austria), 1983b:9 (in catalog of Sphecidae of Austria); Józan, 1986:369 (Hungary: Kiskunság National Park); Nemkov, 1986:96 (Russia: Siberia: Irkutsk Oblast'); Dollfuss, 1987:19 (Austria), 1988:11, 23 (Austria: Bisamberg near Vienna; Niederösterreich: Oberweiden); Pádr *in* Šedivy, 1989a:169 (in checklist of Czechoslovakian Sphecidae); Jacobs and Oehlke, 1990:(Democratic Germany: Berlin Zoological Garden); Pádr, 1990:81 (Czech Republic: Praha area); Pagliano, 1990:118 (in catalog of Italian Sphecidae); Day, 1991:xii (summary of European Endangered Hymenoptera Lists); Dollfuss, 1991:87 (in key to Sphecidae of North and Central Europe); Józan, 1992b:173 (Hungary: Boronka-melléki Protected Area), 1992c:289 (Hungary: Zselic Hills); Dollfuss, 1994:101 (endangered in Austria); Budrys *in* Nemkov, Kazenas, Budrys, et Antropov, 1995:405 (in key to Sphecidae of Russian Far East); Negrisolo *in* Minelli, Ruffo, and La Posta, 1995b:12 (in catalog of Italian fauna); Schmid-Egger, Schmidt, and Doczkal, 1996:376 (Germany: Baden-Württemberg: probably endangered); Witt, 1996:105 (Germany: Brandenburg), 107 (locality records); Celary, 1997:58 (in checklist of Animals of Poland); Schmidt and Schmid-Egger, 1997:5 (in checklist of German Sphecidae); F. Burger, Saure, and Oehlke, 1998:26 (Germany: in list of Sphecidae of Brandenburg), 38 (data insufficient to evaluate the endangerment); Dollfuss, Gusenleitner, and Bregant, 1998:509 (Austria: summary of collecting records from Burgenland); M. Schwarz, 1999:85 (Austria: Oberösterreich: city of Linz area); Blösch, 2000:206 (in Sphecid Fauna of Germany); Józan, 2000:107 (Hungary: Bakony Mountains); Kazenas, 2000e:174 (in Sphecid Fauna of Kazakhstan); Józan, 2001:278 (Hungary: Somogy County); Kazenas, 2001:23 (in checklist of Sphecidae of Kazakhstan and Central Asia); Ohl et al., 2001:137 (distribution in Germany by provinces); Deván, 2002a:200 (Slovakia: Kobela Nature Reserve near Nové Mesto); Skibińska *in* Bogdanowicz, Chudzicka, Pilipiuk, and Skibińska, 2004:354 (in catalog of Polish Crabronidae); Wiśniowski, 2005b:340 (Poland: Ojców National Park, of primary faunistic value); Józan, 2007:179 (Hun-

gary: Zselic hills); Sipos and Móczár, 2007:204 (Hungary: Bács-Kiskun megye: vicinity of Foktő); Józan, 2011:179 (in checklist of Sphecidae *sensu lato* of Hungary).

Ammoplanus metatarsalis Gussakovskij, 1931b:452, ♂. Lectotype: ♂, Russia: Dagestan: Khodjal-Makhi (ZIN), designated by Marshakov, 1976a:679. Synonymized with *Ammoplanus handlirschi* by Maréchal, 1938a:400. – Giner Marí, 1943c:294 (listed in subgenus *Ceballosia*); Gussakovskij, 1952:323 (as synonym of *handlirschi*); R. Bohart and Menke, 1976:198 (as synonym of *handlirschi*); Marshakov, 1976a:676, 677 (in key to Palearctic *Ammoplanus*), 679 (as good species); Kazenas, 1978b:160 (as synonym of *Ammoplanus handlirschi*).

Ammoplanus sibiricus Gussakovskij, 1931b:453, ♂. Holotype: ♂, Siberia: Irkutsk (ZIN). Synonymized with *Ammoplanus handlirschi* by Maréchal, 1938a:400 and Gussakovskij, 1952:323. – Giner Marí, 1943c:294 (listed in subgenus *Ceballosia*).

Ammoplanus mongolensis Tsuneki, 1972a:217, ♂. Holotype: ♂, Mongolia: Bulgan Aymag: Somon Dashinchilen (TMB). Synonymized with *Ammoplanus handlirschi* by Marshakov, 1976a:678. – R. Bohart and Menke, 1976:198 (in checklist of world Sphecidae).

As *Ammoplanus transcaspicus* (part): Baghirov, 2010:679 (first record from Russia: Altai Territories: village Kosh-Agach), 2011b:151 (Russia: Altay Republic: Kosh-Agach), corrected to *Ammoplanus marathroicus* by Mokrousov, 2017c:3.

30. *minutus* Bouček

Ammoplanus minutus Bouček, 2001:900, ♀, ♂. Holotype: ♂, Bulgaria: Sandanski (NMPC). Paratypes: Greece, Turkey. – Schwarz-Waubke, Schwarz, F. Gusenleitner, J. Gusenleitner, Malicky, Malicky-Ruzicka, and Vogtenhuber, 2003:446 (paratype in Biologiezentrum, Linz, Austria); Ljubomirov and Yildirim, 2008:59 (in catalog of Crabronidae of Turkey); Yıldırım, Ljubomirov, and Lelej, 2014:10 (distribution in Turkey by biogeographic provinces); Koçak and Kemal, 2015:137 (in checklist of Hymenoptera of Turkey) ; Kaplan and Yildirim, 2021:81 (in catalog of Crabronidae of Turkey); Bouček, Fernández Gayubo, and Bitsch *in* Bitsch, Antropov, Bouček, Dollfuss, Fernández Gayubo, and K. Schmidt, 2022:37 (in revision of Sphecidae *sensu lato* of Europe) ; Kaplan and Yildirim, 2023:1679 (in checklist of Sphecidae *sensu lato* of Turkey).

31. *molliekayae* N. Smith

Ammoplanus molliekayae N. Smith, 2009:316, ♀ (as *molliekayi*, incorrect original termination because dedicated to author's wife). Holotype: ♀, USA: Utah: Washington County: Saint George (UCD).

32. *monticola* Gussakovskij

Ammoplanus monticola Gussakovskij, 1952:323, ♀, ♂. Lectotype: ♀, Tajikistan: Kondara Canyon 35 km north of Dushanbe (ZIN), designated by Marshakov, 1976a:679. – R. Bohart and Menke, 1976:198 (in checklist of world Sphecidae); Marshakov, 1976a:676, 677 (in key to Palearctic *Ammoplanus*), 679 (geographic distribution, affinities); Kazenas, 1978b:160, 160 (in key to Sphecidae of Kazakhstan and Central Asia); Bouček, 2001:901 (in revision of Palearctic *Ammoplanus*); Kazenas, 2001:23 (in checklist of Sphecidae of Kazakhstan and Central Asia); Dollfuss, 2004a:124 (Turkey: 50 km south of

Kars Pasli); Ljubomirov and Yildirim, 2008:60 (in catalog of Crabronidae of Turkey); Sakenin, Samin, Bagriacik, and Rastegar, 2011:2 (Iran: Sistan-o Baluchestan: Mirjaveh); Yıldırım, Ljubomirov, and Lelej, 2014:10 (distribution in Turkey by biogeographic provinces); Koçak and Kemal, 2015:137 (in checklist of Hymenoptera of Turkey); Jahantigh, Rakhshani; Mokhtari, and Ramroodi, 2017:72 (Iran: known from Sisan-o Baluchistan Province); Kaplan and Yildirim, 2021:82 (in catalog of Crabronidae of Turkey), 2023:1679 (in checklist of Sphecidae *sensu lato* of Turkey).

33. *nasutus* Tsuneki

Ammoplanus nasutus Tsuneki, 1972a:222, ♀. Holotype: ♀, Mongolia: South Gobi Aymag: Takhilga ul (TMB). – R. Bohart and Menke, 1976:198 (in checklist of world Sphecidae); Marshakov, 1976a:680 (Mongolia); Budrys *in* Nemkov, Kazenas, Budrys, et Antropov, 1995:405 (in key to Sphecidae of Russian Far East); Bouček, 2001:902 (in revision of Palearctic *Ammoplanus*); L. Ma, X.X. Chen, and Q. Li, 2011c:239 (first record from China: Liaoning: Shenyang at 41°48'N 123°25'E)

34. *natei* N. Smith

Ammoplanus natei N. Smith, 2012b:213, ♀, ♂. Holotype: ♂, California: Riverside County: Berdoo Canyon in Little San Bernardino Mountains (UCD).

35. *pallidus* N. Smith

Ammoplanus pallidus N. Smith, 2009:326, ♀, ♂. Holotype: ♂, California: Inyo County: Darwin Falls (UCD).

36. *perrisi* Giraud

Ammoplanus perrisi Giraud, 1869:472, ♀, ♂. Holotype ♂: Spain: no specific locality (lost, see Maréchal, 1938a:400). Neotype: ♂, Spain: Madrid Province: Montarco (Museo Nacional de Ciencias Naturales, Madrid), designated by Bouček, 2001:903. – H. Reinhard, 1885:132 (Germany: Pillnitz near Dresden; description of ♀); Kohl, 1888b:724 (Austria: Tirol, now Italy: Alto Adige), 1890a:61 (in review of *Ammoplanus*, as *perrisii*); Krieger, 1894:14 (Germany: Kingdom of Saxony: recorded by Reinhard, 1885); Dalla Torre, 1897:363 (in catalog of world Hymenoptera); Antiga and Bofill, 1904:7 (Spain: Cataluña Province); Graeffe, 1906:456 (Tunisia: Tunis area); Schmiedeknecht, 1907:205 (in key to Hymenoptera of Central Europe); de Gaulle, 1908:103 (in catalog of French Hymenoptera); Graeffe, 1911:50 (Italy: Trieste area); Morice, 1911:68 (Algeria: Alger); Smits van Burgst, 1913a:319 (Tunisia: near Tunis), 1913b:5 (Tunisia: no specific locality); Stöckhert, 1919:39 (Germany: Franken); Noskiewicz, 1924b:181 (Poland: Podole Region: Ostrowiec, now Ukraine); Berland, 1925d:149 (in Sphecid Fauna of France); Blüthgen, 1925:165 (Germany: Saale River valley: Himmelreich); Berland, 1928b:179 (France: Maine-et-Loire: Saint-Rémy-la-Varenne); Denis, 1928:85 (first record from France: Pyrénées-Orientales: Var: Banyuls-sur-Mer); Maréchal, 1928:28 (first record from Belgium: Sy near Vieuxville, first record from France: Angers); Crèvecoeur and Maréchal, 1929:168 (Belgium: Sy); Schmiedeknecht, 1930:667 (in keys to Hymenoptera of North and Central Europe); Gussakovskij, 1931b:445 (in revision of Palearctic *Ammoplanus*); Crèvecoeur and Maréchal, 1932:68 (in catalog of Belgian Hymenoptera: Sy); Giner Marí, 1934:135 (Spain: Balearic Islands: Ibiza); Dusmet y Alonso, 1935:44 (Spain: Madrid: Paracuellos de Jarama); Maneval, 1935:74 (France: Rhône:

Écully, as *Ammoplanes*); Crèvecoeur and Maréchal, 1936:251 (in catalog of Belgian Hymenoptera); Maneval, 1937:166 (France: Haute-Loire: Taulhac near Le Puy); Zavadil, Šustera, and Bat'a, 1937:174 (in catalog of Sphecidae of Czechoslovakia); Kuntze and Noskiewicz, 1938:377 (in Poland known only from Podole region, now Ukraine); Maréchal, 1938a:401 (as new synonym of *Ammoplanus wesmaeli*); Maneval, 1939:78 (preying on young larvae of *Thrips*, description of larva and cocoon); Zavadil, 1939:121 (Czech Republic: Morava: Tišnov); Blüthgen, 1942:10 (Germany: Sachsen: known from Saal Valley but not from Kyffhäuser); Giner Marí, 1943a:29 (in Sphecid Fauna of Spain), 1943c:286 (in key), 287 (in revision of Spanish *Ammoplanus*), 293 (listed in subgenus *Ammoplanus* s.s.); Móczár, 1943a:58 (first record from Hungary: Szigetszentmiklósz in Csepel Island, Vajdahunyad, and Romania: Mehadia); Šnoflák *in* Zavadil and Šnoflák, 1948:43 (in key to Sphecidae of Czechoslovakia); Blüthgen, 1951:232 (Germany: Saale, Naumburg); Bischoff and Stadler, 1954:126 (Germany: Bayern: Romberg); Macko and Noskiewicz, 1954:180, 191 (Poland: Dolny Śląsk: Stolec at 50°35'N 16°53'E); Vogrin, 1955:40 (Yugoslavia); Ceballos, 1956:355 (in catalog of Hymenoptera of Spain); Bajári, 1957a:92 (in key to Hungarian Sphecidae); Evans, 1958c:136 (larval description by Maneval, 1939); Noskiewicz and Puławski, 1960:70 (in key to Polish Sphecidae); Babiy, 1964:116 (Austria: Land Salzburg); Balthasar, 1972:172 (in Sphecid Fauna of Czechoslovakia); R. Bohart and Menke, 1976:198 (in checklist of world Sphecidae); Kazenas, 1978b:159 (in key to Sphecidae of Kazakhstan and Central Asia); Gayubo, 1981a:148 (N Spain: Sierra de Béjar), 1984a:168 (Spain: Salamanca Province); Steiner, 1986:100 (references to papers on nesting habits); Gayubo, 1991b:146 (faunal records from Spain); Celary, 1997:58 (in checklist of Animals of Poland); Bouček, 2001:903 (in revision of Palearctic *Ammoplanus*); Bouček and Gayubo, 2001:65 (distribution: central and southern Europe, northwest Africa); Bouček *in* Bitsch et al., 2001:145 (in Sphecid Fauna of Western Europe); Zettel, Gross, and Mazzucco, 2001:71 (Austria: Wien); Gayubo, 1982f:248 (Spain: Cádiz Province: Castellar de la Frontera); Wiśniowski, 2002:70 (Poland: Ojców National Park); Wiśniowski *in* Dylewska and Wiśniowski, 2003:149 (Poland: Ojców National Park); Mandery, Kraus, Voith, Wickl, Scheuchl, Schubert, and Warncke, 2003:63 (in catalog of wasps and bees of Bayern, Germany); Schmid-Egger, 2003:749 (Italy: Sicilia: Agrigento, Castelammare); Wickl, Voith, Mandery, Weber, Kraus, Bausenwein, and Blösch, 2003:196 (Germany: Bayern: probably endangered); Dollfuss, 2004a:125 (locality records from Austria, Bulgaria, Greece, Italy, Morocco, Slovakia, Tunisia, Turkey); Stolle et al., 2004:371 (Germany: in red list of Sphecidae of Sachsen-Anhalt); Wiśniowski, 2004:43 and 60 (in checklist of Polish Sphecidae); Burger, 2005:31 (Germany: Thüringen); Pagliano and Negrisolo, 2005:487 (in Sphecid Fauna of Italy); Wiśniowski, 2005a:312 (Poland: Ojców National Park; occurring only in xerothermic grasslands); Kroupa, 2006b:25 (Germany: Bayern: Oberfranken Region); Bitsch, Dollfuss, Bouček, Schmidt, Schmid-Egger, Gayubo, Antropov, and Barbier, 2007:458 (recorded from Belgium by Dessart, 1990, and from Greece by Standfuss and Standfuss, 2006b; France: department de l'Ain: Izieu); Burger, 2007:59 (Germany: Thüringen: Burg an der Saale); Jacobs, 2007:87 (in key to Crabronidae of Germany); G. Turrisi and R. Turrisi, 2007:123 (Italy: Sicilia: Mount Etna: Botanical Garden Nuova Gussonea and vicinity); Vepřek and Straka, 2007:201 (in catalog of Sphecidae of Czech Republic and Slovakia); Ljubomirov and Yildirim, 2008:60 (in catalog of Crabronidae 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, 2009:623 (Spain: Salamanca and Zamora provinces: Arribes del Duero Natural Park); Pagliano, 2009:188 (Italy: recorded from Trentino-Alto Adige by Bouček, 2001); Schmid-Egger, 2010a:14 (in red list of Aculeata of Germany: rare); Burger, 2011a:286 (Germany: in red list of Sphecidae *sensu lato* of Thüringen); Cruz-Sánchez, Asís, Gayubo, Tormos, and González, 2011:498 (Spain: Salamanca and Zamora provinces: Arribes del Duero Natural Park: effects of wildfire); Gogala, 2011:13 (Slovenia); Sakenin, Samin, Bagriacik, and Rastegar, 2011:2 (Iran: West Azerbaijan: Maco); Saure, 1011b:8 (distribution in Germany discussed); Schmid-Egger, 2011a:36 (France: Parc National du Mercantour); Tischendorf, Frommer, Flügel et al., 2011:86 (Germany: Hessen: insufficient data); A. Scholz and Liebig, 2013:16 (Germany: Sachsen: in list of Sphecidae *sensu lato*); Vieira, Oliveira, Brewster, and Gayubo, 2013:18 (Portugal: Douro International Natural Park); Bitsch, 2014:406 (record from France by Schmid-Egger, 2011a reported); Yıldırım, Ljubomirov, and Lelej, 2014:10 (distribution in Turkey by biogeographic provinces); Koçak and Kemal, 2015:137 (in checklist of Hymenoptera of Turkey); Stolle and Saure, 2016:921 (Germany: in list of Sphecidae *sensu lato* of Sachsen-Anhalt); Wiśniowski, 2016:127 (Poland: Ojców National Park); Jahantigh, Rakhshani; Mokhtari, and Ramroodi, 2017:72 (Iran: known from West Azerbaijan Province); Mokrousov, 2017e:246 (in catalog of Pemphredoninae of Russia); Carminati, Mora, and Cretin, 2019:21 (France: in list of Sphecidae *sensu lato* of Franche-Comté); Kejval, Blažej, and Erhart, 2020:110 (western Czech Republic); Turrisi, Altadonna, Lo Cascio, Nobile, and Selis, 2020:731 (Italy: Aeolian Archipelago: island of Lipari); Cross, Baldock, and Wood, 2021:58 (in catalog of Sphecidae *sensu lato* of Portugal); Kaplan and Yildirim, 2021:82 (in catalog of Crabronidae of Turkey); Olszewski, Wiśniowski, and Ljubomirov, 2021:83 (in commented list of Sphecidae *sensu lato* of Poland); Bouček, Fernández Gayubo, and Bitsch *in* Bitsch, Antropov, Bouček, Dollfuss, Fernández Gayubo, and K. Schmidt, 2022:38 (in revision of Sphecidae *sensu lato* of Europe); Kaplan and Yildirim, 2023:1679 (in checklist of Sphecidae *sensu lato* of Turkey).

Ammoplanus wesmaeli Giraud, 1869:470, ♀, ♂ (♀ = *Ammoplanus marathroicus*). Lectotype: ♂, Austria: Wien: Türkenschanze (MNHN), designated by Blüthgen, 1954:142 (as lectoholotype). Synonymized with *Ammoplanus perrisi* by H. Reinhard, 1885:132, and Maréchal, 1938a:401 (who treated the name as valid). – Gussakovskij, 1931b:456 (original description copied); Bondroit, 1933:31 (Belgium); Maréchal, 1938a:401 (*wesmaeli* is valid name for *perrisi*, redescription); Giner Marí, 1943c:293 (listed in subgenus *Ammoplanus* s.s.); Šnoflák, 1944a:143 (Czech Republic: serpentine steppe near Mohelno); Nouvel and Ribaut, 1953:181 (France: Haute-Garonne: Saint-Béat); Blüthgen, 1954:141 (in key to *Ammoplanus* of Central Europe); Nouvel and Ribaut, 1958:15 (France: Pyrénées-Orientales: Banyuls-sur-Mer); Wolf, 1959b:28 (known from Germany, but not from Nassau); de Beaumont, 1964a:301 (Switzerland), 1964c:118 (in Sphecid Fauna of Switzerland); Gauss, 1967:557 (Germany: Baden-Württemberg: Kaiserstuhl); Schmidt, 1969:166 (Germany: Rhein-Main area: Frankfurt am Main); Stritt, 1969:131 (Germany: Baden-Württemberg: Karlsruhe); Babiy, 1970:20 (Austria: Land Salzburg); Gauss and Perraudin, 1970:361 (Germany: Baden-Württemberg: Schelingen in Kaiserstuhl); Oehlke, 1970:756 (Democratic Germany); Stritt, 1971a:105 (Baden-Württemberg: Germany: Karlsruhe), 1971b:155 (Germany: Karlsruhe); Erlandsson, 1974:81 (Yugoslavia); Leclercq, 1974b:209 (France: locality records); R. Bohart and Menke, 1976:198 (in checklist of world Sphecidae); Pulawski, 1978:252 (in key to Sphecidae of European part of USSR); Doll-

fuss, 1983b:9 (in catalog of Sphecidae of Austria); Schmidt, 1984:292 (Germany: Baden-Württemberg); Westrich and Schmidt, 1985b:110 (Germany: endangered in Baden-Württemberg); Dollfuss, 1987:20 (Austria); Pádr *in* Šedivy, 1989a:169 (in checklist of Czechoslovakian Sphecidae); Dessart, 1990:182 (Belgium: Liège Province: Antheit-Corphalie); Jacobs and Oehlke, 1990:122 (not collected in Democratic Germany after 1960), 159 (citation of Blüthgen, 1925: record from Naumburg); Pádr, 1990:81 (Czech Republic: Praha area); Pagliano, 1990:118 (in catalog of Italian Sphecidae); Schwammberger and Priesner, 1990:539 (Austria: Kärtnen); Day, 1991:xii (summary of European Endangered Hymenoptera Lists); Dollfuss, 1991:87 (in key to Sphecidae of North and Central Europe); Delarze, 1992:67 (Switzerland: Valais: Les Follatères); Sorg and Cölln, 1992:132 (Germany: Rheinland-Pfalz: Gönnersdorf); Mochi and Luchetti, 1993:106 (Italy: Lazio: Morlupo); Sorg, 1993:407 (Germany: Rheinland-Pfalz: Nature Reserve Ahrschleife bei Altenahr); Wiśniowski, 1993b:280 (Poland: Ojców National Park); Dollfuss, 1994:101 (endangered in Austria); Jansen and Kaluza, 1995:7 (Germany: extinct in Sachsen); Negrisolo *in* Minelli, Ruffo, and La Posta, 1995b:12 (in catalog of Italian fauna); Schmid-Egger, Risch, and Niehuis, 1995:164 (summary of records from Germany: Rheinland-Pfalz Province); Jakubzik and Cölln, 1996b:398 (Germany: Rheinland-Pfalz); Schmid-Egger, Schmidt, and Doczkal, 1996:375 (Germany: Baden-Württemberg: endangered); Schmidt and Schmid-Egger, 1997:5 (in checklist of German Sphecidae); Dollfuss, Gusenleitner, and Bregant, 1998:510 (Austria: summary of collecting records from Burgenland); Pauly, 1999:108 (in catalog of Belgian aculeates); M. Schwarz, 1999:85 (Austria: Oberösterreich: city of Linz area); Wickl, 1999b:155 (Germany: Bayern: ruins of castle Hohenburg); Blösch, 2000:206 (in Sphecid Fauna of Germany); Józan, 2000:107 (Hungary: Bakony Mountains); Schmid-Egger, 2000b:275 (Germany: Baden-Württemberg: shores of Rhine River); Deván, 2001:165 (Slovakia: Krasin Nature Reserve in Biele Karpaty Mountains); Ljubomirov, 2001b:48 (Bulgaria: Mount Vitosha near Sofia); Ohl et al., 2001:137 (distribution in Germany by provinces); Amiet and Moretti, 2002:177, 178 (Switzerland: Tessin); Bieri, 2002:72 (Liechtenstein); Cölln, Esser, and Jakubzik, 2003:61 (Germany: northwestern Rheinland-Pfalz: excavation sites and quarries); Esser, Jakubzik, Sonnenburg, and Woydak, 2004:261(in checklist of Sphecidae of Nordrhein-Westfalen State of Germany); Skibińska *in* Bogdanowicz, Chudzicka, Pilipiuk, and Skibińska, 2004:355 (in catalog of Polish Crabronidae); Kofler, 2005:172 (Austria: Tirol: Lienz District: St. Johann); Wiśniowski, 2005b:340 (Poland: Ojców National Park, of primary faunistic value); Reder, 2005:948 (Germany: Rheinland-Pfalz: Gundersheim, Zell); Standfuss and Standfuss, 2006c:304 (Greece: Thessalia: Magnisia Peninsula at 39°N 23°E); Cungs, Jakubzik, and Cölln, 2007:139 (Luxemburg: Haardt Nature Reserve); Wiśniowski, 2008:635 (Poland: Ojców National Park, collected in 1992-2003); Józan, 2009:165 (Croatia: Načinivići); Józan, 2011:179 (in checklist of Sphecidae *sensu lato* of Hungary); Cölln and Jakubzik, 2016:16 (Germany: Rheinland-Pfalz: Vulkaneifel District). – **As *Ammoplanus perrisi* var. *wesmaeli***: Dalla Torre, 1897:363 (in catalog of world Hymenoptera).

Ammoplanus maidli Gussakovskij, 1931b:447, ♀. Syntypes: Tunisia: Tunis; Algeria: Oran (NHMW). Synonymized with *Ammoplanus perrisi* by Bouček, 2001:903 and by Bouček *in* Bitsch et al., 2001:145. – Giner Marí, 1943c:293 (listed in subgenus *Ammoplanus* s.s.); de Beaumont, 1950f:411 (Algeria), 1957a:150 (Morocco); R. Bohart and Menke, 1976:198 (in checklist of world Sphecidae).

Ammoplanus wesmaeli var. *pulchrior* Maréchal, 1938a:402, ♀. Holotype: ♀, Germany: Thüringen: Kösen an der Saale (ZMHU).

Ammoplanus wesmaeli var. *minor* Maréchal, 1938a:402, ♀. Holotype: ♀, Germany: Pillnitz near Dresden (ZMHU).

Ammoplanus perrisi var. *dentatus* Šnoflák, 1945:18, ♂. Holotype: ♂, Czech Republic: Brno (originally A. Hoffer coll., now Moravske Zemské Museum, Brno). Synonymized with *Ammoplanus perrisi* by Balthasar, 1972:172. – Bajári, 1957a:92 (in key to Hungarian Sphecidae).

37. *platytarsus* Gussakovskij

Ammoplanus platytarsus Gussakovskij, 1931b:451, ♂. Lectotype: ♂, Turkmenistan: Firyuza (ZIN), designated by Marshakov, 1976a:679. – Gussakovskij, 1935:421 (Tajikistan: Khrebet Petra Velikogo); Giner Marí, 1943c:293 (listed in subgenus *Ceballosia*); R. Bohart and Menke, 1976:198 (in checklist of world Sphecidae); Marshakov, 1976a:676, 677 (in key to Palearctic *Ammoplanus*), 679 (geographic distribution); Kazenas, 1978b:160 (in key to Sphecidae of Kazakhstan and Central Asia); Bouček, 2001:909 (in revision of Palearctic *Ammoplanus*); Kazenas, 2001:23 (in checklist of Sphecidae of Kazakhstan and Central Asia).

38. *pragensis* Šnoflák

Ammoplanus pragensis Šnoflák, 1945:16, ♀. Holotype: ♀, Czechoslovakia: Podhoř near Prague (originally A. Hoffer coll., now Národni Museum Přirodovědecké, Praha). – Šnoflák *in* Zavadil and Šnoflák, 1948:43 (in key to Sphecidae of Czechoslovakia); Blüthgen, 1954:141 (in key to *Ammoplanus* of Central Europe); Noskiewicz and Puławski, 1960:71 (in key to Polish Sphecidae, not yet found in Poland); Oehlke, 1970:755 (not recorded from Democratic Germany); Balthasar, 1972:173 (in Sphecid Fauna of Czechoslovakia); R. Bohart and Menke, 1976:198 (in checklist of world Sphecidae); Pulawski, 1978:252 (in key to Sphecidae of European part of USSR); Dollfuss, 1987:20 (first record from Austria); Pádr *in* Šedivy, 1989a:169 (in checklist of Czechoslovakian Sphecidae); Jacobs and Oehlke, 1990:159 (unknown from Democratic Germany); Pádr, 1990:81 (Czech Republic: Praha area); Dollfuss, 1991:87 (in key to Sphecidae of North and Central Europe), 1994:103 (endangered in Austria); von der Heide and Tischendorf, 1998:69 (first record from Germany: Hessen: Hochrhön); Blösch, 2000:206 (in Sphecid Fauna of Germany); Mandery, 2000:25 (Germany: Bayern and Baden-Württemberg); Schmid-Egger, 2000c:29 (Germany: Baden-Württemberg: Beuron); Bouček, 2001:909 (in revision of Palearctic *Ammoplanus*); Bouček *in* Bitsch et al., 2001:147 (in Sphecid Fauna of Western Europe); Deván, 2001:165 (first record from Slovakia: Krasin Nature Reserve in Biele Karpaty Mountains); Ohl et al., 2001:137 (distribution in Germany by provinces); Deván, 2002a:200 (Slovakia: Kobela Nature Reserve near Nové Mesto); Straka and Farkač, 2002:261 (Czech Republic: Beroun area and Praha); Wiśniowski, 2002:70 (first record from Poland: Ojców National Park); Mandery, Kraus, Voith, Wickl, Scheuchl, Schubert, and Warncke, 2003:63 (in catalog of wasps and bees of Bayern, Germany); Wickl, Voith, Mandery, Weber, Kraus, Bausenwein, and Blösch, 2003:194, 196 (Germany: Bayern: probably endangered); Wiśniowski *in* Dylewska and Wiśniowski, 2003:149 (Poland: Ojców National Park); Kuhlmann, 2004:230 (Germany is responsible for preservation of this species on its territory); Skibińska *in* Bogdanowicz, Chudzicka, Pilipiuk, and

Skibińska, 2004:355 (in catalog of Polish Crabronidae); Wiśniowski, 2004:43 and 60 (in checklist of Polish Sphecidae), 2005a:312 (Poland: Ojców National Park; occurring only in xerothermic grasslands), 2005b:340 (in Poland known only from Ojców National Park); Straka, 2005a:396 (critically endangered in Czech Republic); Jacobs, 2007:87 (in key to Crabronidae of Germany); Vepřek and Straka, 2007:201 (in catalog of Sphecidae of Czech Republic and Slovakia, known only from Bohemia and Slovakia), 220 (first recorded from Slovakia by Devan, 2001, recently recorded from Bohemia by Straka and Farkač, 2002; Bohemia: Kolednik, Praha – Sedlec, Těchonice); Schmid-Egger, 2010a:14 (in red list of Aculeata of Germany: extremely rare); Tischendorf, Frommer, Flügel et al., 2011:86 (Germany: Hessen: insufficient data); Bogusch, Straka, Macek, Dvořák, Vepřek, and Říha, 2011:94 (Czech Republic: Moravia: Děvin Nature Reserve, Pálava Nature Reserve, Podyji National Park, Šobes Nature Reserve); Saure, 1011b:8 (distribution in Germany discussed); Schmid-Egger, 2011a:36 (France: Parc National du Mercantour); Bitsch, 2014:406 (records from Poland by Wiśniowski, 2002 and from France by Schmid-Egger, 2011a reported); Stolle and Saure, 2016:921 (Germany: in list of Sphecidae *sensu lato* of Sachsen-Anhalt); Wiśniowski, 2016:127 (Poland: Ojców National Park); Kejval, Blažej, and Erhart, 2020:110 (western Czech Republic); Olszewski, Wiśniowski, and Ljubomirov, 2021:83 (in commented list of Sphecidae *sensu lato* of Poland); Bouček, Fernández Gayubo, and Bitsch *in* Bitsch, Antropov, Bouček, Dollfuss, Fernández Gayubo, and K. Schmidt, 2022:39 (in revision of Sphecidae *sensu lato* of Europe).

39. *quabajai* Pate

Ammoplanus quabajai Pate, 1943b:156, ♀. Holotype: ♀, USA: California: San Bernardino County: Waterman Canyon in San Bernardino Mountains (ANSP). – Krombein *in* Muesebeck, Krombein, and Townes, 1951:969 (in catalog of North American Hymenoptera); R. Bohart and Menke, 1976:198 (in checklist of world Sphecidae); Krombein, 1979b:1611 (in catalog of North American Hymenoptera); H. Allen, 1995:15 (type in ANSP); N. Smith, 2009:317 (in revision of North American *Ammoplanus*).

40. *rhinoceros* N. Smith

Ammoplanus rhinoceros N. Smith, 2009:311, ♀, ♂. Holotype: ♂: USA: California: Kings County: Sunflower Valley (UCD).

41. *rjabovi* Gussakovskij

Ammoplanus rjabovi Gussakovskij, 1931b:449, ♀, ♂. Lectotype: ♀, Russia: Dagestan: Khodjal-Makhi (ZIN), designated by Marshakov, 1976a:679. – Giner Marí, 1943c:293 (listed in subgenus *Ceballosia*); R. Bohart and Menke, 1976:198 (in checklist of world Sphecidae); Marshakov, 1976a:676, 677 (in key to Palearctic *Ammoplanus*), 679 (geographic distribution); Kazenas, 1978b:159, 161 (in key to Sphecidae of Kazakhstan and Central Asia); Pulawski, 1978:252 (in key to Sphecidae of European part of USSR); Dollfuss, 1991:87 (in key to Sphecidae of North and Central Europe); Bouček, 2001:911 (in revision of Palearctic *Ammoplanus*); Ljubomirov, 2001b:48 (Bulgaria: Mount Vitosha near Sofia); Sakenin, Samin, Bagriacik, and Rastegar, 2011:2 (Iran: Khuzestan: Bandar Torkman); Bayındır, Gürbüz, Ljubomirov, and Pohl, 2013:146 (first record from Turkey: Isparta: Kasnak Oak Forest Nature Reserve); Yıldırım, Ljubomirov, and Lelej, 2014:10 (distribution in Turkey by biogeographic provinces); Jahantigh, Rakhshani; Mokhtari, and Ramroodi, 2017:72

(Iran: known from Golestan Province); Mokrousov, 2017e:246 (in catalog of Pemphredoninae of Russia); Mokrousov, Proshchalykin, Aliyev, and Maharramov, 2019:6 (Azerbaijan: Nakhichevan Autonomous Republic); Kaplan and Yildirim, 2021:82 (in catalog of Crabronidae of Turkey), 2023:1679 (in checklist of Sphecidae *sensu lato* of Turkey).

42. *serratus* Tsuneki

Ammoplanus serratus Tsuneki, 1972a:223, ♀. Holotype: ♀, Mongolia: Central Aymag: Tosgoni-Ovoo (TMB). – R. Bohart and Menke, 1976:198 (in checklist of world Sphecidae); Marshakov, 1976a:675 (in key to Palearctic *Ammoplanus*, ♂ = *Ammoplanus bischoffi*), 680 (Mongolia); Bouček, 2001:912 (in revision of Palearctic *Ammoplanus*); Baghirov, 2010:679 (first record from Russia: Altai Territories: village Aktash), 2011b:151 (Russia: Altay Republic: Aktash); Mokrousov, 2017c:4 (Mongolia: Khovsgol (formerly Khubsugul) Aymag: near Buren-Khana on Delger-murun River); Russia: Altai Republic: 20 km west-northwest of Kosh-Agach, description of ♂), 2017e:246 (in catalog of Pemphredoninae of Russia).

43. *strumae* Bouček

Ammoplanus strumae Bouček, 2001:♀, ♂. Holotype: ♂, Bulgaria: Sandanski (NMPC). Paratypes: Greece. – Schwarz-Waubke, Schwarz, F. Gusenleitner, J. Gusenleitner, Malicky, Malicky-Ruzicka, and Vogtenhuber, 2003:446 (paratype in Biologiezentrum, Linz, Austria); Guéorguiev and Ljubomirov, 2009:262 (Bulgaria: Maleshevska Planina); Bouček, Fernández Gayubo, and Bitsch *in* Bitsch, Antropov, Bouček, Dollfuss, Fernández Gayubo, and K. Schmidt, 2022:41 (in revision of Sphecidae *sensu lato* of Europe).

44. *sulcifrons* N. Smith

Ammoplanus sulcifrons N. Smith, 2009:328, ♀, ♂. Holotype: ♂, USA: California: Solano County: Cold Creek at Monticello Dam (UCD).

45. *surrufus* N. Smith

Ammoplanus surrufus N. Smith, 2009:329, ♀, ♂. Holotype: ♀, USA: California: Riverside County: Andreas Canyon (UCD).

46. *tetli* Pate

Ammoplanus tetli Pate, 1943b:147, ♂. Holotype: ♂ (erroneously as ♀ on p. 147): USA: California: San Bernardino County: Tetly Park in San Bernardino Mountains (ANSP). – Krombein *in* Muesebeck, Krombein, and Townes, 1951:969 (in catalog of North American Hymenoptera); R. Bohart and Menke, 1976:198 (in checklist of world Sphecidae); Krombein, 1979b:1611 (in catalog of North American Hymenoptera); H. Allen, 1995:15 (type in ANSP); N. Smith, 2009:330 (in revision of North American *Ammoplanus*).

47. *torresi* Gayubo

Ammoplanus torresi Gayubo, 1991b:141, ♀, ♂. Holotype: ♂, Portugal: Cabeça in Serra da Estrela (Salamanca Univ.). – Bouček and Gayubo, 2001:65 (diagnostic characters, Spain: Salamanca, Zaragoza); Bouček, 2001:915 (in revision of Palearctic *Ammoplanus*); Bouček *in* Bitsch et al., 2001:148 (in Sphecid Fauna of Western Europe); Gayubo, González, Tormos, and Asís, 2008:139 (Spain: Salamanca: Parque Natural de Las Batuecas – Sierra de Francia); González, Gayubo,

Asís, and Tormos, 2009:623 (Spain: Salamanca and Zamora provinces: Arribes del Duero Natural Park); Cruz-Sánchez, Asís, Gayubo, Tormos, and González, 2011:498 (Spain: Salamanca and Zamora provinces: Arribes del Duero Natural Park: effects of wildfire); Vieira, Oliveira, Brewster, and Gayubo, 2013:18 (Portugal: Douro International Natural Park); Cross, Baldock, and Wood, 2021:58 (in catalog of Sphecidae *sensu lato* of Portugal); Bouček, Fernández Gayubo, and Bitsch *in* Bitsch, Antropov, Bouček, Dollfuss, Fernández Gayubo, and K. Schmidt, 2022:42 (in revision of Sphecidae *sensu lato* of Europe).

48. *transcaspicus* Gussakovskij

Ammoplanus transcaspicus Gussakovskij, 1931b:454, ♀. Lectotype: ♀, Turkmenistan: Uch-Adzhi (ZIN), designated by Marshakov, 1976a:679. – Giner Marí, 1943c:293 (tentatively listed in subgenus *Ammoplanus* s.s., as *transcaspius*); Myartseva, 1971b:179 (occurs only in deserts of Turkmenistan); R. Bohart and Menke, 1976:198 (in checklist of world Sphecidae); Marshakov, 1976a:676, 677 (in key to Palearctic *Ammoplanus*), 679 (Turkmenistan, Mongolia); Kazenas, 1978b:160 (in key to Sphecidae of Kazakhstan and Central Asia); Marshakov, 1979b:368 (Mongolia, redescription of ♀, description of ♂); Esenbekova and Kazenas, 2000:23 (southeast Kazakhstan: 20 km W Alma Ata); Kazenas, 2000e:175 (in Sphecid Fauna of Kazakhstan); Bouček, 2001:916 (in revision of Palearctic *Ammoplanus*); Kazenas, 2001:23 (in checklist of Sphecidae of Kazakhstan and Central Asia); Dollfuss, 2004a:125 (Tajikistan: 30 km north of Rushan in Pamir Mountains); nec Baghirov, 2010:679 and 2011b:151 (= *Ammoplanus kaszabi* and *A. marathroicus*); Atbaei, Fallahzadeh, and Ljubomirov, 2015:3 (first record from Iran: Fars Province); Jahantigh, Rakhshani; Mokhtari, and Ramroodi, 2017:73 (Iran: known from Fars Province).

49. *unami* Pate

Ammoplanus unami Pate, 1937b:101, ♀. Holotype: ♀, USA: Pennsylvania: Northampton County: Lehigh Gap (ANSP). – Pate, 1943b:154 (bibliographic reference); Krombein *in* Muesebeck, Krombein, and Townes, 1951:969 (in catalog of North American Hymenoptera); Krombein, 1956b:154 (West Virginia: Lost River State Park), 159 (description of ♂), 1958f:190 (in supplement to catalog of North American Hymenoptera: West Virginia); R. Bohart and Menke, 1976:198 (in checklist of world Sphecidae); Krombein, 1979b:1611 (in catalog of North American Hymenoptera); H. Allen, 1995:15 (type in ANSP); N. Smith, 2009:318 (in revision of North American *Ammoplanus*).

50. *vanyumi* Pate

Ammoplanus vanyumi Pate, 1943b:154, ♀. Holotype: ♀, USA: California: San Bernardino County: mouth of Deep Creek in San Bernardino Mountains (ANSP). – Pate, 1945c:87 (Idaho); Krombein *in* Muesebeck, Krombein, and Townes, 1951:969 (in catalog of North American Hymenoptera); R. Bohart and Menke, 1976:198 (in checklist of world Sphecidae); Krombein, 1979b:1611 (in catalog of North American Hymenoptera); H. Allen, 1995:15 (type in ANSP); N. Smith, 2009:319 (in revision of North American *Ammoplanus*); Ratzlaff, 2016:26 (Canada: British Columbia: from N. Smith, 2009).

sp.

Cockerell, 1897a:402 (= *Pulverro mescalero*); de Beaumont, 1954b:4 (Canary Islands; two species); Hamann, 1960:196 (Austria: Oberösterreich: Mönchgraben at 48°13'N 14°21'E); de Beaumont, 1964a:301 (Switzerland), 1968a:274 (Canary Islands: Fuertaventura); Báez and Ortega, 1978:191 (Canary Islands); Gayubo, 1984a:168 (Spain: Salamanca Province); Hohmann, La Roche, Ortega, and Barquín, 1993:208 (Canary Islands); González, Gayubo, and Torres, 1998:72, 73 (Spain: Valladolid Province); Gorobchishin, 1998a:48 (Ukraine: Kiev and surroundings); Esenbekova and Kazenas, 2000:22 (southeast Kazakhstan: foothills of Zailiyskiy Alatau); Gonzáles, Gayubo, and Tormos, 2000:19 (Andorra: Santa Coloma); Esenbekova and Kazenas, 2003:15 and 67 (Kazakhstan: foothills of Zailiyskiy Alatau: nest structure); Nieves-Aldrey, Fontal-Cazalla, Garrido-Torres, and Rey del Castillo, 2003:42 (Spain: Madrid: Estación Biogeólogica de El Ventorrillo in Sierra de Guadarrama); Dollfuss, 2004a:125 (Morocco, South Africa, Syria, Thailand); Gayubo et al. 2004:130 (Spain: Madrid: Estación Biogeólogica de El Ventorrillo in Sierra de Guadarrama); Cruz-Sánchez, Gayubo, González, and Torres, 2005:219 (Spain: Salamanca: San Martín del Castañar); Gayubo, González, Tormos, and Asís, 2008:139 (Spain: Salamanca: Parque Natural de Las Batuecas – Sierra de Francia, sp. aff. *gegen* and *perrisi*); Kazenas, 2008b:112 (Kazakhstan: foothills of Zailiskiy Alatau: found on loess cliff); Belkheir, 2009:18 (France: Pyrénées-Orientales: commune d'Eyne); Vieira, Oliveira, Brewster, and Gayubo, 2013:18 (Portugal: Douro International Natural Park); Magdalou, 2017:14 (France: Pyrénées-Orientales: Réserves Naturelles Catalanes: Vallée d'Eyne); Jacobs and Liebig, 2018:146 (Russia: Irkutsk Oblast': Sarma).

NOMINA NUDA IN *AMMOPLANUS*

Ammoplanus mandibularis Ashmead *in* Cockerell, 1898:148 (= *Pulverro mescalero*)
Ammoplanus repetekus Kazenas, 1992c:25 (Turkmenistan: Repetek Nature Reserve)

SPECIES DESCRIBED IN *AMMOPLANUS* AND TRANSFERRED TO OTHER GENERA

apache Pate, 1937 = *Parammoplanus*
aussi Leclercq, 1959 = *Ammoplanellus*
bezicus Leclercq, 1959 = *Ammoplanellus*
brevicornis Arnold, 1945 = *Ammoplanellus*
ceanothae Viereck, 1904 = *Xysma*
chorasmius Gussakovskij, 1931 = *Ammoplanellus*
claripennis Arnold, 1945 = *Ammoplanellus*
clypealis Tsuneki, 1972 = *Ammoplanellus shestakovi* (Gussakovskij, 1931)
cockerelli Ashmead, 1903 = *Ammoplanops*
columbianus Kohl, 1890 = *Pulverro*
consobrinus Arnold, 1927 = *Ammoplanellus rhodesianus* (Arnold, 1924)

egregius Arnold, 1945 = *Ammoplanellus*
eriogoni Rohwer, 1909 = *Pulverro*
hissaricus Gussakovskij, 1952 = *Ammoplanellus*
jucundus Arnold, 1945 = *Ammoplanellus*
latiscapus Leclercq, 1959 = *Ammoplanellus*
lenape Pate, 1937 = *Parammoplanus*
madecassus Kohl, 1909 = *Ammoplanellus*
nanus Bouček and Gayubo, 2001 = *Ammoplanellus*
olamentke Pate, 1937 = *Parammoplanus*
orientalis Arnold, 1945 = *Ammoplanellus*
rhodesianus Arnold, 1924 = *Ammoplanellus*
salicis Cockerell, 1897 = *Lindenius columbianus* (Kohl, 1892)
shestakovi Gussakovskij, 1931 = *Ammoplanellus*
simplex Gussakovskij, 1952 = *Ammoplanellus*
umatilla Pate, 1945 = *Ammoplanellus*
xila Pate, 1945 = *Ammoplanellus*