Last updated: 30 September 2025

LINDENIUS

Lindenius Lepeletier de Saint Fargeau and Brullé, 1835:791. Type species: *Crabro albilabris* Fabricius, 1793, designated by Westwood, 1839:80.

Chalcolamprus Wesmael, 1852:590. Type species: *Crabro albilabris* of Vander Linden, 1829 [= *Crabro albilabris* Fabricius, 1793], by monotypy.

Trachelosimus A. Morawitz, 1866:249. Type species: *Crabro armatus* Vander Linden, 1829 [= *Lindenius pygmaeus armatus* (Vander Linden, 1829)], by monotypy.

Revision: de Beaumont, 1956b (western Palearctic species).
Key: Leclercq, 1989b (Old World species).
Review of biology: Kazenas, 2001b:183.

1. *abditus* (Kohl)

Crabro abditus Kohl, 1898a:360, ♀, ♂. Lectotype: ♂, Algeria: Oran (NHMW). – Kohl, 1915:291 (in revision of Palearctic Crabronini). – **As *Lindenius abditus***: Leclercq, 1954c:196 (new generic assignment, in catalog of world Crabronini); de Beaumont, 1956b:160 (in revision of western Palearctic *Lindenius*; Greece may be the country of origin), 1965a:61 (Greece); R. Bohart and Menke, 1976:384 (in checklist of world Sphecidae); Dollfuss, 1989:10 (lectotype in NHMW); Leclercq, 1989b:422, 428 (in key to Old World *Lindenius*), 433 (references to de Beaumont, 1956b, 1965), 1993c:37 (in checklist of Crabronini of Europe and Mediterranean Basin); Bitsch and Leclercq *in* Bitsch, Antropov, Gayubo, Leclercq, Schmid-Egger, K. Schmidt, and Straka, 2021:131 (in revision of Sphecidae *sensu lato* of Europe); Kaplan and Yildirim, 2021:56 (in catalog of Crabronidae of Turkey), 2023:1685 (in checklist of Sphecidae *sensu lato* of Turkey).

2. *aegyptius* (Kohl)

Crabro aegyptius Kohl, 1888a:134, ♀. Holotype or syntypes: ♀, Egypt: no specific locality (NHMW). – Dalla Torre, 1897:580 (in catalog of world Sphecidae); Kohl, 1898a:359 (additional description, description of ♂), 1915:284 (in revision of Palearctic Crabronini); Mantero, 1915:32 (Libya); Guiglia, 1934b:305 (Libya: bibliography and summary of locality records); Ceballos, 1959:230 (in supplement to catalog of Sphecidae of Spain); Pulawski, 1964:145 (Egypt: Kom Osheim; Sudan: Wadi Halfa). – **As *Lindenius aegyptius***: Leclercq, 1954c:197 (new generic assignment, in catalog of world Crabronini); de Beaumont, 1956b:184 (in revision of western Palearctic *Lindenius*); Leclercq, 1963:58 (Pakistan: Karachi); Leclercq, 1975a:209 (Morocco: Melilla); R. Bohart and Menke, 1976:384 (in checklist of world Sphecidae); Wolf, 1980: 72 (Canary Islands); Dollfuss, 1989:10 (type material in NHMW; as *aegypticus*); Leclercq, 1989b:421, 427 (in key to Old World *Lindenius*), 433 (references to recent publications); Hohmann, La Roche, Ortega, and Barquín, 1993:246 (detailed locality records from Canary Islands); Leclercq, 1993c:37 (in checklist of Crabronini of Europe and Mediterranean Basin; Morocco: Agadir); Esenbekova and Kazenas, 2000:46 (southeastern Kazakhstan: near Kapchagay); Kazenas, 2001b:38 (in checklist of Sphecidae of Kazakhstan and Central Asia), 2002a:94 (geographic distribution, collecting localities in Kazakhstan), 2004b:106 (Kazakhstan: western Tien Shan); Dollfuss, 2006:521 (Jordan: Petra); Roche, 2007a:106 and 2007b:7 (in checklist of Egyptian Ampulicidae, Sphecidae, and Crabronidae); Schmid-Egger, 2011b:545 (first record from United Arab Emirates: Al-Ajban, north of Ajman, Wadi Safaq), 547 (color photograph of female); Kazenas, 2014a:136 (Kazakhstan: Karatau Mountain Range); Schmid-Egger, 2014:574 (United Arab Emirates); Mokrousov, Shlyakhtenok, and Grebennikov, 2016:21 (Russia: Kalmykia: 2 km east of Evdik at 47.34°N 45.24°E); Antropov, 2017b:234 (in catalog of Crabroninae of Russia); Gadallah, 2020b:37 (in list of aculeate wasps of Arabian Peninsula); Bitsch and Leclercq *in* Bitsch, Antropov, Gayubo, Leclercq, Schmid-Egger, K. Schmidt, and Straka,

2021:131 (in revision of Sphecidae *sensu lato* of Europe); Medetov, Embergenov, Kholmatov, Elmurodova, Rakhimov, and Tajibaeva, 2024:425 (Uzbekistan: distribution).

As *Crabro pallidicornis*: F. Morawitz, 1890:614, ♂ only, corrected to *Lindenius aegyptius* by Marshakov, 1975b:331.

3. *affinis* Kazenas

Lindenius affinis Kazenas, 1973a:289, ♀, ♂. Holotype: ♀, Kazakhstan: Ili area (ZIL). – R. Bohart and Menke, 1976:384 (in checklist of world Sphecidae); Leclercq, 1989b:424 (in key to Old World *Lindenius*), 433 (reference to Kazenas, 1973); Esenbekova and Kazenas, 2000:46 (southeastern Kazakhstan: near Kapchagay); Kazenas, 2001b:38 (in checklist of Sphecidae of Kazakhstan and Central Asia), 2002a:94 (geographic distribution, collecting localities in Kazakhstan); Dollfuss, 2006:521 (Tajikistan: Vose 120 km southeast of Dushanbe; Turkmenistan: Sandykachi, Kugit-Angtau, determination questionable).

4. *afghanus* Leclercq

Lindenius afghanus Leclercq, 1989b:433, ♀. Holotype: Afghanistan: Bamian: Band-e Amir (BMNH). – Leclercq, 1989b:427 (in key to Old World *Lindenius*); Dollfuss, 2006:521 (Kazakhstan; Vanovka 80 km east of Djambul; Kyrgyzstan: near Afleatun, 10 km south of San Tzelek); Dunford, Turbyville, and Leavengood, 2014:9 (listed as medically important in Afghanistan).

5. *albilabris* (Fabricius)

Crabro albilabris Fabricius, 1793:302, sex not stated. Holotype: ♀, Germany: Halae Saxonum, now Sachsen-Anstalt: Halle (ZMUC). – Fabricius, 1796:51 (in Index to his Entomologia Systematica, 1793); Jurine, 1807:212 (in checklist of *Crabro*); Vander Linden, 1829:67 (bibliographic references, redescription, Belgium: Bruxelles); Shuckard, 1837:171 (in revision of British Aculeata); Dahlbom, 1839:25 and 1839-40:25 (in revision of Scandinavian Crabronini); Zetterstedt, 1838:445 (in revision of insects of Lapland); von Siebold, 1839:50 (Germany: Danzig, now Poland: Gdańsk); Dahlbom, 1842a:13 (in review of Scandinavian aculeates), 1844:300 (in revision of Sphecidae and Pompilidae); Lepeletier de Saint Fargeau, 1845:197 (in revision of world Hymenoptera); F. Smith, 1849b:2551 (preying on Diptera), 1951c:31 (Great Britain: no specific locality), 1853:64 (in checklist of British Hymenoptera), 1856:403 (in catalog of Hymenoptera in British Museum), 1858c:158 (in review of British Aculeata, redescription); A. Morawitz, 1866a:270 and 1866b:346 (specimens in Eversmann collection); Schenck, 1867a:351 (Germany: Nassau Region); F. Smith, 1869d:78 (Great Britain: Norfolk: Cromer), 1871b:16 (in catalog of British Aculeata); Marquet, 1875:210 (France: Haute-Garonne: Toulouse); Taschenberg, 1875:381 (Germany: Halle); Daly, 1878:46 (Great Britain: Dorset: Glanville's Wootton); Roebuck, 1878:48 (Great Britain: recorded from Yorkshire county: Wakefield, by F. Smith, 1858); Girard, 1879:937 (morphology and habits); Kohl, 1880:132 (Austria: Tirol, and Italy: Trentino–Alto Adige), 218 (variation); E. Saunders, 1880:297 (in revision of British Aculeata); Harwood, 1884:212 (England: Essex: Colchester area); von Heyden, 1884:124 (Germany: Frankfurt am Main area); Kohl, 1888b:722 (Austria: Tirol, now Italy: Alto Adige); F. Morawitz, 1889a:160 (China: Nei Mongol: Kukuhoto); Kohl, 1893a:21 (Austria: Niederösterreich); F. Morawitz, 1893a:113 (Russia: Karelian Isthmus), 1893b:425 (Turkestan: Serbent); Sickmann, 1893:74 (Germany: Niedersachsen: Iburg); Krieger, 1894:3 (Germany: Kingdom of Saxony); Meunier, 1896:270 (Belgium: Bruxelles area); E. Saunders, 1896:146 (in revision of British Aculeata); Borries, 1897:48 (nesting habits); Dalla Torre, 1897:581 (in catalog of world Sphecidae); Mocsáry, 1897:83 (Kingdom of Hungary, some localities are in today's Croatia, Romania and Slovakia); Friese, 1902:477 (occurring in Swedish Lapland according to Zetterstedt, 1838); Nevinson, 1902:12 (Britain: Cornwall: Newquay); E. Saunders, 1902b:144 (British Channel Islands: Island of Jersey: France: Bretagne: Saint Briac); de Cobelli, 1903:118 (Italy: Province of Trentino); Antiga and Bofill, 1904:23 (Spain: Cataluña Province); W. Schulz, 1904b:98 (Czechoslovakia, Syria); Zilahi Kiss, 1904:77 (Hungary: Tasnád); Kubes, 1905:84 (Czech Republic: Kolín, Maria Sorg u Jáchymova); Mosolov, 1905b:19 (Russia: Moscow Governorate: Mikhailovskoye); Vángel, 1905:167 (Hungary); Zavattari, 1905b:4 (Palestine: Mar Saba); Luff, 1907:39 (Great Britain: Island of Guernsey); Móczár and Henter, 1907:206 (Romania: Mehadia); Schmiedeknecht, 1907:201 (in key to Hymenoptera of Central Europe); Dittrich, 1911b:20

(Germany: Niederschlesien Province, now Poland: Dolny Śląsk Region); Morley, 1911:24 (Western Ireland: Mulranny); Birula, 1912:536 (Ukraine: Zhytomyr Oblast': Radomyshl'); Torka, 1913:34 (Germany: Provinz Posen, now Poland: Poznań Region); Alfken, 1914:274 (northwestern Germany); Birula, 1914:378 (Belorussia: Ambrosovichi and Luskinopol' near Vitebsk); Szilády, 1914:89 (Hungary: Budaörs); Kohl, 1915:288 (in revision of Palearctic Crabronini); O. Meyer, 1919:149 (Germany: Posen Province, now Poland: Poznań Region); Strand, 1920:23 (Germany: Berlin-Dahlem); Dubois, 1921b:162, 163 (in key to Belgian Sphecidae), 166 (phenology, nesting habits); Hedicke, 1922:270 (Germany: Brandenburg: Gross Machnower Weinberg); Maidl, 1922:75 (Albania, Croatia); Leininger, 1924:121 (Germany: Baden-Württemberg; entire area); Berland, 1925d:176 (in Sphecid Fauna of France); Bischoff, 1925:298 (Latvia; Poland: Białowieża and Grajewo area); Grönblom, 1925:6 (nesting habits); Schütze, 1925:111 (Germany: Lausitz Region); K. Strohm, 1925:211 (Germany: Baden-Württemberg: Heidelberg, Kaiserstuhl); Bouwman, 1926:279 (in list of Sphecidae of Netherlands); Friese, 1926:149 (in key to Sphecidae of Central Europe, short morphological and biological characteristics); Zavadil, 1926:36 (Czechoslovakia); Benoist, 1928:410 (France: Basses-Alpes, Hautes-Alpes); Berland, 1928b:180 (nest parasites: *Myrmosa melanocephala* Latreille, Myrmosidae and *Hedychridium coriaceum* (Dalbom), Chrysidisae, according to Hamm and Richards, 1926); Bouwman, 1930:104 (in revision of Sphecidae of Netherlands); Schmiedeknecht, 1930:659, 660 (in keys to Hymenoptera of North and Central Europe); Bischoff, 1931:9 (Spain); Minkiewicz, 1931b:203 (nesting habits); Pulkkinen, 1931:152 (in revision of Sphecidae of Finland); Bondroit, 1932:41 (Belgium: abundant in Bruxelles area); Giordani Soika, 1932a:22 (Italy: Lido di Venezia); Chambers, 1933:188 (Britain: Bedfordshire); E. Nielsen, 1933:273 (summary of nesting habits); Balles, 1934:17 (Germany: Baden-Württemberg: 10 localities); Jansson, 1934:288 (Sweden); Minkiewicz, 1934:198 (nesting habits); Forsius *in* Forsius and Hellén, 1935:10 (in checklist of Hymenoptera of Finland); Steck, 1935:326 (Switzerland); Vergne, 1935:119 (France: Auvergne: Pont-du-Chateau); Crèvecoeur and Maréchal, 1936:257 (in catalog of Belgian Hymenoptera); Drogoszewski, 1936:129 (Poland: Łowicz); Roller, 1936:316 (Austria: loess cliffs at Bisamberg near Vienna); Dulac, 1937:20 (France: Saône-et-Loire: Saint-Laurent d'Andenay); Goebel, 1937:39 (Poland: Poznań District: Kobylepole, Luboń, Poznań-Dębina, Spławie, Strzeszyn, Strzeszynek); Zavadil, Šustera, and Bat'a, 1937:167 (in catalog of Sphecidae of Czechoslovakia); Redikortsev, 1938:144 (Russia: Mordovian State Nature Reserve); Móczár, 1939:5 (Hungary: Jászberény); Dovnar-Zapolskiy, 1940:303 (Russia: Kursk Oblast'); Balthasar, 1941b:112 (Czech Republic: eastern Moravia); Guiglia, 1941c:167 (Italy: Calabria: Grande Sila); Leclercq, 1941b:15 (Belgium: Liège area); Paul, 1941:37 (Germany: Pommern: Stettin area, now Poland: Województwo Zachodniopomorskie: Szczecin area); Giner Marí, 1943a:247 (in Sphecid Fauna of Spain); Guiglia, 1944a:150 (Cyprus: Limassol), 1944b:34 (Italy); Šnoflák, 1944a:143 (Czech Republic: serpentine steppe near Mohelno); Carl and de Beaumont, 1947:69 (Switzerland: Graubünden = Grisons Canton: Swiss National Park); Dupuis, 1947:113 (list of known heteropteran prey, hymenopteran prey not listed); Móczár, 1947b:90 (Hungary: Siebenbürgen: Székelykeresztúr, now Romania: Transylvania: Cristuru Secuiese); Balthasar, 1948:140 (Slovakia: Kovačovské Kopce, Parkan); Zavadil *in* Zavadil and Šnoflak, 1948:134, 135 (in key to Sphecidae of Czechoslovakia); Aerts, 1950a:50 (Germany: Nordrhein-Westfalen: Rheidter Wertchens near Köln), 1950b:23 (Germany: Rheinland-Pfalz: Lorelei); Cavro, 1950:37 (France: Département du Nord); Georgel, 1950:64 (France: Seine-et-Oise: Sucy-en-Brie); Pittioni, 1950:28 (Cyprus); Caruel, 1951:100 (France: Marne Department); de Beaumont, 1951h:35 (Switzerland: Neuchâtel area); Fæster, 1951:458 (distribution in Scandinavia); Móczár, 1953:311 (Hungary); Nouvel and Ribaut, 1953:181 (France: Hautes-Pyrénées: Cauterets); de Beaumont, 1954e:97 (Italy); Macko and Noskiewicz, 1954:186 (Poland: Dolny Śląsk: Stolec at 50°35'N 16°53'E); Atanassov, 1955:195 (first record from Bulgaria: Varna area, as Stalin); Steiner, 1955:140 (France: Dordogne); Teschner, 1955:57 (Germany: Nordrhein-Westfalen: Hohe Ward near Münster); Vogrin, 1955:41 (Yugoslavia); Ceballos, 1956:392 (in catalog of Hymenoptera of Spain); Hertzog, 1956:182 (carrying prey impaled on stinger); Preuss, 1956:15 (Germany: Schleswig-Holstein: Mölln in Lauenburg); Zirngiebl, 1957:177 (Germany: Rheinland-Pfalz: Pfalz region); Benno, 1958b:20 (in review of Dutch Sphecidae); Puławski, 1958a:187 (Bulgaria: Sandanski, Vitosha Mountain near Sofia); Noskiewicz and Puławski, 1960:156 (in

key to Polish Sphecidae); Wengris, 1962:207 (Lithuania: Vilnius area); Ceballos, 1964:94 (in supplement to catalog of Sphecidae of Spain); Scobiola-Palade, 1966b:393 (Romania: Tulcea District: Chilia Veche); Balthasar, Hrubant, and Hrubant, 1967:169 (Bulgaria: Slanchev Bryag near Nessebar); Miczulski, 1967:189 (Poland: Felin near Lublin); Niedl and Deneš, 1967:74 (Czech Republic: Třeboň area); Scobiola-Palade, 1967b:53 (Romania); Maršakovs, 1970:35 (nesting behavior); Tumšs and Maršakovs, 1970:30 (Latvia); Balthasar, 1972:123 (in Sphecid Fauna of Czechoslovakia); Georghiou, 1977:190 (Cyprus) Józan, 1981:305 (Hungary: Hortobágy National Park); Skibińska, 1981:358 (Poland: Warszawa-Białołęka), 1982:124 (Poland: Warszawa area); H. Kollar, 1988:21 (nesting in cliffs); Kowalczyk, 1988a:46 (Poland: Rogów), 1988b:66 (Poland: environs of Łódź); Blagoveshchenskaya, 1994:90 (Russia: Ul'yanovsk Oblast'). – **As *Vespa albilabris***: Turton, 1802:533 (new generic assignment, Germany: Halle). – **As *Pemphredon albilabris***: Fabricius, 1804:316 (new generic assignment, redescription); Stephens, 1829a:366 (in catalog of British insects), 1829b:34 (in checklist of British insects); Dahlbom, 1845:XXV (is a *Lindenius*); Schilling, 1848:105 (Germany: Schlesien: Breslau area, now Poland: Wrocław area). – **As *Cemonus albilabris***: Herrich-Schaeffer, 1840:291 (new generic assignment; Germany: Bayern: Regensburg area; as *Albilabris*, incorrect capitalization). – **As *Lindenius albilabris***: Lepeletier de Saint Fargeau and Brullé, 1835:795 (new generic assignment, in revision of Crabronini); Herrich-Schaeffer, 1840:294 (Germany: Bayern: Regensburg area); Dahlbom, 1844:300 (in revision of *Lindenius*), XXV (new generic assignment), 1845:516 (in key to *Lindenius*); von Kiesenwetter, 1849:91 (Germany: Kingdom of Saxony: Oberlausitz area); Wissmann, 1849:15 (Germany: Kingdom of Hannover: common); Tischbein, 1850:10 (Germany: Rheinland-Pfalz: Herrstein in Fürstenthum Birkenfeld); Wesmael, 1852:590 (Belgium); Kirchner, 1854:313 (Czechoslovakia: Kaplitz in Budweiser District, now České Budějovice); Kawall, 1857:25 (Kurland, now Latvia); Ruthe and Stein, 1857:315 (Germany: Berlin area); A. Costa, 1858:20 (Italy: Campania: Monti Partenii in Benevento Region); Taschenberg, 1858:101 (in key to Sphecidae of Germany); Assmuss, 1859:617 (Russia: Moscow Governorate); Funk, 1859:58 (Germany: Bayern: Bamberg); Schenck, 1860:146 (Germany: Nassau Region); Brischke, 1862:105 (Germany: Preussen Province, now Poland: Pomorze Region); A. Morawitz, 1864:458 (Russia: Sankt-Petersburg); Taschenberg, 1866:181 (in revision of Hymenoptera of Germany); A. Costa, 1867c:122 (in revision of Italian Sphecidae); Jaennicke, 1867:147 (Germany: Hessen: Frankfurt area); Kirchner, 1867:224 (in catalog of European Hymenoptera); Jaennicke, 1868:8 (Germany: Hessen: Rüsselheim); Wierzejski, 1868:118 (Ukraine: Podole Region); von Aichinger, 1870:314 (Austria: Tirol); Thomson, 1870:159 (in revision of Swedish Crabroninae); A. Costa, 1871b:51 (in revision of Italian Sphecidae); P. Ivanov, 1872:152 (Ukraine: Khar'kov Oblast': Kupyansk area); Dours, 1874:154 (in catalog of Hymenoptera of France); Thomson, 1874:260 (in revision of Hymenoptera of Scandinavia); Wierzejski, 1874:261 (Poland: Kraków, Tatry Mountains: Jaszczurówka; Ukraine: Podole Region: Kalinowce, Mielnica, Sinków, Skała); Beuthin, 1876:230 (Germany: Hamburg area); Radoszkowski, 1877:80 (Uzbekistan, Kazakhstan, Kyrgyzstan); Siebke, 1880:68 (Norway); Magretti, 1881:214 (Italy: Lombardia: Sondrio), 271 (in list of species discussed in this paper); Marquet, 1881:185 (southern France); Yaroshevskiy, 1881:122 (Ukraine: Khar'kiv Oblast': Kupyansk); Friese, 1883:201 (Germany: Sachsen-Anhalt: Merseburg, Weissenfels); Kohl, 1883e:656 (Switzerland); Wüstnei, 1886:37 (Germany: Schleswig-Holstein: Husum, Elmshorn, Sonderburg); Brischke, 1888b:100 (Germany: Preussen Province, now Poland: Pomorze Region); Assmuss, 1892:53 (Russia: earlier record from Moscow Governorate repeated); Baldini, 1894:69 (Italy: Modena area); Acloque, 1897:90 (in Sphecid Fauna of France and Algeria); Lange, 1898:70 (Germany: Sachsen: Annaberg-Buchholz); Strand, 1898b:95 (Norway); J. Nielsen, 1901a:266 (nesting habits); N. Arnold, 1902:88 (Russia: Mohilev Province, now Belorussia); Chyzer, 1902:34 (Hungary); Strand, 1903:7 (Norway: Austad); Adlerz, 1904:39 (nesting habits), 136 (known prey: *Capsus thunbergi*, new records: Diptera); Aurivillius, 1904:279 (in revision of Swedish Sphecidae); de Gaulle, 1908:121 (in catalog of French Hymenoptera); Adlerz, 1910:43 (Sweden; nesting habits); Graeffe, 1911:44 (Italy: Trieste area); Rudow, 1912:75 75 (adopting empty cells of other insects); Schirmer, 1912:164 (Germany: Berlin area); R. Perkins, 1913b:396 (in key to British Crabronini); Dubois, 1919:95 (Belgium: Bruxelles: Uccle); Hallett, 1919:262 (Great Britain: Island of Guernsey); Noskiewicz, 1920b:155 (Poland, now Ukraine: forest district Kopanki near Kałusz);

A. Wagner, 1920:46 (Germany: Lower Elbe region); Alfken, 1924:231 (northern Germany); R. Perkins, 1924:226 (Great Britain: Devon); Coulon, 1925:123 (France, Germany, Switzerland); R. Perkins, 1925:153 (Great Britain: Somersetshire: Brean Down and Crewkerne); Hamm and Richards, 1926:319 (summary of nesting habits), 328 (list of prey); Hémon, 1926:199 (France: Finistère: Fouesnant); Stelfox, 1927:303 (Ireland: list of localities); F. Werner, 1927:66 (Austria: Niederösterreich: River Kamp valley); Jones, 1928b:14 (Great Britain: Hampshire: Milford-on-Sea); Butterfield and Fordham, 1931:158 (Great Britain: Yorkshire); Spooner, 1931:15 (Great Britain: Cambridgeshire); Marchand and Dulac, 1935:60 (France: Saône-et-Loire: Saint Laurant d'Andenay); Minkiewicz, 1935:196 (Poland: Kazimierz on Wisła at 51°20'N 21°58'E), 222 (Poland: Lake Garbaś 20 km west of Suwałki); Pattri, 1936:113 (Germany: Hessen; Darmstadt area, on sandy habitats); Richards, 1937b:107 (in checklist of British aculeates); Hallett, 1938:73 (Great Britain: Herefordshire: Ross-on-Wye, Tarrington); A. Wagner, 1938a:118 (northwestern Germany); Aerts, 1939:134 (Germany: Nordrhein-Westfalen: loess cliff at Weilerswist near Köln); Stelfox, 1939b:205 (Ireland: Kerry County); de Graham, 1941:99 (Great Britain: Lincolnshire); Schneid, 1941:1031 (Germany: Bayern: Bamberg area); Yarrow and Guichard, 1941:9, 10 (in key to British *Lindenius*); Alfken, 1942:231 (Germany: Niedersachsen: Lüneburger Heide); J. Perkins, 1942:199 (Sweden: Skåne: Degaberga and Kivik); T. Fletcher, 1945:54 (Great Britain: Gloucestershire: Bailey Lane End, Rodborough); R. Perkins, 1946:241 (Great Britain: Devon: moorland near Lydford); Spooner, 1946:27 (Britain: Leicestershire: Charnwood Forest); Bristowe, 1948:34 (nesting habits); Guichard and Yarrow, 1948:92 (Britain: London: Hampstead Heath); Chambers, 1949:230 (Britain: Bedfordshire); Leclercq, 1950a:6 (Caucasus, France, Hungary, Romania); Szulczewski, 1950:104 (Poland: Wielkopolski National Park 15 km south of Poznań); Leclercq, 1951e:2 (bibliography of Belgian records); Głowacki, 1953:518 (Poland: Podkowa Leśna near Warszawa); Heldmann, 1953:112 (Germany: Hessen: Eberstädter Düne near Darmstadt); Fahlander, 1954:250 (Sweden: Gästrikland Region); Grandi, 1954:244 (Italy); Leclercq, 1954c:196 (in catalog of world Crabronini), 302 (nest and prey records); Aerts, 1955:57 (Germany: Rheinland); Blüthgen, 1955:158 (prey impaled on sting during transportation to nest); de Beaumont, 1956b:159 (in revision of western Palearctic *Lindenius*); Leclercq, 1956g:326 (Greece); Morel, Nouvel, and Ribaut, 1956:339 (France: Département des Pyrénées-Orientales); Bradley, 1957:44 (Lepeletier's specimens in Turin); Grandi, 1957:391 (Italy: Abruzzi); Tsuneki, 1957f:62 (Korea); Yeo, 1957:20 (Great Britain: Middlesex, now in London); de Beaumont, 1958c:213 (Swiss National Park); Móczár, 1958b:191 (Hungary: list of collecting localities); Nouvel and Ribaut, 1958:16 (France: Pyrénées-Orientales: Banyuls-sur-Mer); de Beaumont, 1959a:43 (Italy); Wolf, 1959b:32 (Germany: Nassau); Hamann, 1960:196 (Austria: Oberösterreich: Mönchgraben at 48°13'N 14°21'E); Leclercq, 1960c:420 (Spain: locality records); Hoop, 1961:64 (Germany: Schleswig-Holstein); van der Vecht, 1961a:68 (study of holotype); de Beaumont, 1962b:28 (Spain); Grandi, 1962:98 (Italy); Valkeila, 1962b:68 (southwestern Finland); Erlandsson, 1963:66 (Denmark: Island of Bornholm); Felton, 1963:179 (Great Britain: Kent County); Hoop, 1963a:73 (Germany: Schleswig-Holstein: Reher Kratt); Valkeila, Brander, and Käpylä, 1963:41 (Finland: historical region Lounais-Hämeen = southwest Häme); Babiy, 1964:117 (Austria: Land Salzburg); de Beaumont, 1964c:152 (in Sphecid Fauna of Switzerland); Hüsing and Jäger, 1964:192 (Germany: Sachsen-Anhalt: Nietleben near Halle), 196 (visiting flowers of *Achillea millefolium* L., Asteraceae and *Daucus carota* L., Apiaceae, description of nest, preying on *Anthomyia* Meigen, Anthomyiidae); Plavil'shchikov, 1964:122 (Russia: Mordovian State Nature Reserve); de Beaumont, 1965a:60 (Greece); B. Klug, 1965:142 (Germany: Baden-Württemberg: Freiburg im Breisgau area); Roberti, Frilli, and Pizzaghi, 1965:110 (Italy: Emilia-Romagna: Castelvetro in Piacenza Province); Gauss, 1966c:240 (specimen bearing dipteran egg); Benno, 1967:39 (in checklist of Sphecidae of Netherlands); Bonelli, 1967:295 (nesting habits); de Beaumont, 1967a:356 (Turkey); Gauss, 1967:559 (Germany: Baden-Württemberg); J. Heinrich, 1967:82 (Germany: Niederfranken); Leclercq, 1967a:34 (locality records from Great Britain); Benedek, 1968:77 (Hungary, floral records); Bonelli, 1968b:50 (Italy: Trentino–Alto Adige: Cavalese); Leclercq, 1968b:39 (Great Britain: Kent); Scobiola-Palade, 1968b:143 (Romania: Island of Letea in delta of Danube), 1968c:387 (Romania: twelve localities); Benedek, 1969a:85 (Hungary; marshy meadow); Dathe, 1969:438 (Germany: Berlin Zoological Garden); Lefeber, 1969c:234 (Netherlands: Sint-Pietersberg = Montagne

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Sulz- and Ottmaringer Tal); Jakubzik and Cölln, 2010:1187 (Germany: Rheinland-Pfalz: Bruchertseifen near Altenkirchen); Jakubzik, Kinkler, and Cölln, 2010:155 (Germany: Rheinland-Pfalz: Leverkusen-Steinbüchel); Johansson, 2010:121 (Sweden: Småland: upper Emå river valley); Mokrousov, 2010a:62 (Russia: Kirov and Nizhniy Novgorod Oblast's, Chuvash Republic, Tatarstan: no specific localities) Mokrousov, 2010c:108 (Russia: Chuvash Republic: National Park "Chavash varmane"); J. Neumayer, 2010:334 (Austria: Niederösterreich: Thayatal National Park); Rudoiskatel', 2010:156 (Russia: southern Ural Mountains); Sakenin, Samin, and Bagriacik, 2010:16 (Iran: Kermanshah: Kermanshah); Saure, 2010a:87 (Germany: Berlin-Reinickendorf: Baumberge), 2010b:175 (Germany: Berlin-Reinickendorf: airport Tempel and Flughafensee Protected Area); Schmid-Egger, 2010a:16 (in red list of Aculeata of Germany: relatively common); Schmidt, 2010:136 (Germany: Bayern: collected along Main-Donau canal); Shorenko and Konovalov, 2010:20 (Ukraine); Smetana, Roller, Beneš, Bogusch, Dvořák, Holý, Karas, Macek, Straka, Šima, Tyrner, Vepřek, and Zeman, 2010:102 (Western Slovakia: recorded from Borská Nížina); van der Smissen, 2010a:342 (Germany: Schleswig-Holstein and Mecklenburg-Vorpommern: locality records), 2010c:396 (Sweden: Södermanland: Jordbro); Archer, 2011a:42 (Great Britain: Yorkshire: Strensall Common), 2011d:187 (Great Britain: Watsonian Yorkshire: Hatfield Moor); Baghirov, 2011b:147 (Russia: Altayskiy Kray: Biysk; Altay Republic: Chemal, Chike-Taman, Kosh-Agach, Kuray, Ust'-Kan); Blösch, 2011:96 (prey carrying); Cruz-Sánchez, Asís, Gayubo, Tormos, and González, 2011:499 (Spain: Salamanca and Zamora provinces: Arribes del Duero Natural Park: effects of wildfire), 501 (exclusive species of burned areas); Falk, 2011:66 (Great Britain: Sussex: South Downs); Gogala, 2011:24 (Slovenia); Józan, 2011:182 (in checklist of Sphecidae *sensu lato* of Hungary); Mokrousov, Berezin, and Egorov, 2011:74 (Russia: Chuvash Republic); Murai and Amr, 2011:119 (recorded from Syria by W. Schulz, 1904); Pagliano, 2011a:136 (specimens in M. Spinola collection, Torino); Rudoiskatel', 2011b:68 (Russia: Republic of Bashkortostan); Saure, 2011a:6 (Germany: Berlin: former airport Tempelhof), 2011c:198 (Germany: Berlin-Spandau: Fort Hahneberg), 2011d:199 (Germany: Sachsen-Anstalt: conservation area "Heide südlich Burg"; Schreven, 2011:17 (Netherlands: Foeperpot in Groesbeek); Schmid-Egger, 2011a:38 (France: Parc National du Mercantour: Mollières; Italy: Parco delle Alpi Marittime: Lago Rovino); Schwarz, Link, Pöll, Ambach, and Rabitsch, 2011:255 (Austria: Oberösterreich: Welser Heide); Theunert, 2011a:20 (Germany: in checklist of aculeates of Niedersachsen including city of Bremen); Tischendorf, Frommer, Flügel u, 2011:139 (Germany: Hessen: not endangered); Ziska and Saure, 2011:109 (Germany: Berlin: Tegeler Flieβ valley); Archer, 2012a:130 (Great Britain: Watsonian Yorkshire: Allerthorpe Common), 2012b:183 (Great Britain: urban York); Boillat, 2012:226 (Switzerland: in checklist of insects of Canton de Genève); Cölln, Jakubzik, and Kinkler, 2012:25 (Germany: Nordrhein-Westfalen: Leverkusen); Franzén, Molander, Norén, and Nilsson, 2012:26 (Sweden: Skäne: Kullaberg Peninsula); Gerth, Mayer, Hering, Wolf, Schaffer, and Bleidorn, 2012:9 (Germany: Sachsen: Bienitz in Leipzig); Hellrigl, 2012:129 (Italy: Provincia Autonoma di Bolzano-Alto Adige, as Südtirol); Kazenas, 2012b:169 (Kazakhstan: Korgalzhin State Nature Reserve); Nemkov, 2012c:444 (in catalog of Crabronidae of Russian Far East); Prisniy, 2012:48 (Russia: Belgorod Oblast'); Saure, 2012b:229 (Germany: Berlin-Spandau: Spandauer Forst); Shlyakhtenok, 2012a:171 (Belorussia, and Russia: Krasnaya Polana near Sochi: collected in private plots), 2012b:91 (Belorussia: Beresina National Reserve: overgrowing dry meadow); K. Standfuss and L. Standfuss, 2012:427 (Greece: Thessalia: Magnisia Peninsula at 39°N 23°E); Zettel, 2012:78 (Austria: Niederösterreich: Windmühle); Archer, 2013a:148 (Great Britain: Watsonian Yorkshire: Hopewell House Farm); Bitsch, Grouet, and Savina, 2013:292 (France: Pyrénées centrales: département d'Ariège: Ascou-Pailhères); Flügel, 2013a:119 (Germany: Brandenburg: Pimpinellenberg near Oderberg); Kazenas, 2013a:84-86 (color photographs of adult wasps, short information on geographic distribution and nesting habits), 2013b:497 (southeastern Kazakstan: almost everywhere on plains, in foothills, and low mountains; Pankov, 2013:229 (Russia: Ivanovo Oblast'); Saure, 2013:19 (Berlin: Treptow-Köpenick: Gosener Wiesen); A. Scholz and Liebig, 2013:20 (Germany: Sachsen: in list of Sphecidae *sensu lato*); Shlyakhtenok, 2013:184 (in annotated catalog of aculeate wasps of Belorussia); Wiśniowski and Piotrowski, 2013:21 (Poland: Poleski National Park); Wiśniowski and Szczepko, 2013:37 (Poland: Kampinos National Park near Warszawa);

Zettel, Zimmermann, and Wiesbauer, 2013:12 (Austria: Wien: Donaupark); Bitsch, 2014:401 (recorded from France by Vago, 2007); Flügel, 2014:254 (Brandenburg: Hangelsberger Heide); U. Frommer, 2014:27 (Germany: Hessen: Lorch); Ghahari, Hayat, Lavigne, and Ostovan, 2014:1397 (prey of *Machimus cyanopus* (Loew), Asilidae); Hellqvist, Abenius, and Norén, 2014:92 (in catalog of Ampulicidae, Sphecidae, and Crabronidae of Sweden, by provinces); Kazenas, 2014a:136 (Kazakhstan: Karatau Mountain Range); J.-K. Kim, 2014:433 (in catalog of Sphecidae *sensu lato* of Korean Peninsula); Mokrousov and Vafin, 2014:57 (Russia: Republic of Tatarstan); Ruchin and Antropov, 2014:35 (Russia: Republic of Mordovia); Yıldırım, Ljubomirov, and Lelej, 2014:15 (distribution in Turkey by biogeographic provinces); Koçak and Kemal, 2015:145 (in checklist of Hymenoptera of Turkey); Paukkunen and Kozlov, 2015:63 (Russia: Murmansk Oblast'); P. Rosa and Pagliano, 2015:102 (Italy: Lombardia and Piemonte: Parco del Ticino); Saure, 2015:14 (Germany: Berlin-Lichterfelde); Shorenko, 2015:325 (in list of Sphecidae *sensu lato* of Crimea); Blažej, Macek, and Trýzna, 2016:121 (Czech Republic: České Švýcarsko = Bohemian Switzerland National Park); Bleidorn, Gerth, Hopfe, et al., 2016:10 (Germany: Sachsen: Trages circa 20 km south of Leipzig); Cölln and Jakubzik, 2016:17 (Germany: Rheinland-Pfalz: Vulkaneifel District); Else, Bolton, and Broad, 2016:27 (in checklist of Aculeata of Great Britain and Ireland: England, Scotland, Wales); Le Divelec, Chapelin-Viscardi, and Larivière, 2016:109 (northern France: in agricultural landscapes); Mokrousov and Popov, 2016:577 (Russia: Krasnodarskiy Kray); Reemer and Peeters, 2016:10 (Netherlands: Hulshorsterzand); Ruchin and Antropov, 2016:402 (Russia: Mordovian State Nature Reserve); Saure, 2016b:49 (Germany: Sachsen-Anhalt: fruit orchards), 1916c:205 (Germany: center of Berlin: Groβer Tiergarten Park); Stolle and Saure, 2016:923 (Germany: in list of Sphecidae *sensu lato* of Sachsen-Anhalt); Vas, Szöllősi-Tóth, and Muskovits, 2016:154 (Romania: Sălaj County); Wiśniowski, 2016:129 (Poland: Ojców National Park); Yildirim, Ljubomirov, Özbek, and Yüksel, 2016:49 (Turkey: Ardahan: Posof: Aşıkzülali, as *Lindenius albilabris albilabris*); Antropov, 2017b:234 (in catalog of Crabroninae of Russia); Durand and Burguet, 2017:2 (France: Puy-de-Dôme: Réserve Naturelle Nationale Chastreix-Sancy); Jahantigh, Rakhshani, Mokhtari, and Ramroodi, 2017:50 (Iran: known from Kermanshah Province); Jansen, 2017:8 (Germany: Sachsen: Leipzig); Magdalou, 2017:15 (France: Pyrénées-Orientales: Réserves Naturelles Catalanes: Vallée d'Eyne); Shorenko, 2017:77 (in Crimea collected in May through August); Twerd, Krzyżyński, Waldon-Rudzionek, and Olszewski, 2017:6 (Poland: Inowroclaw and Janikowo: nesting in postindustrial soda ash dumping sites); Creutzburg, Winter, Baumbach, and Ssymank, 2018:216 (Germany: Thüringen: Wachsenburg Nature Reserve); Lett, 2018:203 (France: Loir-et-Cher: Gièvres at 47°16'39"N 1°41'52"E); Shorenko, 2018:128 (Crimea, including localities, habitats, and number of specimens); Carminati, Mora, and Cretin, 2019:17 (France: in list of Sphecidae *sensu lato* of Franche-Comté); Mokrousov, Proshchalykin, Aliyev, and Maharramov, 2019:13 (Azerbaijan: Nakhichevan Autonomous Republic); Olszewski and Kowalczyk, 2019:101 (northern Poland: Pomorze Gdańskie = Gdańsk Pomerania); Ruchin and Antropov, 2019a:13232 (Russia: Mordovia State Nature Reserve); Akulov, Proshchalykin, and Mokrousov, 2020:48 (Russia: central Krasnoyarsk Kray); Kejval, Blažej, and Erhart, 2020:102 (western Czech Republic); Saure, 2020:276 (Germany: Sachsen-Anhalt: sand dunes); Bitsch and Leclercq *in* Bitsch, Antropov, Gayubo, Leclercq, Schmid-Egger, K. Schmidt, and Straka, 2021:132 (in revision of Sphecidae *sensu lato* of Europe); Cross, Baldock, and Wood, 2021:37 (in catalog of Sphecidae *sensu lato* of Portugal); Kaplan and Yildirim, 2021:56 (in catalog of Crabronidae of Turkey); Olszewski, Wiśniowski, and Ljubomirov, 2021:93 (in commented list of Sphecidae *sensu lato* of Poland); Saure, 2021:82 (Germany: Brandenburg: Nature Reserve Ferbitzer Bruch near Potsdam); Jakubzik and Cölln, 2022:11 (Germany: Rheinland-Pfalz: Moselle River valley between Drohn and Kattenes); Olszewski, Bogusch, Hebda, and Budrys, 2022:1041 (nesting habits, description of mature larva); Pytel-Huta, Skyrpan, Tsaryk, Shydlovskyy, and Khamar, 2022:54 (western Ukraine); U. Frommer and Bahmer, 2023:194 (Germany: Hessen: Giessen University Botanical Garden and city gardens); Kaplan and Yildirim, 2023:1685 (in checklist of Sphecidae *sensu lato* of Turkey); Medetov, Embergenov, Kholmatov, Elmurodova, Rakhimov, and Tajibaeva, 2024:425 (Uzbekistan: distribution); Pytel-Huta and Franchuk, 2024:80 (Ukraine: Rivno Nature Reserve).

Crabro aenescens Dahlbom, 1839:23, and 1839-40:23, ♀, ♂. Syntypes: Sweden: Östergötland: Lärketorp, Fredensborg Trägård near Motala, and Meddhamra-ängen at Wadstena; Skäne: Kiviks Esperöd (Lund). Synonymized with *Lindenius albilabris* by Dahlbom, 1844:301.

As *Crabro flavipes*: Pagliano, 2011a:158 (specimens in M. Spinola collection, Torino, are *Lindenius albilabris*).

ssp. *manchurianus* Tsuneki

Lindenius albilabris manchurianus Tsuneki, 1967e:16, ♂. Holotype: ♂, China: Heilongjiang: Harbin (RMNH). – R. Bohart and Menke, 1976:384 (in checklist of world Sphecidae); Leclercq, 1989b:428 (in key to Old World *Lindenius*), 433 (reference to Tsuneki, 1967e); Hua, 2006:280 (in list of Chinese insects, geographic distribution).

6. *altaicus* Mokrousov

Lindenius altaicus Mokrousov *in* Mokrousov, Shlyakhtenok, and Grebennikov, 2016:21, ♀. Holotype: ♀, Russia: Altai Republic, Kosh-Agatch District, 5 km southeast of Chagan-Uzun on Tydtuyaryk River at 50.073°N 88.42°E (ZIN). – Antropov, 2017b:235 (in catalog of Crabroninae of Russia).

7. *anatolicus* de Beaumont

Lindenius anatolicus de Beaumont, 1967a:357, ♀. Holotype: ♀, Turkey: Amasya (BMNH). – de Beaumont, 1969:93 (Turkey; description of ♂). – R. Bohart and Menke, 1976:384 (in checklist of world Sphecidae); Leclercq, 1989b:424, 430 (in key to Old World *Lindenius*), 433 (reference to de Beaumont, 1967a), 1993c:38 (in checklist of Crabronini of Europe and Mediterranean Basin); Jacobs, 2005a:447 (first record from Bulgaria: Arkutino near Burgas); Dollfuss, 2006:523 (Iran, Jordan, Syria, Turkey); Ljubomirov and Yildirim, 2008:287 (in catalog of Crabronidae of Turkey); Murai and Amr, 2011:119 (recorded from Syria by Dollfuss, 2006); Bitsch, 2014:401 (record from Bulgaria by Jacobs, 2005a noted); Yıldırım, Ljubomirov, and Lelej, 2014:15 (distribution in Turkey by biogeographic provinces); Koçak and Kemal, 2015:145 (in checklist of Hymenoptera of Turkey); Jahantigh, Rakhshani, Mokhtari, and Ramroodi, 2017:50 (Iran: known from Fars Province); Mokrousov, Proshchalykin, Aliyev, and Maharramov, 2019:13 (Azerbaijan: Nakhichevan Autonomous Republic); Bitsch and Leclercq *in* Bitsch, Antropov, Gayubo, Leclercq, Schmid-Egger, K. Schmidt, and Straka, 2021:133 (in revision of Sphecidae *sensu lato* of Europe); Kaplan and Yildirim, 2021:56 (in catalog of Crabronidae of Turkey), 2023:1685 (in checklist of Sphecidae *sensu lato* of Turkey).

8. *aptus* Marshakov

Lindenius aptus Marshakov, 1973a:1092, ♀, ♂. Holotype: ♂, Turkmenistan: Askhabad (ZIL). – R. Bohart and Menke, 1976:384 (in checklist of world Sphecidae); Leclercq, 1989b:424, 431 (in key to Old World *Lindenius*), 433 (reference to Marshakov, 1973a); Kazenas, 2001b:38 (in checklist of Sphecidae of Kazakhstan and Central Asia), 2002a:95 (geographic distribution, collecting localities in Kazakhstan); Yildirim and Ljubomirov, 2005:1796 (first record from Turkey: Erzurum: Aşkale); Ljubomirov and Yildirim, 2008:287 (in catalog of Crabronidae of Turkey); Yıldırım, Ljubomirov, and Lelej, 2014:15 (distribution in Turkey by biogeographic provinces); Koçak and Kemal, 2015:145 (in checklist of Hymenoptera of Turkey); Kaplan and Yildirim, 2021:57 (in catalog of Crabronidae of Turkey), 2023:1685 (in checklist of Sphecidae *sensu lato* of Turkey); Medetov, Embergenov, Kholmatov, Elmurodova, Rakhimov, and Tajibaeva, 2024:425 (Uzbekistan: distribution).

9. *armaticeps* (W. Fox)

Crabro armaticeps W. Fox, 1895:185, ♂. Lectotype: ♂, USA: Texas: no specific locality (ANSP), designated by Cresson, 1928:52. – Dalla Torre, 1897:583 (in catalog of world Sphecidae); Cresson, 1928:52 (type in ANSP); Hendrickson, 1930:158 (Iowa). – **As *Lindenius armaticeps***: Ashmead, 1899d:166 (new generic assignment, in checklist of North American Crabronidae); nec H. Smith, 1908b:404 (= *Lindenius buccadentis*); Mickel, 1918b:370 (in catalog of Nebraskan Sphecidae); Pate, 1947a:4 (synonymy); Strickland, 1947:127 (Canada: Alberta: Lethbridge); Krombein *in* Muesebeck, Krombein, and Townes, 1951:1015 (in catalog of North American Hymenoptera); Leclercq, 1954c:199 (in catalog of world Crabronini); R. Miller and Kurczewski, 1973b:368 (male

habits), 372 (interactions between nesting females), 1975:90 (nesting habits); R. Bohart and Menke, 1976:384 (in checklist of world Sphecidae); Krombein, 1979b:1660 (in catalog of North American Hymenoptera, list of prey); Finnamore, 1982:132 (in Sphecid Fauna of Southern Quebec); Spofford, Kurczewski, and Downes, 1989:257, 260 (nest parasite: *Phrosinella aurifacies* Downes, a miltogrammine fly, summary of previous records for nest parasite *Phrosinella fulvicornis* (Coquillett) and *Senotainia* sp., miltogrammine flies); Spofford and Kurczewski, 1990:746 (nest parasite: *Phrosinella aurifacies* Downes, Sarcophagidae), 1992:998 (species of miltogrammine parasites listed); Ahlstrom, 1995:111 (in checklist of insects of North Carolina); Buck, 2004:26 (in checklist of Crabronidae of Ontario, Canada); Buck and Bennett, 2025:213 (in checklist of Sphecidae sensu lato of Canada, Alaska, and Greenland: Canada: Alberta, Ontario, Quebec, Saskatchewan, first records from Manitoba, New Brunswick, and Prince Edward Island: no specific locality).

Crabro flaviclypeus W. Fox, 1895:186, ♀. Lectotype: ♀, USA: Colorado: no specific localities (ANSP), designated by Cresson, 1928:53. Synonymized with *Lindenius armaticeps* by Pate, 1947a:4. – Dalla Torre, 1897:600 (in catalog of world Sphecidae); Cresson, 1928:53 (type in ANSP). – **As *Lindenius flaviclypeus***: Ashmead, 1899d:166 (new generic assignment, in checklist of North American Crabronidae); H. Smith, 1908b:404 (in revision of Nebraskan Sphecidae); Mickel, 1918b:370 (in catalog of Nebraskan Sphecidae).

Crabro zellus Rohwer, 1909c:151, ♀. Holotype: ♀, USA: Virginia: Falls Church (USNM). Synonymized with *Lindenius armaticeps* by Pate, 1947a:4. – Krombein, 1939:144 (New York State).

10. *atlanteus* de Beaumont

Lindenius atlanteus de Beaumont, 1956b:181, ♀. Holotype: ♀, Morocco: Grand Atlas: Tizi n'Tichka (Zurich). – R. Bohart and Menke, 1976:384 (in checklist of world Sphecidae); Leclercq, 1989b:425 (in key to Old World *Lindenius*), 433 (reference to de Beaumont, 1956b), 1993c:38 (in checklist of Crabronini of Europe and Mediterranean Basin).

11. *buccadentis* Mickel

As *Lindenius armaticeps*: H. Smith, 1908b:404 (USA: Nebraska), corrected to *Lindenius buccadentis* by Mickel, 1916a:427.

Lindenius buccadentis Mickel, 1916a:427, ♀, ♂. Holotype: ♀, USA: Nebraska: Omaha (UNL). – Mickel, 1918b:370 (in catalog of Nebraskan Sphecidae); Krombein, 1939:144 (New York State); Krombein *in* Muesebeck, Krombein, and Townes, 1951:1015 (in catalog of North American Hymenoptera); Krombein, 1952a:95 (USA: Virginia: Westmoreland State Park); Muma, 1952:19 (type in UNL), 26 (paratypes in UNL); Leclercq, 1954c:199 (in catalog of world Crabronini); Kurczewski and Kurczewski, 1963:148 (Pennsylvania: Presque Isle State Park); R. Miller and Kurczewski, 1973b:368 (male habits), 372 (females searching nest), 1975:96 (nesting habits); R. Bohart and Menke, 1976:384 (in checklist of world Sphecidae); Krombein, 1979b:1660 (in catalog of North American Hymenoptera, list of prey); Ahlstrom, 1995:111 (in checklist of insects of North Carolina); Kurczewski, 1998d:250 (pine barrens in upstate New York).

12. *cabrerae* Leclercq

Lindenius cabrerae Leclercq, l960c:420, ♀. Holotype: ♀, Spain: Madrid Province: Aranjuez (MNCN). – R. Bohart and Menke, 1976:384 (in checklist of world Sphecidae); Leclercq, 1989b:421 (in key to Old World *Lindenius*), 434 (reference to Leclercq, 1960c), 1993c:38 (in checklist of Crabronini of Europe and Mediterranean Basin); Martin Albaladeo and Izquierdo Moya, 2006:117 (type of *Lindenius bustilloi* Leclercq, a manuscript name, in Museo Nacionál de Ciencias Naturales); Fresno, 2017:155 (Spain: Murcia: Abanilla, Lorca, Mula); Bitsch and Leclercq *in* Bitsch, Antropov, Gayubo, Leclercq, Schmid-Egger, K. Schmidt, and Straka, 2021:133 (in revision of Sphecidae *sensu lato* of Europe). – **As *Crabro cabrerae***: Ceballos, 1964:94 (new generic assignment, in supplement to catalog of Sphecidae of Spain, misspelled *cabrerse*).

13. *californicus* Court and R. Bohart

Lindenius californicus Court and R. Bohart, 1958:161, ♀, ♂. Holotype: ♂: USA: California: Yolo County: Davis (CAS). – R. Bohart and Menke, 1976:384 (in checklist of world Sphecidae); Krombein, 1979b:1661 (in catalog of North American Hymenoptera).

14. *ceballosi* Leclercq

Lindenius ceballosi Leclercq, 1959:267, ♀. Holotype: ♀, Spain: Logroño Province: Calahorra (MNCN). – R. Bohart and Menke, 1976:384 (in checklist of world Sphecidae); Leclercq, 1989b:423 (in key to Old World *Lindenius*), 434 (reference to Leclercq, 1959), 1993c:38 (in checklist of Crabronini of Europe and Mediterranean Basin); Fresno, 2017:155 (Spain: Valladolid: Cabezón de Pisuerga); Bitsch and Leclercq *in* Bitsch, Antropov, Gayubo, Leclercq, Schmid-Egger, K. Schmidt, and Straka, 2021:134 (in revision of Sphecidae *sensu lato* of Europe); Fresno, 2023:21 (description of ♂). – **As *Crabro ceballosi***: Ceballos, 1964:94 (new generic assignment, in supplement to catalog of Sphecidae of Spain).

15. *columbianus* (Kohl)

Crabro columbianus Kohl, 1892:203, ♀. Holotype: ♀, Canada: British Columbia: Revelstoke (NHMW). – W. Fox, 1895a:207 (original description translated into English); Dalla Torre, 1897:592 (in catalog of world Sphecidae). – **As *Lindenius columbianus***: nec Rohwer, 1917a:241 (= *Lindenius tecuya*); Pate, 1947a:4 (new generic assignment, synonymy, northwestern USA and British Columbia, as *Lindenius columbianus columbianus*); Krombein *in* Muesebeck, Krombein, and Townes, 1951:1015 (in catalog of North American Hymenoptera, as *columbianus columbianus*); Leclercq, 1954c:199 (in catalog of world Crabronini); G. Bohart, Nye, and Hawthorn, 1970:48 (Utah: Logan, onion pollinator, as *colombianus*); Evans, 1970:491 (Wyoming: Jackson Hole, prey); Miller and Kurczewski, 1975:101 (nesting behavior); R. Bohart and Menke, 1976:384 (in checklist of world Sphecidae); Krombein, 1979b:1661 (in catalog of North American Hymenoptera, list of prey); Dollfuss, 1989:10 (type material in NHMW); Spofford, Kurczewski, and Downes, 1989:257, 260, 261 (nest parasite: *Phrosinella aurifacies* Downes, a miltogrammine fly, and undetermined miltogrammine species, references to publications on nest parasites *Phrosinella fulvicornis* (Coquillett) and *Senotainia* sp., miltogrammine flies); Kurczewski and Acciavatti, 1990:61 (New York: Cayuga County); Spofford and Kurczewski, 1990:746, 751 (nest parasites: *Phrosinella aurifacies* Downes and unknown species of Miltogrammini, Sarcophagidae), 1992:998 (species of miltogrammine nest parasites listed); Ahlstrom, 1995:111 (in checklist of insects of North Carolina); Kurczewski, 1998d:250 (pine barrens in upstate New York); Melo, 2000:89 (nest usurpation); Buck, 2004:26 (in checklist of Crabronidae of Ontario, Canada); Ratzlaff, 2016:25 (Canada: British Columbia: from Kohl, 1892); Buck and Bennett, 2025:213 (in checklist of Sphecidae sensu lato of Canada, Alaska, and Greenland: Canada: British Columbia, first record from Alberta: no specific locality).

Crabro pinguis W. Fox, 1895:186, ♀. Lectotype: ♀, USA: State of Washington (ANSP), designated by Cresson, 1928:55. Synonymized with *Lindenius columbianus* by Pate, 1947a:4. – Dalla Torre, 1897:618 (in catalog of world Sphecidae); Kincaid, 1900a:358 (recorded from Washington by W. Fox); Cresson, 1928:55 (type in ANSP). – **As *Lindenius pinguis***: Ashmead, 1899d:166 (new generic assignment, in checklist of North American Crabronidae).

16. *crenicornis* Marshakov

Lindenius crenicornis Marshakov, 1973b:1421, ♀, ♂. Holotype: ♂, Tajikistan: Dushanbe (ZIL). – R. Bohart and Menke, 1976:384 (in checklist of world Sphecidae); Leclercq, 1989b:424 (in key to Old World *Lindenius*), 434 (reference to Marshakov, 1973b); Dollfuss, 2006:522 (Kazakhstan: Chaghir 40 km south of Arys'; Turkmenistan: 15 km south of Gheok-Tepe, Chayagala 50 km south of Kyzil-Arvat).

17. *crenulifer* (Kohl)

Crabro crenulifer Kohl, 1905a:224, ♀. Holotype: ♀, Syria: Damascus (NHMW). – Kohl, 1915300 (in revision of Palearctic Crabronini). – **As *Lindenius crenulifer***: Leclercq, 1954c:198 (new generic assignment, in catalog of

world Crabronini); de Beaumont, 1956b:162 (in revision of western Palearctic *Lindenius*); de Beaumont, Bytinski-Salz and Pulawski, 1973:22 (Israel); Leclercq, 1975a:210 (Israel); R. Bohart and Menke, 1976:384 (in checklist of world Sphecidae); Dollfuss, 1989:10 (type material in NHMW); Leclercq, 1989b:422, 431 (in key to Old World *Lindenius*), 434 (references to recent publications), 1993c:38 (in checklist of Crabronini of Europe and Mediterranean Basin); Dollfuss, 2006:522 (Jordan, Kyrgyzstan, Turkey); Ljubomirov and Yildirim, 2008:287 (in catalog of Crabronidae of Turkey); Murai and Amr, 2011:119 (recorded from Syria by Kohl, 1905); Yıldırım, Ljubomirov, and Lelej, 2014:15 (distribution in Turkey by biogeographic provinces); Koçak and Kemal, 2015:145 (in checklist of Hymenoptera of Turkey); Kaplan and Yildirim, 2021:57 (in catalog of Crabronidae of Turkey), 2023:1685 (in checklist of Sphecidae *sensu lato* of Turkey).

18. *difficillimus* (Kohl)

Crabro difficillimus Kohl, 1915:309, ♀. Holotype or syntypes: ♀, Egypt: Siala near Fayum (OXUM). – **As *Lindenius difficillimus***: Leclercq, 1954c:195 (new generic assignment, in catalog of world Crabronini); de Beaumont, 1956b:175 (in revision of western Palearctic *Lindenius*), 1960b:250 (Libya); R. Bohart and Menke, 1976:384 (in checklist of world Sphecidae); Leclercq, 1989b:426 (in key to Old World *Lindenius*), 434 (references to recent publications), 1993c:38 (in checklist of Crabronini of Europe and Mediterranean Basin); Roche, 2007a:106 and 2007b:7 (in checklist of Egyptian Ampulicidae, Sphecidae, and Crabronidae).

19. *effrenus* (Kohl)

Crabro effrenus Kohl, 1915:307, ♀. Holotype or syntypes: ♀, Algeria: Biskra (OXUM). – Nadig, 1933:77 (Morocco: Tizi n'Tichka). – **As *Lindenius effrenus***: Leclercq, 1954c:195 (new generic assignment, in catalog of world Crabronini); de Beaumont, 1956b:173 (in revision of western Palearctic *Lindenius*), 1957c:167 (diagnostic characters of ♂); R. Bohart and Menke, 1976:384 (in checklist of world Sphecidae); Dollfuss, 1989:10 (type material in NHMW); Leclercq, 1989b:426, 432 (in key to Old World *Lindenius*), 434 (locality records from Algeria, Morocco, and Tunisia); Hohmann, La Roche, Ortega, and Barquín, 1993:246 (first record from Canary Islands: Fuertaventura); Leclercq, 1993c:38 (in checklist of Crabronini of Europe and Mediterranean Basin); Dollfuss, 2006:522 (Morocco: Mhamid 100 km south of Zagora; Tunisia: Kebili, Tozeur); Ben Khedher, Yildirim, Braham, and Chaaban, 2019:190 (known from Tunisia: Tozeur Province).

20. *errans* (W. Fox)

Crabro errans W. Fox, 1895:184, ♀, ♂. Lectotype: Colorado: Las Cruces (ANSP), designated by Cresson, 1928:53. – Dalla Torre, 1897:599 (in catalog of world Sphecidae); Rohwer, 1908b:246 (USA: Colorado), 258 and 259 (in key to *Crabro* of Colorado and New Mexico); Barth, 1910:120 (nesting in ground); J. Smith, 1910:682 (in new list of insects of New Jersey: Gloucester); Britton, 1920:338 (in checklist of insects of Connecticut); Carter, 1925:132 (Canada: Alberta); Cresson, 1928:53 (type in ANSP); Brimley, 1938:450 (North Carolina: Moncure); with by R. Bohart and Menke, 1976:384 (as new synonym of *Lindenius columbianus*).– **As *Lindenius columbianus errans***: Pate, 1947a:4 (new status, USA and Canada eastern Rocky Mountains, also southwestern states); Strickland, 1947:127 (Canada: Alberta: Cochrane, Lethbridge, Medicine Hat); Krombein *in* Muesebeck, Krombein, and Townes, 1951:1015 (in catalog of North American Hymenoptera); Kurczewski and Kurczewski, 1963:148 (Pennsylvania: Presque Isle State Park); R. Miller and Kurczewski, 1973b:368 (male habits), 369 (interactions between nesting females); Evans, 1975a:264 (slow colonizer of new habitats); R. Miller and Kurczewski, 1975:101 (nesting habits). – **As *Lindenius errans***: Ashmead, 1899d:166 (new generic assignment, in checklist of North American Crabronidae); J. Smith, 1900:514 (in list of insects of New Jersey); H. Smith, 1908b:404 (in revision of Nebraskan Sphecidae); Rohwer, 1916b:664 (in catalog of Hymenoptera of Connecticut); Mickel, 1918b:370 (in catalog of Nebraskan Sphecidae); Rohwer *in* Viereck, 1925:664 (in key to Sphecidae of Connecticut; Rockville); Krombein, 1939:144 (New York State); Buck and Bennett, 2025:213 (in checklist of Sphecidae sensu lato of Canada, Alaska, and Greenland: Canada: Alberta, Ontario, Saskatchewan, first record from Quebec: no specific locality), 287 (resurrected from synonymy, recognition characters).

Ammoplanus salicis Cockerell, 1897a:402, ♀. Holotype or syntypes: ♀, USA: New Mexico: Las Cruces (USNM). Synonymized with *Lindenius columbianus errans* by Pate, 1947a:4. – **As *Lindenius salicis***: Ashmead, 1899d:166 (new generic assignment, in checklist of North American Crabronidae). – **As *Crabro salicis***: Pate, 1937b:124 (new generic assignment).

21. *fastidiosus* de Beaumont

Lindenius fastidiosus de Beaumont, 1967a:360, ♀. Holotype: ♀, Turkey: Konya (M. Schwarz collection, Ansfelden, Austria). – R. Bohart and Menke, 1976:384 (in checklist of world Sphecidae); Leclercq, 1989b:423 (in key to Old World *Lindenius*), 434 (reference to de Beaumont, 1967a), 1993c:38 (in checklist of Crabronini of Europe and Mediterranean Basin); Ljubomirov and Yildirim, 2008:289 (in catalog of Crabronidae of Turkey); Yıldırım, Ljubomirov, and Lelej, 2014:15 (distribution in Turkey by biogeographic provinces), 19 (is an endemic of Turkey); Koçak and Kemal, 2015:145 (in checklist of Hymenoptera of Turkey); Kaplan and Yildirim, 2021:57 (in catalog of Crabronidae of Turkey), 2023:1685 (in checklist of Sphecidae *sensu lato* of Turkey).

22. *gobiensis* Tsuneki

Lindenius gobiensis Tsuneki, 1972a:157, ♂. Holotype: ♂, Mongolia: Hovd aymag: Somon Uenč (TMB). – R. Bohart and Menke, 1976:384 (in checklist of world Sphecidae); Leclercq, 1989b:424, 432 (in key to Old World *Lindenius*), 434 (reference to Tsuneki, 1972a).

23. *guichardi* Leclercq

Lindenius guichardi Leclercq, 1989b:434, ♀. Holotype: ♀, Morocco: Oued Dra (BMNH). – Leclercq, 1989b:421 (in key to Old World *Lindenius*), 1993c:38 (in checklist of Crabronini of Europe and Mediterranean Basin, Morocco: Draa Valley, description of ♂); Dollfuss, 2006:522 (Morocco: Beni Bassia 60 km northeast of Boudnib, 30 km north of Zagora).

24. *gussakovskii* Marshakov

Lindenius gussakovskii Marshakov, 1973a:1094, ♀, ♂. Holotype: ♀, Kazakhstan: Koksenghir south of Zhana-Arka (ZIL). – R. Bohart and Menke, 1976:384 (in checklist of world Sphecidae); Leclercq, 1989b:427, 432 (in key to Old World *Lindenius*), 434 (a pair of paratypes in FSAG); Esenbekova and Kazenas, 2000:47 (southeastern Kazakhstan: near Kapchagay); Kazenas, 2002a:95 (geographic distribution, collecting localities in Kazakhstan), 2004b:107 (Kazakhstan: western Tien Shan); Dollfuss, 2006:522 (Kazakhstan: 3 km south of Issyk; Kyrgyzstan: Tash-Arik 11 km east of Talas; Uzbekistan: Chirchik); Kazenas, 2014a:136 (Kazakhstan: Karatau Mountain Range); Mokrousov, Shlyakhtenok, and Grebennikov, 2016:23 (Russia: Kalmykia: Koltan-Nur Lake at 45.618°N 45.869°E); Antropov, 2017b:235 (in catalog of Crabroninae of Russia); Medetov, Embergenov, Kholmatov, Elmurodova, Rakhimov, and Tajibaeva, 2024:425 (Uzbekistan: distribution).

25. *gvozdevi* Kazenas

Lindenius gvozdevi Kazenas, 2013c:161, ♀, ♂. Holotype: ♀, Kazakhstan: Yuzhno-Kazakhstanskaya Oblast': near village Glinkovo, now Akbastau (ZIN).

26. *haemodes* (Kohl)

Crabro haemodes Kohl, 1905a:222, ♀. Syntypes: ♀, Egypt: Helwan and Ethiopia: no specific locality (NHMW). – Kohl, 1915:299 (in revision of Palearctic Crabronini), 281 (in key, as *haimodes*). – **As *Lindenius haemodes***: Leclercq, 1954c:198 (new generic assignment, in catalog of world Crabronini); de Beaumont, 1956b:182 (in revision of western Palearctic *Lindenius*); R. Bohart and Menke, 1976:384 (in checklist of world Sphecidae); Dollfuss, 1989:10 (lectotype in NHMW); Leclercq, 1989b:424, 429 (in key to Old World *Lindenius*, description of ♂), 434 (reference to de Beaumont, 1956b; Burkina Faso, Egypt, Gambia, Nigeria, Senegal, Sudan), 1993c:38 (in checklist

of Crabronini of Europe and Mediterranean Basin); Roche, 2007a:106 and 2007b:7 (in checklist of Egyptian Ampulicidae, Sphecidae, and Crabronidae).

27. *hamiger* (Kohl)

Crabro hamiger Kohl, 1915:304, ♂. Holotype or syntypes: ♂, Transcaspia: "Tschikischljar" (ZIL). – **As *Lindenius hamiger***: Leclercq, 1954a:196 (new generic assignment, in catalog of world Crabronini); de Beaumont, 1956b:184 (is probably a member of *albilabris* group); Dollfuss, 1989:10 (type material in NHMW); R. Bohart and Menke, 1976:384 (in checklist of world Sphecidae); Leclercq, 1989b:427 (in key to Old World *Lindenius*), 435 (reference to Kohl, 1915); Dollfuss, 2006:522 (Tadjikistan: Dzirgatal in Alayskiy Range; Kyrgyzstan: 20 km north of Aravan; description of ♀).

28. *hamilcar* (Kohl)

Crabro hamilcar Kohl, 1899:310, ♀. Holotype: ♀, Tunisia: no specific locality (NHMW). – Kohl, 1915:292 (in revision of Palearctic Crabronini). – **As *Lindenius hamilcar***: Leclercq, 1950c:6 (new generic assignment, Algeria, Tunisia), 1954c:195 (in catalog of world Crabronini); de Beaumont, 1956a:211 (Libya), 1956b:161 (in revision of western Palearctic *Lindenius*), 1960b:250 (Libya), 1968a:276 (Canary Islands; bibliography); de Beaumont, Bytinski-Salz and Pulawski, 1973:21 (Israel); Leclercq, 1975a:210 (Morocco, Tunisia, Israel); R. Bohart and Menke, 1976:384 (in checklist of world Sphecidae); Báez and Ortega, 1978:192 (Canary Islands); Dollfuss, 1989:10 (type material in NHMW); Leclercq, 1989b:421, 428 (in key to Old World *Lindenius*), 435 (reference to recent publications, Israel; variation); Hohmann, La Roche, Ortega, and Barquín, 1993:247 (detailed records from Canary Islands); Leclercq, 1993c:38 (in checklist of Crabronini of Europe and Mediterranean Basin); Dollfuss, 2006:525 (Morocco: 10 km east of Guelmin, 10 km south of Taroudant).

var. *cogens* (Kohl)

Crabro hamilcar Kohl var. *cogens* Kohl, 1915:293, ♀. Holotype: ♀, Algeria: Oran (NHMW). – **As *Lindenius hamilcar* var. *cogens***: de Beaumont, 1956b:161 (new generic assignment, in revision of western Palearctic *Lindenius*); Leclercq, 1975:210 (Morocco, Tunisia, Israel), 1989b:435 (variation); R. Bohart and Menke, 1976:384 (in checklist of world Sphecidae, as synonym of *Lindenius hamilcar*).

29. *hamoni* Leclercq

Lindenius hamoni Leclercq, 1989b:435, ♀, ♂. Holotype: ♀, Senegal: Kédougou (FSAG). Paratypes: Burkina Faso. – Leclercq, 1989b:421, 430 (in key to Old World *Lindenius*), 2007g:194 (holotype in FSAG).

30. *hannibal* (Kohl)

Crabro hannibal Kohl, 1898a:360, ♀, ♂. Lectotype: ♀, Algeria: Oran (NHMW), designated by de Beaumont, 1956b:176. – Graeffe, 1906:455 (Tunisia: Tunis area); Morice, 1911:134 (Algeria: Constantine); Kohl, 1915:308 (in revision of Palearctic Crabronini). – **As *Lindenius hannibal***: Smits van Burgst, 1913a:319 (new generic assignment, Tunisia: no specific locality), 1913b:5 (Tunisia: no specific locality); Leclercq, 1950a:6 (Morocco: Tanger), 1954c:195 (in catalog of world Crabronini); de Beaumont, 1956b:175 (in revision of western Palearctic *Lindenius*), 1957a:153 (Morocco: Marrakech); Leclercq, 1975a:211 (Algeria, Spain); R. Bohart and Menke, 1976:384 (in checklist of world Sphecidae); Gayubo, 1882e:104 (Spain: Cádiz Province), 1986a:62 (Spain: Ciudad Real Province), 1986d:116 (Spain: Zamora Province); Dollfuss, 1989:10 (type material in NHMW); Leclercq, 1989b:426, 432 (in key to Old World *Lindenius*), 436 (references to recent publications), 1993c:38 (in checklist of Crabronini of Europe and Mediterranean Basin; Algeria: Oran; Morocco: Ras al Aine 85 km from Safi); Dollfuss, 2006:525 (Montenegro: Ulcinj; Morocco, Tunisia); Baños-Picón, Asís, Gayubo, and Tormos, 2009:313 (Spain: frequency of specimens collected with hand nets and Malaise traps); Ben Khedher, Yildirim, and Braham, 2020a:103 (Tunisia: Kairouan and Zaghouan provinces); Fresno, 2021a:80 (Spain: Madrid: Valdaracete; Sevilla: Morón de la Fronea); Bitsch and Leclercq *in* Bitsch, Antropov, Gayubo, Leclercq, Schmid-Egger, K. Schmidt, and Straka, 2021:1? (in revision of Sphecidae *sensu lato* of Europe).

31. *hasdrubal* de Beaumont

Lindenius hasdrubal de Beaumont, 1956b:168, ♀. Holotype: ♀, Algeria: Alger (MNHN). – de Beaumont, 1957c:168 (description of ♂); R. Bohart and Menke, 1976:384 (in checklist of world Sphecidae); Leclercq, 1989b:423, 430 (in key to Old World *Lindenius*), 436 (reference to de Beaumont, 1956b; Tunisia: Hamm Lif), 1993c:39 (in checklist of Crabronini of Europe and Mediterranean Basin); Dollfuss, 2006:525 (Tunisia: 10 km south of Nefta); Ben Khedher, Yildirim, and Braham, 2020a:103 (Tunisia: Zaghouan Province: Bir Halima at 36°23'30.9"N 10°02'05.5"E).

As *Crabro subaeneus*: Berland, 1925:178 (North African specimen), corrected to *Lindenius hasdrubal* by de Beaumont, 1957c:168.

32. *helleri* (Kohl)

Crabro helleri Kohl, 1915:290, ♂ (as *Helleri*, incorrect original capitalization). Holotype: ♂, Israel: Bethlehem (OXUM). – **As *Lindenius helleri***: Leclercq, 1954a:196 (new generic assignment, in catalog of world Crabronini); de Beaumont, 1956b:160 (in revision of western Palearctic *Lindenius*), 1965a:61 (Greece), 1967a:357 (Turkey); de Beaumont, Bytinski-Salz and Pulawski, 1973:22 (Israel); R. Bohart and Menke, 1976:384 (in checklist of world Sphecidae); Leclercq, 1989b:428 (in key to Old World *Lindenius*), 436 (references to recent publications), 1993c:39 (in checklist of Crabronini of Europe and Mediterranean Basin); Ljubomirov and Yildirim, 2008:289 (in catalog of Crabronidae of Turkey); Bitsch, 2014:401 (recorded from Greece by Leclercq, 1993); Yıldırım, Ljubomirov, and Lelej, 2014:15 (distribution in Turkey by biogeographic provinces); Koçak and Kemal, 2015:145 (in checklist of Hymenoptera of Turkey); Bitsch and Leclercq *in* Bitsch, Antropov, Gayubo, Leclercq, Schmid-Egger, K. Schmidt, and Straka, 2021:135 (in revision of Sphecidae *sensu lato* of Europe); Kaplan and Yildirim, 2021:57 (in catalog of Crabronidae of Turkey), 2023:1685 (in checklist of Sphecidae *sensu lato* of Turkey).

33. *ibericus* (Kohl)

Crabro ibericus Kohl, 1905a:221, ♀. Lectotype: Spain: ♀, Barcelona (NHMW), designated by de Beaumont, 1956b:171. – Kohl, 1915:306 (in revision of Palearctic Crabronini); Berland, 1925:178 (in Sphecid Fauna of France). – Bernard, 1936c:288 (France: Aude: Ile Sainte-Lucie); Giner Marí, 1943a:248 (in Sphecid Fauna of Spain); Ceballos, 1956:394 (in catalog of Sphecidae of Spain), 1959:230 and 1964:94 (in supplement to catalog of Sphecidae of Spain) – **As *Lindenius ibericus***: Leclercq, 1954a:196 (new generic assignment, in catalog of world Crabronini); de Beaumont, 1956b:170 (in revision of western Palearctic *Lindenius*); Leclercq, 1960c:422 (Spain: Escorial), 1971:225 (Spain); Scobiola-Palade, 1974:145 (first record from Romania: Sărăturile sandbank in Danube delta); Bitsch and Leclercq, 1993:207 (in revision of western European Crabroninae); Leclercq, 1993c:39 (in checklist of Crabronini of Europe and Mediterranean Basin; Spain: Sierra Nevada); Leclercq and Barbier, 1993:78 (map of distribution in France); Gayubo, González, and Torres, 2000:186 (Spain: Salamanca Province); González, Gayubo, Asís, Tormos, and García, 2003:61 (Spain: Soria: Chavaler); 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, 2008:137 (Spain: Salamanca: Parque Natural de Las Batuecas – Sierra de Francia); Baños-Picón, Asís, Gayubo, and Tormos, 2009:313 (Spain: frequency of specimens collected with hand nets and Malaise traps); Belkheir, 2009:18 (France: Pyrénées-Orientales: commune d'Eyne); Gayubo, González, Tormos, and Asís, 2009:364 (Spain: Valladolid: Reserva Natural Riberas de Castronuño – Vega del Duero); González, Gayubo, Asís, and Tormos, 2009:624 (Spain: Salamanca and Zamora provinces: Arribes del Duero Natural Park); Burguet *in* Durand and Burguet, 2012:3, fiche 11 (France: Puy-de-Dôme: sands Girauts-Faures in Orléat commune); Magdalou, 2017:15 (France: Pyrénées-Orientales: Réserves Naturelles Catalanes: Mas Larrieu); Bitsch and Leclercq *in* Bitsch, Antropov, Gayubo, Leclercq, Schmid-Egger, K. Schmidt, and Straka, 2021:135 (in revision of Sphecidae *sensu lato* of Europe); Cross, Baldock, and Wood, 2021:37 (in catalog of Sphecidae *sensu lato* of Portugal). – **As *Lindenius ibericus ibericus***: de Beaumont, 1956b:170 (in revision of western Palearctic *Lindenius*); Morel, Nouvel, and Ribaut, 1956:339 (France: Pyrénées-Orientales: Perpignan);

Leclercq, 1960c:422 (Spain: Escorial), 1975a:211 (Portugal, France), 1975b:2 (France); R. Bohart and Menke, 1976:384 (in checklist of world Sphecidae); Gayubo, 1982b:19 (Spain: Ávila and Salamanca provinces), 1984b:93 (Spain: Salamanca Province), 1984c (Portugal: El Algarve Province, as *Lindenius ibericus ibericus*), 1985c:170 (Spain: Valladolid: Valladolid), 1986a:62 (Spain: Ciudad Real Province), 1986d:116 (Spain: Zamora Province); Gayubo and Sanza, 1986:64 (Spain: Burgos, Soria); Dollfuss, 1989:10 (lectotype in NHMW); Leclercq, 1989b:426, 432 (in key to Old World *Lindenius*), 436 (reference to de Beaumont, 1956b; specimen intermediate between *Lindenius ibericus ibericus* and *L. ibericus humilicollis*); Gayubo, Asís, and Tormos, 1990b:76 (Spain: Salamanca Province); Gayubo and Torres, 1991:Table I and p. 81 (Spain: Salamanca; effects of urban pressure); Leclercq, 1993c:39 (Spain: Sierra Nevada); Torregrosa, Gayubo, Tormos, and Asís, 1993:19 (Spain: Alicante Province); Gayubo, García, Torres, and González, 1999:90 (Spain: Soria Province); Cruz-Sánchez, Asís, Gayubo, Tormos, and González, 2011:499 (Spain: Salamanca and Zamora provinces: Arribes del Duero Natural Park: effects of wildfire).

ssp. *alticollis* de Beaumont

Lindenius ibericus alticollis de Beaumont, 1956b:171, ♀, ♂. Holotype: ♀, Morocco: Midelt to Ksar es Souk (Lausanne). – de Beaumont, 1957a:153 (Morocco); Leclercq, 1975a:211 (Morocco); R. Bohart and Menke, 1976:384 (in checklist of world Sphecidae); Leclercq, 1989b:427 (in key to Old World *Lindenius*), 436 (reference to de Beaumont, 1956b, and Leclercq, 1975a); Dollfuss, 2006:525 (Morocco).

ssp. *humilicollis* de Beaumont

Lindenius ibericus humilicollis de Beaumont, 1956b:171, ♀, ♂. Holotype: ♀, Portugal: Estoril (Coimbra). – Leclercq, 1960c:422 (Spain), 1975a:211 (Portugal, France), 1975b:2 (France); R. Bohart and Menke, 1976:384 (in checklist of world Sphecidae); Gayubo, 1982b:19 (Spain: Ávila, Cáceres, and Salamanca provinces), 1984b:93 (Spain: Salamanca Province), 1985c:170 (Spain: Valladolid: Valladolid), 1986a:63 (Spain: Ciudad Real Province), 1986d:116 (Spain: Zamora Province); Gayubo and Heras, 1986:54 (Spain: Segovia Province; floral records); Gayubo and Sanza, 1986:64 (Spain: Burgos); Leclercq, 1989b:427 (in key to Old World *Lindenius*), 436 (reference to de Beaumont, 1956b); Gayubo, García, Torres, and González, 1999:91 (Spain: Soria Province). – **As *Crabro ibericus humilicollis***: Ceballos, 1959:231 and 1964:94 (new generic assignment, in supplement to catalog of Sphecidae of Spain).

34. *ibex* Kohl

Lindenius ibex Kohl, 1883a:161, ♀, ♂. Syntypes: Greece: Corfu: no specific locality (NHMW). – Leclercq, 1954c:196 (in catalog of world Crabronini); de Beaumont, 1956b:163 (in revision of western Palearctic *Lindenius*), 1965a:61 (Greece), 1967a:356 (Turkey, variety); de Beaumont, 1969:93 (Turkey); Leclercq, 1975a:211 (Palestine); R. Bohart and Menke, 1976:384 (in checklist of world Sphecidae); Pulawski, 1978:256 (in key to Sphecidae of European part of USSR); Dollfuss, 1989:10 (type material in NHMW); Leclercq, 1989b:422, 428 (in key to Old World *Lindenius*), 437 (references to recent publications); Dollfuss, 1991:138 (in key to Sphecidae of North and Central Europe); Leclercq, 1993d:39 (in checklist of Crabronini of Europe and Mediterranean Basin); Gayubo and Özbek, 2005:27 (Turkey: Bilecik; Erzurum: University campus, Ilýca, Pasinler); Jacobs, 2005a:447 (Bulgaria: Nesebar); Yildirim and Ljubomirov, 2005:1796 (Turkey: Bilecik); Dollfuss, 2006:525 (Bulgaria, Slovakia, Syria, Turkey), 526 (variation); Yildirim and Ljubomirov, 2007:121 (Turkey: Erzurum and Konya provinces); Ljubomirov and Yildirim, 2008:289 (in catalog of Crabronidae of Turkey); Baghirov, 2010:678 (Russia: Altai Territories: village Savvushka), 2011b:147 (Russia: Altayskiy Kray: Savvushka); Prisniy, 2012:48 (Russia: Belgorod Oblast'); Yildirim, 2012:81 (Turkey: Erzincan: Refahiye); Bitsch, 2014:401 (recorded from Greece by de Beaumont, 1965a and from Bulgaria by Jacobs, 2005a); Yıldırım, Ljubomirov, and Lelej, 2014:15 (distribution in Turkey by biogeographic provinces, as *Lindenius ibex ibex*); Koçak and Kemal, 2015:145 (in checklist of Hymenoptera of Turkey); Shorenko, 2015:325 (in list of Sphecidae *sensu lato* of Crimea); Yildirim, Ljubomirov, Özbek, and Yüksel, 2016:49 (Turkey: Erzurum: Pasinler, as *Lindenius ibex ibex*); Antropov, 2017b:235 (in catalog of Crabroninae of Russia); Kemal and Koçak, 2018:34 (Turkey: in list of pterygot insects of Van Province); Shorenko, 2019:211 (rare in Crimea); Bitsch and

Leclercq *in* Bitsch, Antropov, Gayubo, Leclercq, Schmid-Egger, K. Schmidt, and Straka, 2021:136 (in revision of Sphecidae *sensu lato* of Europe); Kaplan and Yildirim, 2021:57 (in catalog of Crabronidae of Turkey, as *ibex ibex*), 2023:1685 (in checklist of Sphecidae *sensu lato* of Turkey, as *ibex ibex*). – **As *Crabro ibex***: Dalla Torre, 1897:604 (new generic assignment, in catalog of world Sphecidae), Kohl, 1915:291 (in revision of Palearctic Crabronini); Pulawski, 1958a:187 (Bulgaria: Kniazhevo near Sofia); Balthasar, M. Hrubant, and E. Hrubant, 1967:170 (Bulgaria: Slanchev Bryag near Nessebar); Balthasar, 1972:130 (in Sphecid Fauna of Czechoslovakia, may be expected in the country).

ssp. *syriacus* (Kohl)

Crabro ibex var. *syriaca* Kohl, 1905:224, ♀, ♂. Syntypes: Israel: Jerusalem (NHMW). – **As *Lindenius ibex syriacus***: de Beaumont, Bytinski-Salz and Pulawski, 1973:22 (new generic assignment, new status, Israel); R. Bohart and Menke, 1976:384 (in checklist of world Sphecidae); Dollfuss, 2006:526 (Syria, Turkey); Ljubomirov and Yildirim, 2008:290 (in catalog of Crabronidae of Turkey); Murai and Amr, 2011:112, 119 (Syria: Al Thawrah Nature Reserve at 35°51'N 28°38'E); Yıldırım, Ljubomirov, and Lelej, 2014:15 (distribution in Turkey by biogeographic provinces); Kaplan and Yildirim, 2021:58 (in catalog of Crabronidae of Turkey), 2023:1685 (in checklist of Sphecidae *sensu lato* of Turkey).

35. *inyoensis* Court and Bohart

Lindenius inyoensis Court and Bohart, 1958:163, ♂. Holotype: ♀, USA: California: Inyo County: Little Lake (CAS). – R. Bohart and Menke, 1976:384 (in checklist of world Sphecidae); Krombein, 1979b:1662 (in catalog of North American Hymenoptera).

36. *iranius* Leclercq

Lindenius iranius Leclercq, 1975a:208, ♂. Holotype: ♂, Iran: Azerbaijan: 32 km north-northwest of Sardasht (USNM). – Leclercq, 1989b:422, 428 (in key to Old World *Lindenius*), 437 (references to recent publications; Turkey: Seydeshir), 1993d:39 (in checklist of Crabronini of Europe and Mediterranean Basin); Dollfuss, 2006:526 (Jordan, Syria, Turkey); Ljubomirov and Yildirim, 2008:290 (in catalog of Crabronidae of Turkey); Murai and Amr, 2011:119 (recorded from Syria by Dollfuss, 2006); Yıldırım, Ljubomirov, and Lelej, 2014:15 (distribution in Turkey by biogeographic provinces); Koçak and Kemal, 2015:145 (in checklist of Hymenoptera of Turkey); Yildirim, Ljubomirov, Özbek, and Yüksel, 2016:49 (Turkey: Erzincan: Refahiye); Jahantigh, Rakhshani, Mokhtari, and Ramroodi, 2017:50 (Iran: known from West Azerbaijan Province); Mokrousov, Proshchalykin, Aliyev, and Maharramov, 2019:13 (Azerbaijan: Nakhichevan Autonomous Republic); Kaplan and Yildirim, 2021:58 (in catalog of Crabronidae of Turkey), 2023:1685 (in checklist of Sphecidae *sensu lato* of Turkey).

37. *jakushkini* Kazenas

Lindenius jakushkini Kazenas, 2013c:159, ♀, ♂. Holotype: ♀, Kazakhstan: near Alma Ata (ZIN).

38. *laevis* A. Costa

Lindenius laevis A. Costa, 1867c:124 and 1871b:53, ♀. Holotype or syntypes: ♀, Italy: Campania: Monte Matese near Napoli (Napoli). – Kohl, 1915:287 (original description copied); de Beaumont, 1953i:11 (study of holotype or single syntype); Leclercq, 1954c:196 (in catalog of world Crabronini); de Beaumont, 1956b:167 (in revision of western Palearctic *Lindenius*); Grandi, 1957:391 (Italy: Abruzzi); Móczár, 1958a:261 (in annotated catalog of Hungarian Crabronini), 1958b:192 (Hungary: list of collecting localities); Benedek, 1968:77 (Hungary, visiting flowers of *Daucus carota* L., Apiaceae, *Euphorbia cyparissias* L., Euphorbiaceae and *Pastinaca sativa* L., Apiaceae), 1969a:85 (Hungary; hygrophilous meadow, = *subaeneus* of Móczár); Kazenas, 1972b:168 (Kazakhstan; determination tentative), 1974b:110 (feeding on flowers of *Euphorbia* spp., Euphorbiaceae, and *Daucus carota* L., Apiaceae, in Kazakhstan); Leclercq, 1975a:211 (Yugoslavia, Turkey); R. Bohart and Menke, 1976:384 (in checklist of world Sphecidae); Pulawski, 1978:256 (in key to Sphecidae of European part of USSR); Benedek, 1979:236 (Hungary: Bakony Hills); Pagliano, 1980:121 (Italy: Piemonte); Józan, 1985b:59 (Hungary south of Lake Balaton), 79 (floral

records), 84 (ecological and zoogeographic characteristics), Józan, 1989:101 (Hungary: Tihany Nature Reserve), Leclercq, 1989b:423, 428 (in key to Old World *Lindenius*), 437 (references to recent publications); Pagliano, 1990:93 (in catalog of Italian Sphecidae); Dollfuss, 1991:138 (in key to Sphecidae of North and Central Europe); Pagliano, 1991b:336 (in key to Italian Crabroninae); Gusenleitner, 1992:685 (first record from Austria: Steiermark: Lahmbachgraben southeast of Kapfenstein); Józan, 1992c:289 (Hungary: Zselic Hills); Bitsch and Leclercq, 1993:208 (in revision of western European Crabroninae); Leclercq and Barbier, 1993:79 (map of distribution in France); Leclercq, 1993c:39 (in checklist of Crabronini of Europe and Mediterranean Basin; collecting localities from Italy, Hungary, Yugoslavia, and Turkey); Gusenleitner, 1995:163 (Austria: Burgenland: Neusiedl am See); Józan, 1995:105 (Hungary: projected Duna-Dráva National Park); Negrisolo *in* Minelli, Ruffo, and La Posta, 1995b:7 (in catalog of Italian fauna); Papp and Józan, 1995:145 (Hungary: Síkfőkút oak forest); Gusenleitner, 1996b:811 (Austria: Burgenland, Steiermark); Schmidt and Schmid-Egger, 1997:17 (not occurring in Germany); Dollfuss, Gusenleitner, and Bregant, 1998:520 (Austria: summary of collecting records from Burgenland); Józan, 1998:311 (Hungary: Duna-Dráva National Park); Shkuratov, 1998:98 (Russia: Rostov Oblast'); Esenbekova and Kazenas, 2000:47 (southeastern Kazakhstan: no specific locality); Józan, 2000:109 (Hungary: Bakony Mountains); Ljubomirov, 2000:11 (Bulgaria, specimens in N. Nedelkov collection); Józan, 2001:279 (Hungary: Somogy County); Ljubomirov, 2001b:51 (Bulgaria: Mount Vitosha near Sofia); Ohl et al., 2001:142 (recorded from Germany but not occurring there); Józan, 2002:53 (Hungary: Mecsek Mountains); Kazenas, 2002a:95 (geographic distribution, collecting localities in Kazakhstan); Drewes, 2003:139 (Hungary: Harkany); Schmid-Egger, 2003:754 (Italy: Sicilia: Agrigento); Kazenas, 2004d:33 (Kazakhstan: northern Caspian region: shores of Ural River); Shkuratov, 2004a:80 (Russia: Donetsk, Rostov, and Volgograd Oblast's): Zettel, 2004:6 (Austria: Eichkogel, Mönchhof, Wien); Gayubo and Özbek, 2005:28 (Turkey: Bilecik); Jacobs, 2005a:447 (Bulgaria: Arkutino near Burgas, Ivanski near Shumen); Pagliano and Negrisolo, 2005:286 (in Sphecid Fauna of Italy); Straka, 2005a:398 (critically endangered in Czech Republic); Dollfuss, 2006:526 (locality records from Bosnia, Bulgaria, Croatia, Hungary, Moldova, Turkey, and Ukraine); Jacobs, 2007:123, 124 (in key to Crabronidae of Germany); Józan, 2007:180 (Hungary: Zselic hills); Vepřek and Straka, 2007:206 (in catalog of Sphecidae of Czech Republic and Slovakia, known from Bohemia and Slovakia only); Bitsch and Leclercq, 2009:225 (in supplement to vol. I of Faune de France, 1993: recent record from Sicily reported); Józan, 2009:166 (Croatia: Lindar, Pićan); Pagliano, 2009:182 (Italy: recorded from Sicilia by Schmid-Egger, 2003); Rudoiskatel', 2010:156 (Russia: southern Ural Mountains); Shorenko and Konovalov, 2010:20 (Ukraine: Khar'kov Oblast': village: Martovaya); Gogala, 2011:24 (Slovenia); Józan, 2011:182 (in checklist of Sphecidae *sensu lato* of Hungary); Protsenko and Drozdovskaya, 2011:91 (Ukraine: Mikolaiv Oblast': Bugskiy Guard National Park); Prisniy, 2012:49 (Russia: Belgorod Oblast'); Yıldırım, Ljubomirov, and Lelej, 2014:15 (distribution in Turkey by biogeographic provinces); Koçak and Kemal, 2015:145 (in checklist of Hymenoptera of Turkey); Mokrousov and Popov, 2016:577 (Russia: Krasnodarskiy Kray); Antropov, 2017b:235 (in catalog of Crabroninae of Russia); Kemal and Koçak, 2018:34 (Turkey: in list of pterygot insects of Van Province); Bitsch and Leclercq *in* Bitsch, Antropov, Gayubo, Leclercq, Schmid-Egger, K. Schmidt, and Straka, 2021:137 (in revision of Sphecidae *sensu lato* of Europe); Kaplan and Yildirim, 2021:58 (in catalog of Crabronidae of Turkey), 2023:1685 (in checklist of Sphecidae *sensu lato* of Turkey). – **As *Crabro laevis***: Dalla Torre, 1897:608 (new generic assignment, in catalog of world Sphecidae, as *levis*); de Beaumont, 1954e:97 (Italy); Balthasar, 1972:129 (in Sphecid Fauna of Czechoslovakia); Józan, 1981:305 (Hungary: Hortobágy National Park); Tyrner, 1987:232 (Czech Republic: Stroupeč); Pádr *in* Šedivy, 1989a:169 (in checklist of Czechoslovakian Sphecidae).

Crabro rhaibopus Kohl, 1915:305, ♂. Holotype or syntypes: ♂, Romania: Bucuresti (NHMW). Synonymized with *Lindenius laevis* by de Beaumont, 1953i:11. – Jaeger, 1933:98 (Yugoslavia: Podčetrtek, Teslič; redescription, description of ♀); Zavadil, 1934:187 (Slovakia), 1937a:72 (eastern Slovakia); Zavadil, Šustera, and Bat'a, 1937:168 (in catalog of Sphecidae of Czechoslovakia); Grandi, 1935a:109 (Italy); Zavadil, 1939:121 (Slovakia); Balthasar,

1948:140 (Slovakia: Kovačovské Kopce, Parkan); Zavadil *in* Zavadil and Šnoflak, 1948:135 (in key to Sphecidae of Czechoslovakia); Dollfuss, 1989:10 (type material in NHMW).

39. *latifrons* (W. Fox)

Crabro latifrons W. Fox, 1895:185, ♀. Lectotype: ♀, USA: Texas: no specific locality (ANSP), designated by Cresson, 1928:54. – Dalla Torre, 1897:606 (in catalog of world Sphecidae); Brimley, 1938:450 (North Carolina: Bryson City). – **As *Lindenius latifrons***: Ashmead, 1899d:166 (new generic assignment, in checklist of North American Crabronidae); Krombein *in* Muesebeck, Krombein, and Townes, 1951:1015 (in catalog of North American Hymenoptera); Leclercq, 1954c:199 (in catalog of world Crabronini); R. Bohart and Menke, 1976:384 (in checklist of world Sphecidae); Krombein, 1979b:1662 (in catalog of North American Hymenoptera); Ahlstrom, 1995:111 (in checklist of insects of North Carolina).

40. *latitarsis* Marshakov

Lindenius latitarsis Marshakov, 1973b:1420, ♀, ♂. Holotype: ♂, Kazakhstan: Kokshetau near Terisakkan River (ZIN). – R. Bohart and Menke, 1976:384 (in checklist of world Sphecidae); Dollfuss, 1989:10 (paratype in NHMW); Leclercq, 1989b:423, 424, 428 (in key to Old World *Lindenius*), 437 (paratypes in FSAG); Kazenas, 2002a:95 (geographic distribution, collecting localities in Kazakhstan); Dollfuss, 2006:527 (Turkey: Erzurum, 40 km northeast of Muradye, Zor Dagi near Sulucan); Yıldırım, Ljubomirov, and Lelej, 2014:15 (distribution in Turkey by biogeographic provinces); Koçak and Kemal, 2015:146 (in checklist of Hymenoptera of Turkey); Mokrousov, Shlyakhtenok, and Grebennikov, 2016:23 (Russia: Kalmykia: Lake Koltan-Nur at 45.618°N 45.869°E); Antropov, 2017b:235 (in catalog of Crabroninae of Russia); Kemal and Koçak, 2018:34 (Turkey: in list of pterygot insects of Van Province); Kaplan and Yildirim, 2021:58 (in catalog of Crabronidae of Turkey), 2023:1685 (in checklist of Sphecidae *sensu lato* of Turkey).

41. *leclercqi* de Beaumont

Lindenius leclercqi de Beaumont, 1956b:165, ♀, ♂. Holotype: ♀, Algeria: Biskra (BMNH). – de Beaumont, 1957c:167 (diagnostic characters of ♂); R. Bohart and Menke, 1976:384 (in checklist of world Sphecidae); Leclercq, 1989b:425, 432 (in key to Old World *Lindenius*), 437 (references to recent publications); Leclercq, 1993c:39 (in checklist of Crabronini of Europe and Mediterranean Basin).

42. *luteiventris* (A. Morawitz)

Crabro luteiventris A. Morawitz, 1866a:257, ♀. Holotype: ♀, origin not stated, but Spain according to Kohl, 1915:295 (ZIN). – Dalla Torre, 1897:609 (in catalog of world Sphecidae); Kohl, 1915:294 (in revision of Palearctic Crabronini); Giner Marí, 1943a:247 (in Sphecid Fauna of Spain); Ceballos, 1956:394 (in catalog of Sphecidae of Spain), 1959:231 and 1964:94 (in supplement to catalog of Sphecidae of Spain). – **As *Lindenius luteiventris***: Leclercq, 1954a:196 (new generic assignment, in catalog of world Crabronini); de Beaumont, 1956b:164 (in revision of western Palearctic *Lindenius*); Leclercq, 1960c:422 (locality records from Spain), 1971:226 (Spain), 1975a:212 (Spain, Morocco); R. Bohart and Menke, 1976:384 (in checklist of world Sphecidae); Gayubo, 1982b:19 (Spain: Salamanca: Fuentes de Béjar), 1984b:96 (Spain: previously recorded from Salamanca Province); Gayubo and Sanza, 1986:64 (Spain: Burgos); Leclercq, 1989b:422, 424, 429 (in key to Old World *Lindenius*), 437 (references to recent publications); Gayubo, Asís, and Tormos, 1990b:76 (Spain: Huelva Province); Bitsch and Leclercq, 1993:208 (in revision of western European Crabroninae); Leclercq and Barbier, 1993:80 (map of distribution in northern Spain); Leclercq, 1993c:39 (in checklist of Crabronini of Europe and Mediterranean Basin; references to recent publications); Gayubo, García, Torres, and González, 1999:91 (Spain: Soria Province); Gayubo, González, and Torres, 2000:186 (Spain: Salamanca Province); González, Gayubo, Asís, Tormos, and García, 2003:61 (Spain: Soria: Chavaler); Dollfuss, 2006:527 (Morocco, Spain, Tunisia); Baños-Picón, Asís, Gayubo, and Tormos, 2009:313 (Spain: frequency of specimens collected with hand nets and Malaise traps); González, Gayubo, Asís, and Tormos, 2009:624 (Spain: Salamanca and Zamora provinces: Arribes del Duero Natural Park); Bitsch and Leclercq *in* Bitsch,

Antropov, Gayubo, Leclercq, Schmid-Egger, K. Schmidt, and Straka, 2021:137 (in revision of Sphecidae *sensu lato* of Europe); Cross, Baldock, and Wood, 2021:37 (in catalog of Sphecidae *sensu lato* of Portugal).

Crabro luteiventris A. Morawitz, 1866b:330. Objective synonym of *Crabro luteiventris* A. Morawitz, 1866a:257.

Crabro fulviventris Pérez: Antiga and Bofill, 1904:23 (Spain: Cataluña Province), nomen nudum, as synonym of *Crabro luteiventris*.

ssp. *tenebrosus* (Kohl)

Crabro luteiventris var. *tenebrosus* Kohl, 1915:277, ♀. Holotype or syntypes: ♀, country?: "S. Fer." (NHMW). – Giner Marí, 1943a:247 (in Sphecid Fauna of Spain); Ceballos, 1956:394 (in catalog of Sphecidae of Spain). – **As *Crabro luteiventris tenebrosus***: Ceballos, 1959:231 (new status, in supplement to catalog of Sphecidae of Spain); – **As *Lindenius luteiventris tenebrosus***: R. Bohart and Menke, 1976:384 (new generic assignment, in checklist of world Sphecidae).

43. *major* de Beaumont

Lindenius major de Beaumont, 1956b:157, ♀, ♂. Holotype: ♀, France: Vaucluse: Carpentras (RMNH). – de Beaumont, 1957a:153 (Morocco: Timadit); Leclercq, 1960c:422 (locality records from Spain); de Beaumont, 1962b:28 (Spain); Leclercq, 1971:226 (Spain), 1975b:2 (France); R. Bohart and Menke, 1976:384 (in checklist of world Sphecidae); Gayubo, 1982b:21 (Spain: Salamanca: Cristóbal, Fuentes de Béjar, Valverde de Vardelacasas), 1984b:96 (Spain: previously recorded from Salamanca Province); Leclercq, 1989b:422, 430 (in key to Old World *Lindenius*), 437 (references to recent publications); Gayubo, Asís, and Tormos, 1990b:76 (Spain: Salamanca Province); Bitsch and Leclercq, 1993:208 (in revision of western European Crabroninae); Leclercq and Barbier, 1993:81 (map of distribution in France); Leclercq, 1993c:39 (in checklist of Crabronini of Europe and Mediterranean Basin; references to recent publications); Negrisolo *in* Minelli, Ruffo, and La Posta, 1995b:7 (in catalog of Italian fauna); Pagliano and Negrisolo, 2005:286 (in Sphecid Fauna of Italy); Baños-Picón, Asís, Gayubo, and Tormos, 2009:313 (Spain: frequency of specimens collected with hand nets and Malaise traps); Bitsch and Leclercq, 2009:225 (in supplement to vol. I of Faune de France, 1993: recent record from Italy reported); González, Gayubo, Asís, and Tormos, 2009:624 (Spain: Salamanca and Zamora provinces: Arribes del Duero Natural Park); Luis de la Iglesia, 2020:133 (Spain: Madrid at 40.2223°N 3.6558°W; occupying abandoned nest of mygalomorph spider *Iberesia valdemoriana* Luis de la Iglesia); Bitsch and Leclercq *in* Bitsch, Antropov, Gayubo, Leclercq, Schmid-Egger, K. Schmidt, and Straka, 2021:138 (in revision of Sphecidae *sensu lato* of Europe); Kaplan and Yildirim, 2023:1685 (in checklist of Sphecidae *sensu lato* of Turkey). – **As *Crabro major***: Ceballos, 1959:231 and 1964:94 (new generic assignment, in supplement to catalog of Sphecidae of Spain).

44. *marikovskyi* Kazenas

Lindenius marikovskyi Kazenas, 2012a:43, ♀, ♂. Holotype: ♂, Turkmenistan: Kopet Dagh: urochishche Parkhay (ZIN).

45. *melinopus* (Kohl)

Crabro melinopus Kohl, 1915:305, ♀, ♂. Syntypes: Spain: Barcelona (NHMW). – Berland, 1925:178 (in Sphecid Fauna of France). – Giner Marí, 1943a:248 (in Sphecid Fauna of Spain); Ceballos, 1956:394 (in catalog of Sphecidae of Spain), 1959:231 231 and 1964:94 (in supplement to catalog of Sphecidae of Spain). – **As *Lindenius melinopus***: Leclercq, 1954a:195 (new generic assignment, in catalog of world Crabronini); de Beaumont, 1956b:159 (in revision of western Palearctic *Lindenius*); Leclercq, 1960c:423 (locality records from Spain), 1975a:212 (Morocco), 1975b:2 (France); R. Bohart and Menke, 1976:384 (in checklist of world Sphecidae); Gayubo, 1982b:21 (Spain: Salamanca: Fuentes de Béjar, Sanchotello), 1984b:96 (Spain: previously recorded from Salamanca Province); Steiner, 1986:106 (references to publications on nesting habits); Dollfuss, 1989:10 (type material in NHMW); Leclercq, 1989b:421, 422, 430 (in key to Old World *Lindenius*), 437 (references to recent publications), 437 (listed); Bitsch and Leclercq, 1993:210 (in revision of western European Crabroninae); Leclercq and Barbier, 1993:82 (map of distribution in France); Leclercq, 1993c:39 (in checklist of Crabronini of Europe and Mediterranean Basin; collecting localities

from Spain); Negrisolo *in* Minelli, Ruffo, and La Posta, 1995b:7 (in catalog of Italian fauna); Pagliano and Negrisolo, 2005:287 (in Sphecid Fauna of Italy); Baños-Picón, Asís, Gayubo, and Tormos, 2009:313 (Spain: frequency of specimens collected with hand nets and Malaise traps); Belkheir, 2009:18 (France: Pyrénées-Orientales: commune d'Eyne); Bitsch and Leclercq, 2009:225 (in supplement to vol. I of Faune de France, 1993: recent record from Italy reported; France: first record from Bouche-du-Rhône: Eygalières); González, Gayubo, Asís, and Tormos, 2009:624 (Spain: Salamanca and Zamora provinces: Arribes del Duero Natural Park); Pagliano, 2009:182 (Italy: Piemonte: San Benedetto Belbo); Schmid-Egger, 2011a:38 (France: Parc National du Mercantour: Casterino, Le Pra, Millefonts, Mont Giraud); Bitsch, 2014:401 (record from France by Schmid-Egger, 2011a noted); Fresno, 2017:155 (Spain: Ávila: Arévalo; Madrid: Colmenar de Oreja; Murcia: Calasparra); Magdalou, 2017:15 (France: Pyrénées-Orientales: Réserves Naturelles Catalanes: Vallée d'Eyne); Bitsch and Leclercq *in* Bitsch, Antropov, Gayubo, Leclercq, Schmid-Egger, K. Schmidt, and Straka, 2021:138 (in revision of Sphecidae *sensu lato* of Europe); Cross, Baldock, and Wood, 2021:37 (in catalog of Sphecidae *sensu lato* of Portugal).

Lindenius thirionae Leclercq, 1975a:206, ♂. Holotype: France: Basses Alpes: Saint Michel Peyresq (FSAG). Synonymized with *Lindenius melinopus* by Bitsch and Leclercq, 1993:210. – Leclercq, 1975b:2 (France; description in press), 1989b:422, 431, 432 (in key to Old World *Lindenius*), 441 (bibliographic references; France: Pyrénées-Orientales and Italy: Liguria: Vasia; validity of species discussed); Pagliano, 1990:93 (in catalog of Italian Sphecidae, as first record from Italy); Pagliano, 1991b:356, 357 (in key to Italian Crabroninae); Leclercq, 2007g:194 (holotype in FSAG).

46. *merceti* (Kohl)

Crabro merceti Kohl, 1915:294, ♀ (as *Merceti*, incorrect original capitalization). Lectotype: ♀, Spain: Ribas (NHMW), designated by de Beaumont, 1956b:163. – Giner Marí, 1943a:247 (in Sphecid Fauna of Spain); Ceballos, 1956:394 (in catalog of Sphecidae of Spain), 1959:231 and 1964:94 (in supplement to catalog of Sphecidae of Spain). – **As *Lindenius merceti***: Leclercq, 1954a:195 (new generic assignment, in catalog of world Crabronini); de Beaumont, 1956b:165 (in revision of western Palearctic *Lindenius*); Leclercq, 1960c:423 (locality records from Spain), 1971:226 (Spain), 1975a:212 (Spain); R. Bohart and Menke, 1976:384 (in checklist of world Sphecidae); Gayubo, 1882e:105 (Spain: Cádiz Province); Dollfuss, 1989:10 (type in NHMW); Leclercq, 1989b:424, 431 (in key to Old World *Lindenius*), 437 (reference to de Beaumont, 1956b); Bitsch and Leclercq, 1993:211 (in revision of western European Crabroninae); Leclercq and Barbier, 1993:83 (map of distribution in northern Spain); Leclercq, 1993c:39 (in checklist of Crabronini of Europe and Mediterranean Basin; references to recent publications); Bitsch and Leclercq *in* Bitsch, Antropov, Gayubo, Leclercq, Schmid-Egger, K. Schmidt, and Straka, 2021:139 (in revision of Sphecidae *sensu lato* of Europe); Cross, Baldock, and Wood, 2021:38 (in catalog of Sphecidae *sensu lato* of Portugal).

47. *mesopleuralis* (F. Morawitz)

Crabro mesopleuralis F. Morawitz, 1890:613, ♂. Syntypes: ♂, Turkmenistan: Chuli (ZIN). – Dalla Torre, 1897:610 (in catalog of world Sphecidae); Kohl, 1915:285 (in revision of Palearctic Crabronini); Berland, 1925:178 (in Sphecid Fauna of France); Giner Marí, 1934:136 (Spain); Nadig, 1934:31 (Italy: Sardegna: Cagliari); Bernard, 1936c:288 (France: Aude: Ile Sainte-Lucie; Bouches-du-Rhône: Rognac; Var: Fréjus); Giner Marí, 1943a:246 (in Sphecid Fauna of Spain); de Beaumont, 1945:479 (records from Switzerland doubtful); Hertzog, 1954:101 (France: Bouches-du-Rhône: Camargue); Vogrin, 1955:41 (Yugoslavia); Pulawski, 1958a:187 (Bulgaria: Varna); Ceballos, 1956:394 (in catalog of Sphecidae of Spain), 1959:231 231 and 1964:94 (in supplement to catalog of Sphecidae of Spain); Scobiola-Palade, 1965:107 (first record from Romania: Tulcea Region: Sarinasuf and Tulcea, illustration of male genitalia); Balthasar, 1972:129 (in Sphecid Fauna of Czechoslovakia). – **As *Lindenius mesopleuralis***: Graeffe, 1911:44 (new generic assignment, Italy: Trieste area); Bernard, 1935:66 (France: Var: Fréjus area); Leclercq, 1950a:6 (Turkey: Borjom), 1954c:197 (in catalog of world Crabronini); de Beaumont, 1956b:183 (in revision of western Palearctic *Lindenius*); Morel, Nouvel, and Ribaut, 1956:339 (France: Département des Pyrénées-

Orientales); Grandi, 1959b:287 (Italy: Ferrara: Comacchio); Leclercq, 1960c:423 (locality records from Spain), de Beaumont, 1965a:61 (Greece); Leclercq, 1971:227 (Spain); Scobiola-Palade, 1972a:151 (Romania: delta of Danube: Caraorman); Tsuneki, 1972a:152 (Mongolia); Scobiola-Palade, 1974:145 (Romania: Sărăturile sandbank in Danube delta); Leclercq, 1975b:2 (France); Marshakov, 1975b:331 (Mongolia, redescription); R. Bohart and Menke, 1976:384 (in checklist of world Sphecidae); Pulawski, 1978:256 (in key to Sphecidae of European part of USSR); Pagliano, 1980:121 (Italy: Veneto); Dollfuss, 1983b:14 (in catalog of Sphecidae of Austria: Neusiedler See); Scobiola-Palade, 1985:98 (Romania: delta of Danube); Steiner, 1986:106 (references to publications on nesting habits); Tormos and Jiménez, 1987b:316 (Spain: Valencia Province: Dehesa de El Saler); Leclercq, 1989b:421, 427 (in key to Old World *Lindenius*), 438 (references to recent publications); Scobiola-Palade, 1989:88 (Romania: delta of Danube); Nemkov, 1990c:84 (Russia: Chita Oblast'); Pagliano, 1990:93 (in catalog of Italian Sphecidae); Dollfuss, 1991:138 (in key to Sphecidae of North and Central Europe); Negrisolo, 1991:320 (Italy: Udine and Venezia Provinces); Bitsch and Leclercq, 1993:211 (in revision of western European Crabroninae); Leclercq and Barbier, 1993:84 (map of distribution in France); Leclercq, 1993c:39 (in checklist of Crabronini of Europe and Mediterranean Basin; Italy: Laguna Veneta; Romania: Constanza); Torregrosa, Gayubo, Tormos, and Asís, 1993:19 (Spain: Alicante Province); Negrisolo, 1995a:22 (Italy: Veneto); Nemkov *in* Nemkov, Kazenas, Budrys, et Antropov, 1995:425 (in key to Sphecidae of Russian Far East); Pagliano and Pesarini, 1995:88 (Italy: Ferrara Province); Negrisolo *in* Minelli, Ruffo, and La Posta, 1995b:7 (in catalog of Italian fauna); Minoranskiy and Shkuratov, 1996:82 (Russia: Rostov Oblast'); Wu and Zhou, 1996a:113 (in revision in Economic Insect Fauna of China); Dollfuss, Gusenleitner, and Bregant, 1998:520 (Austria: summary of collecting records from Burgenland); Shkuratov, 1999:119 (nesting habits); Esenbekova and Kazenas, 2000:47 (southeastern Kazakhstan: no specific locality); Shkuratov, 2001:17 (prey: *Glyptotendipes* sp., a chironomid); Kazenas, 2002a:95 (geographic distribution, collecting localities in Kazakhstan); Shkuratov, 2002b:142 (Russia: Rostov Oblast': Rostovskiy Nature Reserve at 46°27'N 42°41'E); Protsenko, 2003:68, 69 (first record from Ukraine: Odessa Oblast': Island of Malyi Tataru in Danube delta at 45.21°N 29.00°E); Kazenas, 2004b:107 (Kazakhstan: western Tien Shan), 2004d:33 (Kazakhstan: northern Caspian region); Shkuratov, 2004a:80 (Russia: Rostov Oblast'; prey: *Glyptotendipes* sp., a chironomid); Pagliano and Negrisolo, 2005:287 (in Sphecid Fauna of Italy); Shorenko, 2005a:166 (Ukraine: Crimea); Dollfuss, 2006:527 (China: Xiexian at 34.8°N 111.6°E, Italy, Kazakhstan, Romania, Slovakia, Turkey, Turkmenistan); Hua, 2006:280 (in list of Chinese insects, geographic distribution); Kazenas, 2007a:92 (Kazakhstan: Akmala Oblast': Kurgandzhin Nature Reserve and vicinity); Roche, 2007a:140 (recorded from Egypt by Kohl, 1915, but not by de Beaumont, 1956b); Ljubomirov and Yildirim, 2008:292 (in catalog of Crabronidae of Turkey); Nemkov, 2008b:21 (in catalog of Crabronidae of Asiatic Russia); Bitsch and Leclercq, 2009:225 (in supplement to vol. I of Faune de France, 1993: recent records from Sicily and Spain reported; France: first record from Vendée: Barbastre); Nemkov, 2009b:94 (in new catalog of Sphecidae and Crabronidae of Asiatic Russia); Shorenko, 2009:368 (in list of Sphecidae *sensu lato* of Crimea); Rudoiskatel', 2010:155 (Russia: southern Ural Mountains); Shorenko and Konovalov, 2010:20 (Ukraine: Lugansk Oblast': village D'yakovo; Nikolayevsk Oblast': village Koblevo); Gogala, 2011:24 (Slovenia: Sečovlje); Józan, 2011:182 (in checklist of Sphecidae *sensu lato* of Hungary); Kazenas, 2012b:169 (Kazakhstan: Korgalzhin State Nature Reserve); Mokrousov and Vafin, 2014:57 (Russia: Republic of Tatarstan); Bitsch, 2014:401 (male scape is black or nearly so, correction to Bitsch and Leclercq, 1993:211); Yıldırım, Ljubomirov, and Lelej, 2014:15 (distribution in Turkey by biogeographic provinces); Koçak and Kemal, 2015:146 (in checklist of Hymenoptera of Turkey); Shorenko, 2015:325 (in list of Sphecidae *sensu lato* of Crimea); Mokrousov and Popov, 2016:578 (Russia: Krasnodarskiy Kray); Antropov, 2017b:235 (in catalog of Crabroninae of Russia); Shorenko, 2017:77 (in Crimea collected in June and September); Kemal and Koçak, 2018:34 (Turkey: in list of pterygot insects of Van Province); Shorenko, 2018:128 (Crimea, including localities, habitats, and number of specimens); Bitsch and Leclercq *in* Bitsch, Antropov, Gayubo, Leclercq, Schmid-Egger, K. Schmidt, and Straka, 2021:139 (in revision of Sphecidae *sensu lato* of Europe); Cross, Baldock, and Wood, 2021:38 (in catalog of Sphecidae *sensu lato* of Portugal); Kaplan and Yildirim, 2021:58 (in catalog of Crabronidae of Turkey), 2023:1685

(in checklist of Sphecidae *sensu lato* of Turkey); Bertsch, Brunβen, Guericke, Hoffmann, Kratschmer, Maβell, Mehlhorn, Unglaub, Wörner, Wiesbauer, Zettel, Schmitt, and Niehuis, 2025:11 (Austria: Burgenland: several localities).

Crabro mesopleuralis var. *mediterraneus* Kohl, 1915:274, ♂. Holotype or syntypes: ♂, Italy: Trieste (NHMW). Synonymized with *Lindenius mesopleuralis* by Pagliano and Negrisolo, 2005:287. – **As *Lindenius mesopleuralis mediterraneus***: R. Bohart and Menke, 1976:384 (new status, in checklist of world Sphecidae); Negrisolo *in* Minelli, Ruffo, and La Posta, 1995b:7 (in catalog of Italian fauna); Pagliano and Negrisolo, 2005:287 (in Sphecid Fauna of Italy, as synonym of *Lindenius mesopleuralis*).

48. *montezuma* (Cameron)

Crabro montezuma Cameron, 1891a:151, ♀, ♂. Syntypes: Mexico: Guerrero: Chilpancingo (BMNH). – Dalla Torre, 1897:611 (in catalog of world Sphecidae); Ashmead, 1899d:173 (in checklist of North American Crabronidae). – **As *Lindenius montezuma***: Leclercq, 1950a:4 (new generic assignment), 1954c:200 (in catalog of world Crabronini); R. Bohart and Menke, 1976:384 (in checklist of world Sphecidae); Krombein, 1979b:1662 (in catalog of North American Hymenoptera, list of prey); Amarante, 2002:30 (in catalog of Neotropical Crabronidae); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:664 (in checklist of Mexican Sphecidae); Buck and Bennett, 2025:213 (in checklist of Sphecidae sensu lato of Canada, Alaska, and Greenland: first record from Canada: Alberta: no specific locality).

Lindenius dugesianus Leclercq, 1950a:1, ♀. Holotype: Mexico: Guanajuato (Inst. Roy. Sci. Nat. Belgique). Synonymized with *Lindenius montezuma* by Bohart and Menke, 1976:384. – Leclercq, 1954c:199 (in catalog of world Crabronini); Court and Bohart, 1958:161 (southwestern USA, Mexico); Krombein, 1958f:198 (in supplement to catalog of North American Hymenoptera); Leclercq, 1975a:210 (diagnostic characters, Arizona, Mexico).

49. *neomexicanus* Court and Bohart

Lindenius neomexicanus Court and Bohart, 1958:166, ♀, ♂. Holotype: ♀, USA: New Mexico: Catron County: Omega (CAS). – R. Bohart and Menke, 1976:384 (in checklist of world Sphecidae); Krombein, 1979b:1662 (in catalog of North American Hymenoptera).

50. *nitidus* de Beaumont

Lindenius nitidus de Beaumont, 1967a:359, ♀. Holotype: ♀, Turkey: Kayseri (J. Gusenleitner coll., Linz, Austria). – R. Bohart and Menke, 1976:384 (in checklist of world Sphecidae); Leclercq, 1989b:423 (in key to Old World *Lindenius*), 438 (reference to de Beaumont, 1967a); Leclercq, 1993c:39 (in checklist of Crabronini of Europe and Mediterranean Basin); Ljubomirov and Yildirim, 2008:292 (in catalog of Crabronidae of Turkey); Yıldırım, Ljubomirov, and Lelej, 2014:15 (distribution in Turkey by biogeographic provinces), 19 (is an endemic of Turkey); Koçak and Kemal, 2015:146 (in checklist of Hymenoptera of Turkey); Kaplan and Yildirim, 2021:58 (in catalog of Crabronidae of Turkey), 2023:1685 (in checklist of Sphecidae *sensu lato* of Turkey).

51. *ocliferius* (F. Morawitz)

Crabro ocliferius F. Morawitz, 1897a:158, ♀, ♂. Lectotype: ♀, Turkmenistan: Usunada on eastern shore of Caspian Sea (ZIN), designated by Marshakov, 1975b:331. – Kohl, 1915:286 (in revision of Palearctic Crabronini). – **As *Lindenius ocliferius***: Leclercq, 1954c:197 (new generic assignment, in catalog of world Crabronini); de Beaumont, 1956b:184 (is probably a member of *mesopleuralis* group); Myartseva, 1972a:94 (Turkmenistan); Marshakov, 1975b:331 (Mongolia); R. Bohart and Menke, 1976:384 (in checklist of world Sphecidae); Leclercq, 1989b:421, 427 (in key to Old World *Lindenius*), 438 (references to Kohl, 1915 and Marshakov, 1975b); Kazenas, 2002a:95 (geographic distribution, collecting localities in Kazakhstan).

52. *pallidicornis* (F. Morawitz)

Crabro pallidicornis F. Morawitz, 1890:614, ♀, ♂ (♂ = *Lindenius aegyptius*). Lectotype: ♀, Turkmenistan: Askhabad (ZIN), designated by Marshakov, 1975b:329. – Dalla Torre, 1897:614 (in catalog of world Sphecidae); Kohl,

1915:287 (original description copied); Myartseva, 1963b:61 (Turkmenistan: lower Murgab River), 1965:95 (Turkmenistan: Akibay). – **As *Lindenius pallidicornis***: Leclercq, 1954c:197 (new generic assignment, in catalog of world Crabronini); de Beaumont, 1956b:184 (is probably a member of *mesopleuralis* group); Marshakov, 1975b:329 (Mongolia, redescription); R. Bohart and Menke, 1976:384 (in checklist of world Sphecidae); Leclercq, 1989b:426 (in key to Old World *Lindenius*), 438 (references to Kohl, 1915 and Marshakov, 1975b); Nazarova, 1998:41 (Tajikistan: Tigrovaya Balka Nature Reserve); Esenbekova and Kazenas, 2000:47 (southeastern Kazakhstan: no specific locality); Kazenas and Esenbekova, 2001:134 (Kazakhstan: Almatinskiy Nature Reserve); Kazenas, 2002a:95 (geographic distribution, collecting localities in Kazakhstan), 2004b:107 (Kazakhstan: western Tien Shan); Dollfuss, 2006:527 (Kazakhstan, Uzbekistan, description of ♂, correction to Leclercq's key, 1989); Hua, 2006:280 (in list of Chinese insects, geographic distribution); Kazenas, 2008a:103 (southeastern Kazakhstan: 5 km southeast of Panfilov, now Zharkent, 30 km west of Alma Ata, 5 km west of Otar); Medetov, Embergenov, Kholmatov, Elmurodova, Rakhimov, and Tajibaeva, 2024:425 (Uzbekistan: distribution).

Crabro irrequietus Kohl, 1915:301, ♀. Lectotype: ♀, northwestern China: Sachou Oasis (ZIN), designated by Marshakov, 1975b:329. Synonymized with *Lindenius pallidicornis* by Marshakov, 1975b:329. – **As *Lindenius irrequietus***: Leclercq, 1954c:198 (new generic assignment, in catalog of world Crabronini); de Beaumont, 1956b:184 (is probably a member of *pygmaeus* species group); Leclercq, 1975a:211 (Uzbekistan: Tashkent); R. Bohart and Menke, 1976:384 (in checklist of world Sphecidae); Dollfuss, 1989:10 (type material in NHMW).

53. *panzeri* (Vander Linden)

Crabro panzeri Vander Linden, 1829:69, ♀, ♂. Syntypes: Belgium: Bruxelles (Inst. Roy. Sci. Nat. Belgique, Bruxelles). – Shuckard, 1837:173 (in revision of British Aculeata); von Siebold, 1839:50 (Germany: Danzig, now Poland: Gdańsk); F. Smith, 1849b:2551 (preying on Diptera), 1851c:31 (Great Britain: Battersea, Birch Woods, Darenth, and Isle of Wight), 1853:64 (in checklist of British Hymenoptera), 1856:406 (in catalog of Hymenoptera in British Museum), 1858c:159 (in review of British Aculeata, redescription); A. Morawitz, 1866a:270 and 1866b:346 (specimens in E. Eversmann collection); Schenck, 1867a:351 (Germany: Nassau Region); F. Smith, 1869d:77 (Great Britain: Norfolk: Cromer), 1871b:16 (in catalog of British Aculeata); Taschenberg, 1875:381 (Germany: Halle); Kohl, 1880:133 (Austria: Tirol, and Italy: Trentino–Alto Adige), 218 (nesting in sand, prey: dipteron *Carphotricha guttularis* Meigen, Trypetidae); E. Saunders, 1880:297 (in revision of British Aculeata); Kohl, 1883e:656 (Switzerland); Sickmann, 1883:75 (Germany: Niedersachsen: Wellingholthausen); Kohl, 1888b:722 (Austria: Tirol, now Italy: Alto Adige), 1893a:21 (Austria: Niederösterreich); Sickmann, 1893:74 (Germany: Niedersachsen: Iburg, analysis of color variation); Krieger, 1894:3 (Germany: Kingdom of Saxony); E. Saunders, 1896:146 (in revision of British Aculeata); Dalla Torre, 1897:616 (in catalog of world Sphecidae); Mocsáry, 1897:83 (Kingdom of Hungary, some localities are in today's Croatia, Romania and Slovakia); de Cobelli, 1903:118 (Italy: Province of Trentino); Antiga and Bofill, 1904:23 (Spain: Cataluña Province); Zilahi Kiss, 1904:77 (Hungary: Hadad, Tasnád); Arnold, 1905:262 (Great Britain: Hampshire: Brockenhurst); Schmiedeknecht, 1907:201 (in key to Hymenoptera of Central Europe); Morley, 1909:306 (Great Britain: Isle of Wight); Šustera, 1909:34 (Czech Republic: vicinity of Praha); Dittrich, 1911b:20 (Germany: Niederschlesien Province, now Poland: Dolny Śląsk Region); Birula, 1912:536 (Ukraine: Zhytomyr Oblast': Radomyshl'); Alfken, 1914:275 (northwestern Germany); Szilády, 1914:89 (Hungary: Holdvilág, Igenpataka); Kohl, 1915:295 (in revision of Palearctic Crabronini); O. Meyer, 1919:149 (Germany: Posen Province, now Poland: Poznań Region); Strand, 1920:23 (Germany: Berlin-Dahlem); Dubois, 1921b:163 (in key to Belgian Sphecidae), 166 (phenology, nesting habits); Fahringer, 1922:182 (Turkey); Shestakov, 1925:36 (Russia: Yaroslavl' area); Leininger, 1924:121 (Germany: Baden-Württemberg; Friedrichstal, Rittner near Durlach); Berland, 1925d:177 (in Sphecid Fauna of France); Schütze, 1925:111 (Germany: Lausitz Region); Shestakov, 1925:36 (Russia: Yaroslavl' area); Bouwman, 1926:279 (in list of Sphecidae of Netherlands); Friese, 1926:149 (in key to Sphecidae of Central Europe, short morphological and biological characteristics); Zavadil, 1926:36 (Czechoslovakia); Berland, 1928b:180 (add Hamm and Richards to bibliography in Berland, 1925d); Bouwman,

1930:104 (in revision of Sphecidae of Netherlands); Schmiedeknecht, 1930:659, 660 (in keys to Hymenoptera of North and Central Europe); Grandi, 1931:57 (Italy: Toscana: Vallata delle Pozze near Le Mandriole); Pulkkinen, 1931:153 (in revision of Sphecidae of Finland, not yet found in Finland); Bondroit, 1932:41 (Belgium: common in Bruxelles area); Minkiewicz, 1933:101 (nesting habits); Balles, 1934:17 (Germany: Baden-Württemberg: Fautenbach, Oberachern); Steck, 1935:326 (Switzerland); Bernard, 1936c:288 (France: Var: Fréjus); Crèvecoeur and Maréchal, 1936:257 (in catalog of Belgian Hymenoptera); Minkiewicz, 1936:2 (male of ambulant watcher type); Dulac, 1937:20 (France: Saône-et-Loire: Saint-Laurent d'Andenay); Goebel, 1937:39 (Poland: Poznań District: Poznań-Dębina, Strzeszynek); Zavadil, Šustera, and Bat'a, 1937:167 (in catalog of Sphecidae of Czechoslovakia); Móczár, 1938c:81 (Hungary: Kőszeg Hills); Redikortsev, 1938:144 (Russia: Mordovian State Nature Reserve); Móczár, 1939:5 (Hungary: Jászberény); Dovnar-Zapolskiy, 1940:303 (Russia: Kursk Oblast'); Balthasar, 1941b:112 (Czech Republic: eastern Morava); Paul, 1941:37 (Germany: Pommern: Stettin area, now Poland: Województwo Zachodniopomorskie: Szczecin area); Giner Marí, 1943a:248 (in Sphecid Fauna of Spain); Guiglia, 1944b:34 (Italy); Balthasar, 1945:114 (Czech Republic: southeastern Morava Region); de Beaumont, 1947b:399 (Cyprus); Zavadil *in* Zavadil and Šnoflak, 1948:134, 136 (in key to Sphecidae of Czechoslovakia); de Andrade, 1949:23 (Portugal); Abrahamse, 1950:125 (Denmark: Jutland: near Kjellerup; comparison with *Lindenius albilabris*, nest structure, prey: *Chlorops* sp., Chloropidae); Aerts, 1950a:50 (Germany: Nordrhein-Westfalen: Rheidter Wertchens near Köln); Cavro, 1950:38 (France: Département du Nord); Georgel, 1950:64 (France: Seine-et-Oise: Sucy-en-Brie); Pittioni, 1950:28 (Cyprus); Abrahamsen, 1951:115 (recorded from Denmark after J.C. Nielsen, 1907); Fæster, 1951:457 (distribution in Scandinavia); Nouvel and Ribaut, 1953:182 (France: Haute-Garonne: Saint-Béat, Hautes-Pyrénées: Cauterets); de Beaumont, 1954e:97 (Italy); Steiner, 1955:140 (France: Dordogne); Teschner, 1955:57 (Germany: Nordrhein-Westfalen: Hohe Ward near Münster); Vergne, 1955:5 (France: Auvergne); Vogrin, 1955:41 (Yugoslavia); Bytinski-Salz, 1956:227 (Turkey: Aydın); Ceballos, 1956:395 (in catalog of Sphecidae of Spain); Hertzog, 1956:182 (carrying prey impaled on stinger); Preuss, 1956:15 (Germany: Schleswig-Holstein: Mölln in Lauenburg); Zirngiebl, 1957:177 (Germany: Rheinland-Pfalz: Birkenheide, Frauenalb in Schwarzwald); Benno, 1958b:20 (in review of Dutch Sphecidae); Diniz, 1959:31 (Portugal: Serra da Boa Viagem); Scobiola-Palade, 1959:498 (first record from Romania: Constanţa Region: Agigea); Noskiewicz and Puławski, 1960:157 (in key to Polish Sphecidae); Lehrer and Scutaru, 1963:285 (Romania: Moldova: Baia in Suceava District, Pascani in Iaşi District); Ceballos, 1964:94 (in supplement to catalog of Sphecidae of Spain); Plavil'shchikov, 1964:122 (Russia: Mordovian State Nature Reserve); Scobiola-Palade, 1967b:54 (Romania); Tumšs and Maršakovs, 1970:30 (Latvia); Niedl and Deneš, 1967:75 (Czech Republic: Třeboň area); Balthasar, 1972:124 (in Sphecid Fauna of Czechoslovakia); Levi, Sysoletina, and Shernin, 1974:269 (Russia: Kirov Oblast': Kirov); Georghiou, 1977:190 (Cyprus); Józan, 1981:306 (Hungary: Hortobágy National Park); Skibińska, 1981:358 (Poland: Warszawa-Białołęka), 1982:121, 124 (Poland: Mazovian Voivodship: Białołęka, Ursynów, Warszawa; Łódź Voivodship: Łowicz); Blagoveshchenskaya, 1994:90 (Russia: Ul'yanovsk Oblast'). – **As *Entomognathus panzeri***: Rohe, 1990:1048 (new generic assignment, Germany: Rheinland-Pfalz: Lenneberg forest). – **As *Lindenius panzeri***: Lepeletier de Saint Fargeau and Brullé, 1835:798 (new generic assignment, in revision of Crabronini); Dahlbom, 1844:302 (redescription), 1945:516 (in key to *Lindenius*); Lepeletier de Saint Fargeau, 1845:201 (in revision of world Hymenoptera); Wissmann, 1849:15 (Germany: Kingdom of Hannover); Wesmael, 1852:591 (Belgium); Ruthe and Stein, 1857:315 (Germany: Berlin area); Taschenberg, 1858:102 (in key to Sphecidae of Germany); Assmuss, 1859:617 (Russia: Moscow Governorate); Funk, 1859:58 (Germany: Bayern: Bamberg); Schenck, 1860:146 (Germany: Nassau Region); Brischke, 1862:105 (Germany: Preussen Province, now Poland: Pomorze Region); Taschenberg, 1866:182 (in revision of Hymenoptera of Germany); A. Costa, 1867c:123 (in revision of Italian Sphecidae); Kirchner, 1867:224 (in catalog of European Hymenoptera); A. Costa, 1871b:52 (in revision of Italian Sphecidae); P. Ivanov, 1872:152 (Ukraine: Khar'kov Oblast': Kupyansk area); Dours, 1874:154 (in catalog of Hymenoptera of France); Wierzejski, 1874:261 (Ukraine: Podole Region: Bucyki, Skała); Beuthin, 1876:230 (Germany: Hamburg area); Frivaldszky, 1876:356 (Hungary: Temes Komitat: Grebenácz, now in Romania: Timiş

District); Radoszkowski, 1877:80 (Kazakhstan, Kyrgyzstan, Uzbekistan); Becker, 1880:152 (Russia: Sarepta, now Krasnoarmeysk south of Volgograd); Marquet, 1881:185 (France: Hautes-Pyrénées); Yaroshevskiy, 1881:123 (Ukraine: Khar'kiv Oblast': Kupyansk); Friese, 1883:201 (Germany: Sachsen-Anhalt: Merseburg, Weissenfels); Brischke, 1888b:100 (Germany: Preussen Province, now Poland: Pomorze Region); Assmuss, 1892:53 (Russia: earlier record from Moscow Governorate repeated); Marchal, 1893c:337 (preying on *Chlorops lineata* (Fabricius), Chloropidae); Acloque, 1897:90 (in Sphecid Fauna of France and Algeria); N. Arnold, 1902:88 (Russia: Mohilev Province, now Belorussia); de Gaulle, 1908:121 (in catalog of French Hymenoptera); Graeffe, 1911:44 (Italy: Trieste area); Schirmer, 1912:164 (Germany: Berlin area); R. Perkins, 1913b:396 (in key to British Crabronini); Dubois, 1919:95 (Belgium: Bruxelles: Uccle); Łoziński, 1920:121 (Poland: Kraków); Noskiewicz, 1920b:155 (Poland, now Ukraine: forest district Kopanki near Kałusz); A. Wagner, 1920:46 (Germany: Lower Elbe region); Haines, 1922:14 (Great Britain: not found in Dorset); Hamm and Richards, 1926:319 (summary of nesting habits), 329 (list of prey); Hémon, 1926:199 (France: Finistère: Fouesnant); Marchand and Dulac, 1935:60 (France: Saône-et-Loire: Saint Laurant d'Andenay); Minkiewicz, 1935:196 (Poland: Kazimierz on Wisła at 51°20'N 21°58'E), 1936:16 (male of visitor type); Richards, 1937b:107 (in checklist of British aculeates); A. Wagner, 1938a:118 (northwestern Germany); Hoop, 1941b:70 (Germany: Schleswig-Holstein: Süderhastedt); Schneid, 1941:1032 (Germany: Bayern: Bamberg area); Yarrow and Guichard, 1941: 9, 10 (in key to British *Lindenius*); Guichard and Yarrow, 1948:92 (Britain: London: Hampstead Heath); Leclercq, 1950a:5 (France, Germany, Russia: Sarepta, now Krasnoarmeysk); Szulczewski, 1950:104 (Poland: Wielkopolski National Park 15 km south of Poznań); Leclercq, 1951e:2 (bibliography of Belgian records); Bischoff and Stadler, 1954:127 (Germany: Bayern: Romberg); Grandi, 1954:244 (Italy); Leclercq, 1954c:198 (in catalog of world Crabronini), 302 (nest and prey records); Aerts, 1955:57 (Germany: Rheinland); de Beaumont, 1956b:180 (in revision of western Palearctic *Lindenius*); Bradley, 1957:45 (Lepeletier's specimens in M. Spinola collection, Turin); Grandi, 1957:391 (Italy); Yeo, 1957:20 (Great Britain: Middlesex, now in London); Móczár, 1958b:193 (Hungary: collecting localities); de Beaumont, 1959a:43 (Italy); Olberg, 1959:372 (photograph of nest digging), 375 (photograph of prey carrying, in flight and on ground); Wolf, 1959b:32 (Germany: Nassau); Hamann, 1960:196 (Austria: Oberösterreich: Mönchgraben at 48°13'N 14°21'E); Hoop, 1961:64 (Germany: Schleswig-Holstein: Brandsbek, Ihlkate, Rosenfeld); de Beaumont, 1962b:28 (Spain); Babiy, 1964:117 (Austria: Land Salzburg); de Beaumont, 1964c:153 (in Sphecid Fauna of Switzerland); Hüsing and Jäger, 1964:192 (Germany: Sachsen-Anhalt: Nietleben near Halle); B. Klug, 1965:142 (Germany: Baden-Württemberg: Freiburg im Breisgau area); Bonelli, 1966c:220 (Italy: Trentino–Alto Adige: Piazzòl); Benno, 1967:39 (in checklist of Sphecidae of Netherlands); de Beaumont, 1967a:362 (Turkey); Gauss, 1967:559 (Germany: Baden-Württemberg); J. Heinrich, 1967:82 (Germany: Niederfranken); Benedek, 1968:77 (Hungary, visiting flowers of *Angelica silvestris* L. and *Peucedanum cervaria* L., both Apiaceae); Scobiola-Palade, 1968c:387 (Romania; Alexandria); Wolf, 1968:11 (Germany: Nordrhein-Westfalen: Siegen, inhabitant of forest edge); Benedek, 1969a:85 (Hungary; marshy meadow), 1969b:421 (Hungary: Csopak, collected in vicinity of aphid *Hyalopteritena pruni* (Geoffroy)); Dathe, 1969:438 (Germany: Berlin Zoological Garden); Lefeber, 1969a:79 (Netherlands: Egmond), 1969c:234 (Netherlands: Sint Pietersberg = Montagne Saint Pierre); Benedek, 1970:103 (Hungary: Tapolca); Lefeber and Petit, 1970:130 (Belgium: Plombières); Oehlke, 1970:788 (Democratic Germany); Dathe, 1971:234 (Germany: Berlin Zoological Garden; phenology); Leclercq, 1971:227 (Spain); Schmidt, 1971b:51 (Germany: Rheinland-Pfalz: Gonsenheimer Wald, Mainzer Sand); Stritt, 1971a:105 (Germany: Baden-Württemberg: Karlsruhe); Haeseler, 1972:157 (Germany: Schleswig-Holstein; anthropogenic habitats); Kazenas, 1972b:167 (Kazakhstan); Kofler, 1972:115 (Austria: eastern Tirol); Simon Thomas, 1972:186 (France: Landes); Lomholdt, 1973a:108 (Denmark: West Funen: Brændhold Bjærg at Lilleskov); Erlandsson, 1974:86 (Italy); Kazenas, 1974b:109 (feeding on flowers of *Tamarix* sp., Tamaricaceae, in Kazakhstan), 110 (feeding on flowers of *Euphorbia* spp., Euphorbiaceae, and *Silaum besseri* L., Apiaceae, in Kazakhstan), 112 (feeding on flowers of *Salsola* sp., Chenopodiaceae, in Kazakhstan); Kofler, 1974:320 (Austria: Kärnten); Leclercq, 1974d:285 (synonymy), 1975a:212 (Belgium; Russia: Daghestan; prey); Scobiola-Palade, 1974:145 (Romania: Sărăturile sandbank in

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2007a:151 (Great Britain: Norfolk: Thetford Warren Lodge); Jacobs, 2007:123, 124 (in key to Crabronidae of Germany); Jansen and Kaluza, 2007:24 (Germany: northwestern Sachsen); Józan, 2007:180 (Hungary: Zselic hills); Kazenas, 2007a:92 (Kazakhstan: Akmala Oblast': Kurgandzhin Nature Reserve and vicinity); Saure, 2007:82 (Germany: in checklist of Aculeata of Land Brandenburg); Smit and Megens, 2007:17 (Netherlands: Noort Brabant: vicinity of Leende); G. Turrisi and R. Turrisi, 2007:120 (Italy: Sicilia: Mount Etna: Botanical Garden Nuova Gussonea and vicinity); Vago, 2007:175 (France: départements d'Aisne, Nord, Pas-de-Calais, and Somme); Venne, Bleidorn, and Lauterbach, 2007:301 (Germany: Nordrhein-Westfalen: Bielefeld); Vepřek and Straka, 2007:206 (in catalog of Sphecidae of Czech Republic and Slovakia); Winkler, 2007:29, 30 (Germany: Niedersachsen: eastern Friesland); Gayubo, González, Tormos, and Asís, 2008:137 (Spain: Salamanca: Parque Natural de Las Batuecas–Sierra de Francia); Kazenas, 2008b:114 (Kazakhstan: foothills of Zailiskiy Alatau: sometimes occurring on loess cliffs); Ljubomirov and Yildirim, 2008:292 (in catalog of Crabronidae of Turkey); Nemkov, 2008b:21 (in catalog of Crabronidae of Asiatic Russia); Theunert, 2008:45 (Germany: map of distribution in Niedersachsen and Bremen); Baños-Picón, Asís, Gayubo, and Tormos, 2009:313 (Spain: frequency of specimens collected with hand nets and Malaise traps); Belkheir, 2009:18 (France: Pyrénées-Orientales: commune d'Eyne); Bitsch and Leclercq, 2009:225 (in supplement to vol. I of Faune de France, 1993: recent records from Italy reported; France: first records from Alpes-Maritimes: Casterine and Hautes-Alpes: Gap); Debuyser and Vago, 2009:6 (in list of Sphecidae *sensu lato* of northern France); Donie, 2009:9 (Germany: Niedersachsen: Oldenburg); U. Frommer, 2009a:28 (Germany: in checklist of Sphecidae *sensu lato* of Hessen); Gayubo, González, Tormos, and Asís, 2009:364 (Spain: Valladolid: Reserva Natural Riberas de Castronuño – Vega del Duero); González, Gayubo, Asís, and Tormos, 2009:624 (Spain: Salamanca and Zamora provinces: Arribes del Duero Natural Park); Hessling, 2009:104 (Germany: Niedersachsen: Hunte River valley south of Oldenburg); Nemkov, 2009b:94 (in new catalog of Sphecidae and Crabronidae of Asiatic Russia); Pagliano, 2009:182 (Italy: Basilicata: Monte Sirino); Ruchin, Antropov, and Shibayev, 2009:169 (Russia: Republic of Mordovia); Straka, Dvořak, and Bogusch, 2009:261 (Czech Republic: Bílý Potok); Szczepko and Wiśniowski, 2009:69 (Poland: Spała Landscape Park); Ermilov and Mokrousov: 2010:90 (phoretic mite *Imparipes haeseleri* Ebermann and Hall in Middle Volga Region of Russia); Esser, Fuhrmann, and Venne, 2010:36 (Germany: in checklist of aculeates of Nordrhein-Westfalen); Falk, 2010:93 (Great Britain: heathland sites in West Midlands region); Hable, Krauss, von der Dunk, and Wickl, 2010:27 (Germany: Bayern: Sulz- and Ottmaringer Tal); Mokrousov, 2010a:62 (Russia: Kirov and Nizhniy Novgorod Oblast's: no specific localities); Rudoiskatel', 2010:156 (Russia: central and southern Ural Mountains); Saure, 2010a:87 (Germany: Berlin-Reinickendorf: Baumberge), 2010b:175 (Germany: Berlin-Reinickendorf: airport Tempel and Flughafensee Protected Area); Schmid-Egger, 2010a:16 (in red list of Aculeata of Germany: relatively common); Schmidt, 2010:136 (Germany: Bayern: collected along Main-Donau canal); Shorenko and Konovalov, 2010:21 (Ukraine); van der Smissen, 2010a:343 (Germany: Schleswig-Holstein and Mecklenburg-Vorpommern: locality records); Baghirov, 2011b:147 (Russia: recorded from Altay by Nemkov *in* Nemkov, Kazenas, Budrys, and Antropov, 1995); Burger, 2011a:287 (Germany: in red list of Sphecidae *sensu lato* of Thüringen); Gogala, 2011:24 (Slovenia); Józan, 2011:182 (in checklist of Sphecidae *sensu lato* of Hungary); Mokrousov, Berezin, and Egorov, 2011:75 (Russia: Chuvash Republic); Pagliano, 2011a:138 (specimens in M. Spinola collecton, Torino); Rudoiskatel', 2011d:242 (Russia: central Ural Mountains); Saure, 2011a:6 (Germany: Berlin: former airport Tempelhof), 2011c:198 (Germany: Berlin-Spandau: Fort Hahneberg); Shlyakhtenok, 2011:95 (Belorussia: city of Minsk); Theunert, 2011a:20 (Germany: in checklist of aculeates of Niedersachsen including city of Bremen); Tischendorf, Frommer, Flügel et al., 2011:140 (Germany: Hessen: not endangered); Ziska and Saure, 2011:109 (Germany: Berlin: Tegeler Fließ valley); Boillat, 2012:226 (Switzerland: in checklist of insects of Canton de Genève); Burguet *in* Durand and Burguet, 2012:3, fiche 12 (France: Puy-de-Dôme: sands Girauts-Faures in Orléat commune); Franzén, Molander, Norén, and Nilsson, 2012:26 (Sweden: Skäne: Kullaberg Peninsula); Gerth, Mayer, Hering, Wolf, Schaffer, and Bleidorn, 2012:9 (Germany: Sachsen: Bienitz in Leipzig); Hellrigl, 2012:129 (Italy: Provincia Autonoma di Bolzano-Alto Adige, as Südtirol); Nemkov, 2012c:444 (in catalog of Crabronidae of Russian Far East); Prisniy,

2012:49 (Russia: Belgorod Oblast'); Shlyakhtenok, 2012a:171 (Belorussia: collected in private plots); , 2012b:91 (Belorussia: Beresina National Reserve: overgrowing dry meadow); Strumia, Pagliano, and Gayubo, 2012:56 (Italy: Toscana: Riserva di San Rossore); Bitsch, Grouet, and Savina, 2013:292 (France: Pyrénées centrales: département d'Ariège: Ascou-Pailhères); Braun-Reichert, 2013:14 (Germany: Bayern: pastures between Regensburg and Nürnberg); Danilov and Odintseva, 2013:333 (Russia: Western Siberia: 65 km north-northeast of Tobol'sk at 58°45'N 68°74'E); Mokrousov, Ruchin, and Egorov, 2013:201 (Russia: Mordovian Republic: Mordovian State Nature Reserve); Pankov, 2013:229 (Russia: Ivanovo Oblast'); A. Scholz and Liebig, 2013:20 (Germany: Sachsen: in list of Sphecidae *sensu lato*); Shlyakhtenok, 2013:185 (in annotated catalog of aculeate wasps of Belorussia); Vieira, Oliveira, Brewster, and Gayubo, 2013:17 (Portugal: Douro International Natural Park); Wiśniowski and Piotrowski, 2013:21 (Poland: Poleski National Park); Wiśniowski and Szczepko, 2013:37 (Poland: Kampinos National Park near Warszawa); Dunford, Turbyville, and Leavengood, 2014:9 (listed as medically important in Afghanistan); Flügel, 2014:254 (Brandenburg: Hangelsberger Heide); U. Frommer, 2014:27 (Germany: Hessen: Lorch); Hellqvist, Abenius, and Norén, 2014:92 (in catalog of Ampulicidae, Sphecidae, and Crabronidae of Sweden, by provinces); Yıldırım, Ljubomirov, and Lelej, 2014:15 (distribution in Turkey by biogeographic provinces); Atbaei, Fallahzadeh, and Ljubomirov, 2015:13 (first record from Iran: Fars Province); Koçak and Kemal, 2015:146 (in checklist of Hymenoptera of Turkey); Rezaei and Fallahzadeh, 2015:6 (Iran: Fars: Dasht e Arzhan at 29°38′N 51°58′E, Kaftarak at 29°34′N 52°41′E, and Shiraz at 29°36′N 52°28′E); P. Rosa and Pagliano, 2015:102 (Italy: Lombardia and Piemonte: Parco del Ticino); Else, Bolton, and Broad, 2016:27 (in checklist of Aculeata of Great Britain and Ireland: England); Le Divelec, Chapelin-Viscardi, and Larivière, 2016:109 (northern France: in agricultural landscapes); Saure, 2016b:49 (Germany: Sachsen-Anhalt: fruit orchards); Stolle and Saure, 2016:923 (Germany: in list of Sphecidae *sensu lato* of Sachsen-Anhalt); Wiśniowski, 2016:129 (Poland: Ojców National Park); Antropov, 2017b:235 (in catalog of Crabroninae of Russia); Jahantigh, Rakhshani, Mokhtari, and Ramroodi, 2017:50 (Iran: known from Fars Province); Magdalou, 2017:15 (France: Pyrénées-Orientales: Réserves Naturelles Catalanes: Julols, Vallée d'Eyne); Twerd, Krzyżyński, Waldon-Rudzionek, and Olszewski, 2017:6 (Poland: Inowroclaw and Janikowo: nesting in postindustrial soda ash dumping sites); Jacobs and Liebig, 2018:143 (Russia: Irkutsk Oblast': Bol'shoye Goloustnoye and Sarma); Kemal and Koçak, 2018:34 (Turkey: in list of pterygot insects of Van Province); Lett, 2018:203 (France: Loir-et-Cher: Gièvres at 47°16'39"N 1°41'52"E); Carminati, Mora, and Cretin, 2019:17 (France: in list of Sphecidae *sensu lato* of Franche-Comté); Olszewski and Kowalczyk, 2019:101 (northern Poland: Pomorze Gdańskie = Gdańsk Pomerania); Ruchin and Antropov, 2019a:13232 (Russia: Mordovia State Nature Reserve); Akulov, Proshchalykin, and Mokrousov, 2020:47 (Russia: central Krasnoyarsk Kray); Kejval, Blažej, and Erhart, 2020:103 (western Czech Republic); Bitsch and Leclercq *in* Bitsch, Antropov, Gayubo, Leclercq, Schmid-Egger, K. Schmidt, and Straka, 2021:140 (in revision of Sphecidae *sensu lato* of Europe); Cross, Baldock, and Wood, 2021:38 (in catalog of Sphecidae *sensu lato* of Portugal); Kaplan and Yildirim, 2021:59 (in catalog of Crabronidae of Turkey); Olszewski, Wiśniowski, and Ljubomirov, 2021:93 (in commented list of Sphecidae *sensu lato* of Poland); Mawadda and Girish Kumar, 2023a:107 (in checklist of Crabroninae of Northern India); Kaplan and Yildirim, 2023:1685 (in checklist of Sphecidae *sensu lato* of Turkey); Medetov, Embergenov, Kholmatov, Elmurodova, Rakhimov, and Tajibaeva, 2024:425 (Uzbekistan: distribution).

Lindenius venustus Lepeletier de Saint Fargeau and Brullé, 1835:796, ♀. Holotype or syntypes: ♀, France: Versailles (lost). Neotype: ♀, France, Yvelines: Bullion (MNHN), designated by Leclercq, 1974d:285. Synonymized with *Lindenius panzeri* by Leclercq, 1974d:285. – Dahlbom, 1844:305 (original description copied), 1845:516 (in key to *Lindenius*); Lepeletier de Saint Fargeau, 1845:198 (in revision of world Hymenoptera); Siła-Nowicki, 1864:54 (Ukraine: L'viv); 1865:54 (western Ukraine: Galicia region: no specific locality); Kirchner, 1867:224 (in catalog of European Hymenoptera); Wierzejski, 1868:118 (Ukraine: L'viv and Podole Region); Dours, 1874:154 (in catalog of Hymenoptera of France); Marquet, 1875:210 (France: Haute-Garonne: Toulouse), 1881:185 (southern France); Acloque, 1897:90 (in Sphecid Fauna of France and Algeria); de Gaulle, 1908:122 (in catalog of French

Hymenoptera). – **As *Crabro venustus***: F. Smith, 1856:413 (new generic assignment, in catalog of Hymenoptera in British Museum); Kohl, 1883e:656 (Switzerland); Dalla Torre, 1897:636 (in catalog of world Sphecidae).

Crabro latebrosus Kohl, 1905:225, ♀. Holotype or syntypes: ♀, Russia: Siberia: Irkutsk (NHMW). Synonymized with *Lindenius panzeri* by Marshakov, 1975b:327. – Kohl, 1915:302 (in revision of Palearctic Crabronini); Nadig, 1933:76 (Morocco: Tizi n'Tichka). – **As *Lindenius latebrosus***: Leclercq, 1954c:198 (new generic assignment, in catalog of world Crabronini); de Beaumont, 1956b:184 (is a member of *pygmaeus* species group); R. Bohart and Menke, 1976:384 (in checklist of world Sphecidae); Dollfuss, 1989:10 (type material in NHMW); Leclercq, 1989b:425 (in key to Old World *Lindenius*, as *panzeri latebrosus*).

Lindenius harbinensis Tsuneki, 1967e:16, ♀. Holotype: ♀, China: Manchuria: Harbin (RMNH). Synonymized with *Lindenius panzeri* by Marshakov, 1975b:327. – R. Bohart and Menke, 1976:384 (in checklist of world Sphecidae).

Lindenius panzeri mongolicus Tsuneki, 1972a:154, ♀, ♂. Holotype: ♀, Mongolia: Central Aymag: Ulaan Hodag (TMB). Synonymized with *Lindenius panzeri* by Marshakov, 1975b:327. – R. Bohart and Menke, 1976:384 (in checklist of world Sphecidae).

54. *parkanensis* Zavadil

Crabro parkanensis Zavadil *in* Zavadil and Šnoflak, 1948:135, ♀. Holotype: ♀, Slovakia: Parkan (NMPC). – **As *Lindenius parkanensis***: Leclercq, 1954c:198 (new generic assignment, in catalog of world Crabronini, original description translated into French); de Beaumont, 1956b:185 (may be a senior synonym of *Lindenius ponticus*); Móczár, 1958b:193 (known from Slovakia); R. Bohart and Menke, 1976:384 (in checklist of world Sphecidae); Pulawski, 1978:256 (in key to Sphecidae of European part of USSR); Józan, 1985b:59 (Hungary: recorded from Zamardi by Móczár, 1958), 84 (ecological and zoogeographic characteristics); Scobiola-Palade, 1985:98 (first record from Romania: delta of Danube); Józan, 1986:372 (Hungary: Kiskunság National Park); Dollfuss, 1987:22 (first record from Austria: Burgenland: Neusiedlersee Ost); Józan, 1989:101 (Hungary: Tihany Nature Reserve); Leclercq, 1989b:426, 432 (in key to Old World *Lindenius*), 438 (reference to Leclercq, 1954c); Pádr *in* Šedivy, 1989a:169 (in checklist of Czechoslovakian Sphecidae); Scobiola-Palade, 1989:88 (Romania: delta of Danube); Dollfuss, 1991:139 (in key to Sphecidae of North and Central Europe); Bitsch and Leclercq, 1993:213 (in revision of western European Crabroninae); Leclercq, 1993c:40 (in checklist of Crabronini of Europe and Mediterranean Basin); Dollfuss, 1994:103 (endangered in Austria); Dollfuss, Gusenleitner, and Bregant, 1998:520 (Austria: summary of collecting records from Burgenland); Gorobchishin, 1998a:49 (Ukraine: Kiev and surroundings); Esenbekova and Kazenas, 2000:48 (southeastern Kazakhstan: no specific locality); Józan, 2000:109 (Hungary: Bakony Mountains); Mokrousov, 2000a:24 (Russia: Nizhniy Novgorod Oblast': environs of Dzerzhynsk), 2000b:31 (Russia: Nizhniy Novgorod Oblast'); Józan, 2001:279 (Hungary: Somogy County); Kazenas, 2002a:96 (geographic distribution, collecting localities in Kazakhstan); Shlyakhtenok and Skibinska, 2002:34 (Belorussia: no specific locality); Józan, 2003:227 (Hungary: Látrányi Puszta Nature Conservation Area); Kazenas, 2004d:33 (Kazakhstan: Atyrau,); Majzlan and Deván, 2004:30 (Slovakia: Sekule), 32 (Slovakia: Malacky-Široké); Dollfuss, 2006:528 (locality records from Bulgaria, Kazakhstan, Romania, and Turkey); Gorobchishin, 2006:122 (Ukraine: Kanïv, Kyiv); Jacobs, 2007:122, 123 (in key to Crabronidae of Germany, not yet found in Germany); Kazenas, 2007a:92 (Kazakhstan: Akmala Oblast': Kurgandzhin Nature Reserve and vicinity); Vepřek and Straka, 2007:206 (in catalog of Sphecidae of Czech Republic and Slovakia, known from Slovakia only); Bitsch and Leclercq, 2009:225 (in supplement to vol. I of Faune de France, 1993: records by Dollfuss, 2006, reported); Baghirov, 2010:678 (Russia: Altai Territories: village Savvushka); Mokrousov, 2010a:62 (Russia: Nizhniy Novgorod Oblast': no specific localities), 2010b:100 (Russia: Nizhniy Novgorod Oblast': no specific localities); Rudoiskatel', 2010:155 (Russia: southern Ural Mountains); Shorenko and Konovalov, 2010:21 (Ukraine: Nikolayevsk Oblast': low course of river Tiligul; Odessa Oblast': village Marinovka); Baghirov, 2011b:147 (Russia: Altayskiy Kray: Savvushka); Józan, 2011:182 (in checklist of Sphecidae *sensu lato* of Hungary); Pankov, 2013:230 (Russia: Ivanovo Oblast'); Shlyakhtenok, 2013:186 (in annotated catalog of aculeate wasps of Belorussia); Yıldırım, Ljubomirov, and Lelej,

2014:15 (distribution in Turkey by biogeographic provinces); Koçak and Kemal, 2015:146 (in checklist of Hymenoptera of Turkey); Antropov, 2017b:235 (in catalog of Crabroninae of Russia); Olszewski, Twerd, and Kowalczyk, 2017:194 (first record from Poland: Inowrocław at 52°45'34"N 18°15'44"E and Rysiówka at 52°35'13"N 18°19'39"E); Bitsch and Leclercq *in* Bitsch, Antropov, Gayubo, Leclercq, Schmid-Egger, K. Schmidt, and Straka, 2021:141 (in revision of Sphecidae *sensu lato* of Europe); Kaplan and Yildirim, 2021:59 (in catalog of Crabronidae of Turkey); Olszewski, Wiśniowski, and Ljubomirov, 2021:93 (in commented list of Sphecidae *sensu lato* of Poland); Kaplan and Yildirim, 2023:1685 (in checklist of Sphecidae *sensu lato* of Turkey); Bertsch, Brunβen, Guericke, Hoffmann, Kratschmer, Maβell, Mehlhorn, Unglaub, Wörner, Wiesbauer, Zettel, Schmitt, and Niehuis, 2025:14 (Austria: Burgenland: several localities near Illmitz).

Lindenius ponticus de Beaumont, 1956b:171, ♀, ♂. Holotype: ♀, Russia: Sarepta, now Krasnoarmeysk (MNHN). Synonymized with *Lindenius parkanensis* by Balthasar, 1972:125 (*parkanensis* incorrectly regarded as junior synonym). – Móczár, 1958a:261 (in annotated catalog of Hungarian Crabronini), 1958b:192 (Hungary: list of collecting localities); Benedek, 1969a:85 (Hungary: hygrophilous meadow); Balthasar, 1972:125 (in Sphecid Fauna of Czechoslovakia); Leclercq, 1975a:212 (Romania); Kolesnikov, 1977:321 (Russia: Bryansk Oblast'); Benedek, 1979:236 (Hungary: Bakony Hills).

55. *peninsularis* (Kohl)

Crabro peninsularis Kohl, 1915:309, ♀, ♂. Syntypes: Spain: Algeciras (NHMW), Elche (OXUM), Escorial (MNCN). – de Andrade, 1949:23 (Portugal). – Giner Marí, 1943a:249 (in Sphecid Fauna of Spain); Vogrin, 1955:41 (Yugoslavia); Ceballos, 1956:395 (in catalog of Sphecidae of Spain), 1959:231 (in supplement to catalog of Sphecidae of Spain); Diniz, 1959:31 (Portugal: Estoril, Lisboa, Mata de Leiria, Quinta do Mato). – **As *Lindenius peninsularis***: Leclercq, 1950a:6 (new generic assignment; France: Allier: Vichy; Spain), 1954c:195 (in catalog of world Crabronini); de Beaumont, 1956b:173 (in revision of western Palearctic *Lindenius*); R. Bohart and Menke, 1976:384 (in checklist of world Sphecidae); Gayubo, 1982b:21 (Spain: Ávila, Cáceres, and Salamanca provinces), 1984b:94 (Spain: Salamanca Province); Leclercq, 1989b:426, 432 (in key to Old World *Lindenius*), 439 (Spain, but not France or Portugal), 1993c:40 (in checklist of Crabronini of Europe and Mediterranean Basin); Dollfuss, 2006:528 (Spain: 20 km north of Almería, 30 km east of Cartagena); Baños-Picón, Asís, Gayubo, and Tormos, 2009:313 (Spain: frequency of specimens collected with hand nets and Malaise traps); Bitsch and Leclercq, 2009:225 (in supplement to vol. I of Faune de France, 1993: omitted species, not occurring in France or Portugal; recent records from Spain reported; diagnostic characters); Bitsch and Leclercq *in* Bitsch, Antropov, Gayubo, Leclercq, Schmid-Egger, K. Schmidt, and Straka, 2021:141 (in revision of Sphecidae *sensu lato* of Europe); Cross, Baldock, and Wood, 2021:38 (in catalog of Sphecidae *sensu lato* of Portugal).

56. *prosopiformis* (Nurse)

Crabro prosopiformis Nurse, 1903b:17, ♀, ♂. Syntypes: Pakistan: Quetta, Peshin (BMNH). – Ramakrishna Aiyar, 1916:559 (in catalog of Indian aculeates described after Bingham, 1897). – **As *Lindenius prosopiformis***: Leclercq, 1950a:4 (new generic assignment), 1954c:197 (in catalog of world Crabronini); de Beaumont, 1956b:185 (is very similar to *Lindenius pygmaeus*), 1970a:403 (Afghanistan; diagnostic characters); R. Bohart and Menke, 1976:384 (in checklist of world Sphecidae); Leclercq, 1989b:425 (in key to Old World *Lindenius*), 439 (reference to de Beaumont, 1970a, Jordan), 1993c:40 (in checklist of Crabronini of Europe and Mediterranean Basin); Dunford, Turbyville, and Leavengood, 2014:9 (listed as medically important in Afghanistan).

57. *pygmaeus* (Rossi)

Crabro pygmaeus Rossi, 1794:124, sex not stated. Holotype or syntypes: Italy: Etruria, now Toscana: no specific locality (lost). Neotype: ♀, Italy: Grizzana near Bologna (Entomol. Inst. Univ. Bologna), designated by de Beaumont, 1956b:177. – Vander Linden, 1929:70 (redescription, Belgium: Bruxelles); F. Smith, 1856:412 (in catalog of Hymenoptera in British Museum); Schenck, 1867a:351 (Germany: Nassau Region); Kohl, 1880:133 (Austria: Tirol, now Italy: Trentino–Alto Adige), 218 (redescription), 1888b:722 (Austria: Tirol, now Italy: Alto

Adige), 1893a:21 (Austria: Niederösterreich); Dalla Torre, 1897:620 (in catalog of world Sphecidae); Mocsáry, 1897:83 (Kingdom of Hungary, some localities are in today's Slovakia); de Cobelli, 1903:118 (Italy: Trentino: Rovereto); Vángel, 1905:167 (Hungary); W. Schulz, 1906:206 (correction to Dalla Torre, 1897); Schmiedeknecht, 1907:201 (in key to Hymenoptera of Central Europe); Berland, 1925d:177 (in Sphecid Fauna of France); Grandi, 1928d:308 (nest and prey), 310 (description of egg and larva), 1930: 341 (Italy: Toscana: Maremma, determination tentative); Bondroit, 1932:41 (Belgium: Breda, Solbosch, Uccle); Bernard, 1936c:288 (France: Var: Fréjus); Móczár, 1938c:81 (Hungary: Kőszeg Hills), 1939:5 (Hungary: Jászberény); Cavro, 1950:38 (France: Département du Nord); Georgel, 1950:64 (France: Seine-et-Oise: Sucy-en-Brie); Pittioni, 1950:28 (Cyprus); Benno, 1958b:20 (in review of Dutch Sphecidae *sensu lato*); van der Zanden, 1958b:90 (France: Pyrénées-Orientales: Los Masos). – Nec following authors (= *Lindenius pygmaeus armatus*): Tischbein, 1852:141; Wesmael, 1852:591; von Heyden, 1905:82; Dubois, 1920:87, 1921b:163; Bondroit, 1933:32; Minkiewicz, 1933:98; Caruel, 1951:100; Ceballos, 1959:231 231 and 1964:95 (in supplement to catalog of Sphecidae of Spain); Noskiewicz and Puławski, 1960:157; Scobiola-Palade, 1967b:54; Tumšs and Maršakovs, 1970:31; Georghiou, 1977:190. – **As *Lindenius pygmaeus***: Lepeletier de Saint Fargeau and Brullé, 1835:797 (new generic assignment, in revision of Crabronini); Herrich-Schaeffer, 1840:294 (Germany: Bayern: Regensburg area); Dahlbom, 1844:305 (in revision of Sphecidae and Pompilidae), 1845:516 (in key to *Lindenius*); Lepeletier de Saint Fargeau, 1845:199 (in revision of world Hymenoptera); Ruthe and Stein, 1857:315 (Germany: Berlin area); nec Brischke, 1862:105 and 1888b:100 (= *Lindenius pygmaeus armatus*); A. Costa, 1867c:123 (in revision of Italian Sphecidae); Kirchner, 1867:224 (in catalog of European Hymenoptera); A. Costa, 1871b:52 (in revision of Italian Sphecidae); Dours, 1874:154 (in catalog of Hymenoptera of France); Laboulbène, 1875:180 (preying on *Pteromalus*, Pteromalidae); A. Costa, 1882b:23 (Italy: Sardegna); Marchal, 1893c:337 (preying on *Pteromalus*, Pteromalidae); Baldini, 1894:69 (Italy: Modena area); Acloque, 1897:91 (in Sphecid Fauna of France and Algeria); Adlerz, 1904:136 (known prey: *Pteromalus*, Pteromalidae); de Gaulle, 1908:122 (in catalog of French Hymenoptera); nec Šustera, 1909:34 (= *Lindenius pygmaeus armatus*); Graeffe, 1911:44 (Italy: Trieste area); nec Schirmer, 1912:164 (= *Lindenius pygmaeus armatus*); Dubois, 1919:96 (Belgium: Bruxelles: Uccle); Coulon, 1925:123 (Morocco: Tanger); Bernard, 1935:66 (France: Var: Fréjus area); Maneval, 1937:165 (list of prey including Hymenoptera and Diptera); nec Guiglia, 1944a:150 (= *Lindenius pygmaeus armatus*); Guiglia, 1944b:34 (Italy); Deleurance, 1946b:64 (prey: *Apanteles*, Braconidae), 67 (France: Bouche-du-Rhône: Camargue: Bois de Rièges), nec Leclercq, 1950a:4 and 1951e:2 (= *Lindenius pygmaeus armatus*); nec Bischoff and Stadler, 1954:127 (= *Lindenius pygmaeus armatus*); Leclercq, 1954c:197 (in catalog of world Crabronini), 302 (nest and prey records); nec Aerts, 1955:57 (= *Lindenius pygmaeus armatus*); de Beaumont, 1956b:177 (in revision of western Palearctic *Lindenius*); Bradley, 1957:45 (Lepeletier's specimens in M. Spinola collection, Torino); Nouvel and Ribaut, 1958:16 (France: Pyrénées-Orientales: Banyuls-sur-Mer area); de Beaumont, 1959a:43 (Italy); nec Grandi, 1961:238 and 526 (= *Lindenius pygmaeus armatus*); nec Babiy, 1964:117 (*Lindenius pygmaeus armatus*); nec Lefeber, 1966:209 (= *Lindenius pygmaeus armatus*); Benno, 1967:39 (in checklist of Sphecidae of Netherlands); nec Leclercq, 1967a:34 (= *Lindenius pygmaeus armatus*); Zangheri, 1969:1706 (Italy: in catalog of flora and fauna of Romagna Region); nec Lefeber, 1971a:18 (= *Lindenius pygmaeus armatus*); Simon Thomas, 1972:186 (France: Gironde, Landes); Kazenas, 1974b:110 (feeding on flowers of *Euphorbia* spp., Euphorbiaceae, in Kazakhstan), 111 (feeding on flowers of *Sonchus arvensis* L., Asteraceae, in Kazakhstan); Leclercq, 1974d:285 (synonymy); nec Lefeber and Petit, 1974:164 (= *Lindenius pygmaeus armatus*); nec Simon Thomas, 1974:57 (= *Lindenius pygmaeus armatus*); Miller and Kurczewski, 1975:88 (review of habits); R. Bohart and Menke, 1976:384 (in checklist of world Sphecidae); Casolari and Casolari Moreno, 1980:117 (specimens in M. Spinola collection, Torino); Pagliano, 1980:121 (Italy: Piemonte); Dollfuss and Ressl, 1981:322 (Austria: Niederösterreich: Scheibbs District); Steiner, 1986:106 (references to publications on nesting habits); Budrys, 1992:37 (in list of Sphecidae of Lithuania); Tischendorf, 1996:46 (Germany: Hessen: near Bensheim); F. Burger, Saure, and Oehlke, 1998:28 (Germany: in list of Sphecidae of Brandenburg); nec Lefeber, 1998:192 (= *Lindenius pygmaeus armatus*); nec van der Smissen, 1998:61 (= *Lindenius pygmaeus*

armatus); nec K. Weber, 1998:142 (= *Lindenius pygmaeus armatus*); nec Wickl, 1999a:105 (= *Lindenius pygmaeus armatus*); Esenbekova and Kazenas, 2000:48 (southeastern Kazakhstan: near Alma Ata, 6 km southwest of Alma Ata); Jacobs, 2000:8 (Germany: Land Mecklenburg-Vorpommern: not endangered); Kazenas and Esenbekova, 2001:135 (Kazakhstan: Almatinskiy Nature Reserve); Herrmann and Zinnert, 2002:25 (Germany: Baden-Württemberg: Bettenberg near Konstanz); Kazenas, 2002a:96 (geographic distribution, collecting localities in Kazakhstan); Ziska, 2002:8 (Germany: Berlin-Köpenick: Krumme Lake); Cölln, Esser, and Jakubzik, 2003:62 (Germany: northwestern Rheinland-Pfalz: excavation sites and quarries); Nieves-Aldrey, Fontal-Cazalla, Garrido-Torres, and Rey del Castillo, 2003:42 (Spain: Madrid: Estación Biogeólogica de El Ventorrillo in Sierra de Guadarrama); Schmid-Egger, 2003:754 (Italy: Sicilia: Castelammare); von der Heide and Metscher, 2003:102 (Germany: Niedersachsen: Emsland area); Gayubo et al. 2004:131 (Spain: Madrid: Estación Biogeólogica de El Ventorrillo in Sierra de Guadarrama); Kazenas, 2004b:107 (Kazakhstan: western Tien Shan), 2004d:33 (Kazakhstan: shores of Ural River 60 km north of Dossor); Gayubo and Özbek, 2005:28 (Turkey: Erzincan: Mutiköprüsü); Kraatz, 2005:103 (Germany: Niedersachsen: Bümmerstede near Oldenburg); Pijfers, 2005:50 (Netherlands: Twente: Noordelijke Manderheide); Dollfuss, 2006:528 (France, Kyrgyzstan, Morocco, Spain, Syria, Tunisia, Turkey); Theunert, 2008:46 (Germany: map of distribution in Niedersachsen and Bremen); Venne and Bleidorn, 2005:43 (Germany: Nordrhein-Westfalen: Moosheide Nature Reserve). – **As *Lindenius pygmaeus pygmaeus***: de Beaumont, 1956b:178 (in revision of western Palearctic *Lindenius*; Iberian Peninsula, southern France, Italy; Maghreb); Leclercq, 1960c:423 (locality records from Spain), 1971:227 (Spain); Erlandsson, 1974:86 (Italy); Leclercq, 1975a:212 (Tunisia, France), 1975b:2 (France); Gayubo, 1982b:21 (Spain: Ávila, Cáceres, and Salamanca provinces), 1982e:105 (Spain: Cádiz Province), 1984b:94 (Spain: Salamanca Province), 1984c:376 (Portugal: El Algarve Province), 1986a:63 (Spain: Ciudad Real Province), 1986d:117 (Spain: Zamora Province); Gayubo and Sanza, 1986:65 (Spain: Burgos, Segovia, Soria); Asís and Jiménez, 1987:27 (Spain: Castellón Province); Leclercq, 1989b:423, 425, 429, 431 (in key to Old World *Lindenius*), 439 (reference to de Beaumont, 1956b); Kuznetzova, 1990:23 (Russia: Voronezh Oblast': Galich'ya Gora Nature Reserve); Pagliano, 1990:93 (in catalog of Italian Sphecidae); Gayubo, Borsato, and Osella, 1991:406 (Italy: Toscana: San Vincenzo); Gayubo and Torres, 1991:Table I and p. 81 (Spain: Salamanca; effects of urban pressure); Kuhlmann et al., 1991:90 (Germany: Senne Region); Pagliano, 1991b:356, 357 (in key to Italian Crabroninae); Bitsch and Leclercq, 1993:213 (in revision of western European Crabroninae); Leclercq, 1993c:40 (in checklist of Crabronini of Europe and Mediterranean Basin; references to recent publications; collecting localities from Europe for *Lindenius pygmaeus pygmaeus*); Leclercq and Barbier, 1993:86 (map of distribution in France); Torregrosa, Gayubo, Tormos, and Asís, 1993:20 (Spain: Alicante Province); Negrisolo *in* Minelli, Ruffo, and La Posta, 1995b:7 (in catalog of Italian fauna); Pagliano and Pesarini, 1995:89 (Italy: Ferrara Province); Pawlikowski and Kruszyński, 1996:87 (Poland: Toruń Basin); Schmid-Egger, Schmidt, and Doczkal, 1996:377 (Germany: Baden-Württemberg: endangered); Celary, 1997:59 (in checklist of Animals of Poland); Gauss, 1997:27 (egg of miltogrammatid flies deposited on adult specimens); Schmidt and Schmid-Egger, 1997:17 (in checklist of German Sphecidae); Gonzáles, Gayubo, and Torres, 1998:74, 75 (Spain: Valladolid Province); Gayubo, García, Torres, and González, 1999:91 (Spain: Soria Province); Herrmann, 1999:7 (Germany: Niedersachsen: Oldenburg area; habitats size); Gayubo, González, and Torres, 2000:186 (Spain: Salamanca Province); Pijfers, 2000:4 (Netherlands: Twente Region); Schmid-Egger, 2000b:275 (Germany: Baden-Württemberg: shores of Rhine River); Kazenas, 2001b:186 (review of known biology); Ohl et al., 2001:139 (distribution in Germany by provinces); van der Smissen, 2001:61 (Germany: Schleswig-Holstein); Kowalczyk, Szczepko, and Świątek, 2002:154 (Poland: Kampinos National Park near Warszawa); Mandery, Kraus, Voith, Wickl, Scheuchl, Schubert, and Warncke, 2003:67 (Germany: in catalog of wasps and bees of Bayern); Wickl, Voith, Mandery, Weber, Kraus, Bausenwein, and Blösch, 2003:197 (Germany: Bayern: approaching endangered status); Esser, Jakubzik, Sonnenburg, and Woydak, 2004:262 (Germany: in checklist of Sphecidae of Nordrhein-Westfalen); Jakubzik, Niehuis, and Cölln, 2004:458 (Germany: Rheinland-Pfalz: Roβstein in Rhein valley at 50°06'42"N 7°43'87"E); Stolle et al., 2004:372 (Germany: Sachsen-Anhalt: in red list of Sphecidae); Skibińska *in*

Bogdanowicz, Chudzicka, Pilipiuk, and Skibińska, 2004:356 (in catalog of Polish Crabronidae); Wiśniowski, 2004:47 and 61 (in checklist of Polish Sphecidae); Burger, 2005:33 (Germany: Thüringen); Haeseler, 2005:629 (Germany: Niedersachsen: Steller Heide near Bremen); Mandery, 2005:174 (Germany: Bayern: Hainberg Nature Reserve near Nürnberg); Pagliano and Negrisolo, 2005:288, 289 (in Sphecid Fauna of Italy); Riemann and Hohmann, 2005:559 (Germany: Niedersachsen: city of Bremen and adjacent area); Saure, 2005:16 (Germany: Berlin); Theunert, 2005a:17 (Germany: in checklist of Sphecidae *sensu lato* of Niedersachsen and Bremen); Ziska and Saure, 2005:81 (Germany: Berlin: Biesenhorster Sand); Liebig, 2006:38 (Germany: Sachsen: Muskauer Heide); Magdalou, 2006a:7, 10 (France: Pyrénées-Orientales: Réserve Naturelle de la Massane); Standfuss and Standfuss, 2006b:98 (Greece: Thessalia: Magnisia Peninsula at 39°N 23°E); Archer, 2007e:79 (Great Britain: extinct or vagrant); Chevin, Livory, Lair, Sagot, and Baldock, 2007:38 (France: Département de la Manche); Cungs, Jakubzik, and Cölln, 2007:140 (Luxemburg: Haardt Nature Reserve); Herrmann, 2007b:95 (Germany: Baden-Württemberg: Fürstenberg in Konstanz); Jacobs, 2007:123, 125 (in key to Crabronidae of Germany); Jansen and Kaluza, 2007:24 (Germany: northwestern Sachsen); Józan, 2007:180 (Hungary: Zselic Hills); Saure, 2007:82 (Germany: in checklist of Aculeata of Land Brandenburg); G. Turrisi and R. Turrisi, 2007:120 (Italy: Sicilia: Mount Etna: Botanical Garden Nuova Gussonea and vicinity, as *pygmaeus pygmaeus*); Vago, 2007:175 (France: départements d'Aisne, Nord, and Pas-de-Calais); Venne, Bleidorn, and Lauterbach, 2007:301 (Germany: Nordrhein-Westfalen: Bielefeld); Wiśniowski, 2007:145 (Poland: Ojców National Park); Gayubo, González, Tormos, and Asís, 2008:137 (Spain: Salamanca: Parque Natural de Las Batuecas–Sierra de Francia); Kazenas, 2008b:114 (Kazakhstan: foothills of Zailiskiy Alatau: common on loess cliffs); Ljubomirov and Yildirim, 2008:294 (in catalog of Crabronidae of Turkey); Baños-Picón, Asís, Gayubo, and Tormos, 2009:313 (Spain: frequency of specimens collected with hand nets and Malaise traps); Debuyser and Vago, 2009:6 (in list of Sphecidae *sensu lato* of northern France); U. Frommer, 2009a:28 (Germany: in checklist of Sphecidae *sensu lato* of Hessen), 36 (Germany: Hessen: locality records); Gayubo, González, Tormos, and Asís, 2009:364 (Spain: Valladolid: Reserva Natural Riberas de Castronuño–Vega del Duero); González, Gayubo, Asís, and Tormos, 2009:624 (Spain: Salamanca and Zamora provinces: Arribes del Duero Natural Park); Mokrousov, 2009:286 (Russia: Republic Mari El); Szczepko and Wiśniowski, 2009:69 (Poland: Spała Landscape Park); van Diemen, 2009:49 (Netherlands: airbase Gilze-Rijen); Esser, Fuhrmann, and Venne, 2010:36 (Germany: in checklist of aculeates of Nordrhein-Westfalen); Hable, Krauss, von der Dunk, and Wickl, 2010:27 (Germany: Bayern: Sulz- and Ottmaringer Tal); Mokrousov, 2010a:62 (Russia: Kostroma and Nizhniy Novgorod oblast's, Mari El Republic, Tatarstan: no specific localities); J. Neumayer, 2010:334 (Austria: Niederösterreich: Thayatal National Park); Rudoiskatel', 2010:156 (Russia: southern Ural Mountains); Saure, 2010a:87 (Germany: Berlin-Reinickendorf: Baumberge), 2010b:175 (Germany: Berlin-Reinickendorf: airport Tempel and Flughafensee Protected Area); Schmid-Egger, 2010a:16 (in red list of Aculeata of Germany: relatively common); van der Smissen, 2010a:343 (Germany: Schleswig-Holstein and Mecklenburg-Vorpommern: locality records); Burger, 2011a:287 (Germany: in red list of Sphecidae *sensu lato* of Thüringen); Cruz-Sánchez, Asís, Gayubo, Tormos, and González, 2011:499 (Spain: Salamanca and Zamora provinces: Arribes del Duero Natural Park: effects of wildfire); Gogala, 2011:25 (Slovenia); Murai and Amr, 2011:119 (recorded from Syria by Dollfuss, 2006); Pagliano, 2011a:139 (specimens in M. Spinola collection, Torino); Saure, 2011a:6 (Germany: Berlin: former airport Tempelhof), 2011c:198 (Germany: Berlin-Spandau: Fort Hahneberg); Theunert, 2011a:20 (Germany: in checklist of aculeates of Niedersachsen including city of Bremen); Tischendorf, Frommer, Flügel et al., 2011:141 (Germany: Hessen: not endangered); Tripotin, 2011:23 (France: Seine-Maritime: artificial sand site near Sandouville); Ziska and Saure, 2011:109 (Germany: Berlin: Tegeler Fließ valley); Boillat, 2012:226 (Switzerland: in checklist of insects of Canton de Genève); Gerth, Mayer, Hering, Wolf, Schaffer, and Bleidorn, 2012:9 (Germany: Sachsen: Bienitz in Leipzig); Tripotin, 2012:23 (France: Seine-Maritime: estuary of Seine river); Braun-Reichert, 2013:14 (Germany: Bayern: pastures between Regensburg and Nürnberg); Flügel, 2013a:120 (Germany: Brandenburg: Pimpinellenberg near Oderberg); Mokrousov, Ruchin, and Egorov, 2013:201 (Russia: Mordovian Republic: Mordovian State Nature Reserve); A. Scholz and Liebig, 2013:20 (Germany: Sachsen: in list

of Sphecidae *sensu lato*); Vieira, Oliveira, Brewster, and Gayubo, 2013:17 (Portugal: Douro International Natural Park); Wiśniowski and Szczepko, 2013:37 (Poland: Kampinos National Park near Warszawa); Bitsch, 2014:402 (France: Ariège: Ax-les-Thermes, Bethmale, Rieucros); Dunford, Turbyville, and Leavengood, 2014:9 (listed as medically important in Afghanistan); U. Frommer, 2014:27 (Germany: Hessen: Lorch); Hellqvist, Abenius, and Norén, 2014:92 (in catalog of Ampulicidae, Sphecidae, and Crabronidae of Sweden, by provinces); Mokrousov and Vafin, 2014:57 (Russia: Republic of Tatarstan); Koçak and Kemal, 2015:146 (in checklist of Hymenoptera of Turkey); P. Rosa and Pagliano, 2015:102 (Italy: Lombardia and Piemonte: Parco del Ticino); Saure, 2015:14 (Germany: Berlin-Lichterfelde); Simon, Lorthiois, and Macé, 2015:54 (France: alluvial terraces in Eure Department: Courcelles-sur-Seine); Bleidorn, Gerth, Hopfe, et al., 2016:10 (Germany: Sachsen: Trages circa 20 km south of Leipzig); Else, Bolton, and Broad, 2016:27 (in checklist of Aculeata of Great Britain and Ireland: England); Mokrousov and Popov, 2016:578 (Russia: Abkhazia); Saure, 2016b:49 (Germany: Sachsen-Anhalt: fruit orchards), 1916c:205 (Germany: center of Berlin: Groβer Tiergarten Park); Stolle and Saure, 2016:923 (Germany: in list of Sphecidae *sensu lato* of Sachsen-Anhalt); Wiśniowski, 2016:129 (Poland: Ojców National Park); Antropov, 2017b:235 (in catalog of Crabroninae of Russia); Jahantigh, Rakhshani, Mokhtari, and Ramroodi, 2017:51 (Iran: known from Fars, Mazandaran, Qazvin, South Khorasan, and Tehran provinces); Jansen, 2017:8 (Germany: Sachsen: Leipzig); Magdalou, 2017:15 (France: Pyrénées-Orientales: Réserves Naturelles Catalanes: Forêt de la Massane); Twerd, Krzyżyński, Waldon-Rudzionek, and Olszewski, 2017:6 (Poland: Inowroclaw and Janikowo: nesting in postindustrial soda ash dumping sites); Kemal and Koçak, 2018:34 (Turkey: in list of pterygot insects of Van Province); Ben Khedher, Yildirim, Braham, and Chaaban, 2019:190 (known from Tunisia: Tozeur Province); Olszewski and Kowalczyk, 2019:101 (northern Poland: Pomorze Gdańskie = Gdańsk Pomerania); Ruchin and Antropov, 2019a:13232 (Russia: Mordovia State Nature Reserve); Ben Khedher, Yildirim, and Braham, 2020a:103 (Tunisia: Kebili Province: Janouara: Rass Elain at 33°42'02.3"N 08°59'26.4"E, as *Lindenius pygmaeus pygmaeus*); Saure, 2020:276 (Germany: Sachsen-Anhalt: sand dunes);Bitsch and Leclercq *in* Bitsch, Antropov, Gayubo, Leclercq, Schmid-Egger, K. Schmidt, and Straka, 2021:142 (in revision of Sphecidae *sensu lato* of Europe); Cross, Baldock, and Wood, 2021:38 (in catalog of Sphecidae *sensu lato* of Portugal, as *pygmaeus pygmaeus*); Kaplan and Yildirim, 2021:59 (in catalog of Crabronidae of Turkey, as *pygmaeus pygmaeus*); Olszewski, Wiśniowski, and Ljubomirov, 2021:93 (in commented list of Sphecidae *sensu lato* of Poland); Saure, 2021:82 (Germany: Brandenburg: Nature Reserve Ferbitzer Bruch near Potsdam); ; Kaplan and Yildirim, 2023:1685 (in checklist of Sphecidae *sensu lato* of Turkey, as *pygmaeus pygmaeus*).

ssp. *algirus* (Kohl)

Crabro algirus Kohl, 1892:202, ♀ (as *algira*, incorrect original termination). Holotype or syntypes: ♀, Algeria: El-Kantour Mountain (NHMW). – Dalla Torre, 1897:582 (in catalog of world Sphecidae, as *algirus*); Graeffe, 1906:455 (Tunisia: Tunis area, as *algira*); Kohl, 1915:299 (a variety of *Crabro armatus*). – **As *Crabro armatus* var. *algira***: Maidl, 1924:234 (new status, Egypt: Shellal near Aswan), 1924 – **As *Lindenius pygmaeus algirus***: de Beaumont, 1956b:179 (new status; redescription), 1957a:154 (Morocco); R. Bohart and Menke, 1976:384 (in checklist of world Sphecidae); Leclercq, 1989b:425 (in key to Old World *Lindenius*), 439 (references to recent publications, Algeria, Morocco, Tunisia: locality records); Leclercq, 1993c:40 (in checklist of Crabronini of Europe and Mediterranean Basin; Algeria: Oran: Misserghin); Roche, 2007a:140 (recorded from Egypt by Honoré,1942, but not occurring there); Ben Khedher, Yildirim, and Braham, 2020a:103 (Tunisia: several localities).

ssp. *armatus* (Vander Linden)

Crabro armatus Vander Linden, 1829:71, ♀, ♂. Syntypes: Belgium: Bruxelles (Inst. Roy. Sci. Nat. Belgique, Bruxelles). – Dahlbom, 1839:21 and 1839-40:21 (in revision of Scandinavian Crabronini); von Kiesenwetter, 1849:91 (Germany: Kingdom of Saxony: Oberlausitz area); F. Smith, 1856:409 (in catalog of Hymenoptera in British Museum); Schenck, 1861:158 (redescription, Germany: Halle and Herrstein); A. Morawitz, 1866a:270 and 1866b:346 (specimens in E. Eversmann collection); Schenck, 1867a:351 (known from Germany); Taschenberg,

1875:381 (Germany: Halle); Kohl, 1880:133 (Austria: Tirol, and Italy: Trentino–Alto Adige), 1883e:656 (Switzerland), 1893a:21 (Austria: Niederösterreich); Krieger, 1894:3 (Germany: Kingdom of Saxony); Mocsáry, 1897:83 (Hungary: Szőllőske in Zemplén County); Schmiedeknecht, 1907:201 (in key to Hymenoptera of Central Europe); Dittrich, 1911b:20 (Germany: Niederschlesien Province, now Poland: Dolny Śląsk Region); Alfken, 1914:275 (northwestern Germany); Kohl, 1915:297 (in revision of Palearctic Crabronini); O. Meyer, 1919:149 (Germany: Posen Province, now Poland: Poznań Region); Dubois, 1921b:163 (in key to Belgian Sphecidae), 166 (phenology, nesting habits); Maidl, 1922:75 (Albania, Croatia); Schütze, 1925:111 (Germany: Lausitz Region); Bouwman, 1926:279 (in list of Sphecidae of Netherlands); von Schulthess, 1926b:219 (Tunisia); Bouwman, 1930:105 (in revision of Sphecidae of Netherlands); Schmiedeknecht, 1930:660 (in keys to Hymenoptera of North and Central Europe); Bondroit, 1932:41 (Belgium: Uccle), 1933:33 (Belgium: Bruxelles); Gussakovskij, 1933b:285 (Iran); Minkiewicz, 1933:98 (nesting habits, list of prey); Bondroit, 1934:62 (Belgium: Uccle); Grandi, 1934:35 (Minkiewicz, 1933, was not aware of Grandi, 1928, list of prey for *Crabro pygmaeus*); E. Nielsen, 1933:273 (summary of nesting habits); Drogoszewski, 1936:129 (Poland: Opatów); Steck, 1935:326 (Switzerland); Crèvecoeur and Maréchal, 1936:257 (in catalog of Belgian Hymenoptera); Goebel, 1937:39 (Poland: Poznań District: Spławie); Zavadil, Šustera, and Bat'a, 1937:167 (in catalog of Sphecidae of Czechoslovakia); Móczár, 1938c:81 (Hungary: Kőszeg Hills); Teunissen, 1939:174 (Netherlands: Haaren); Paul, 1941:37 (Germany: Pommern: Stettin area, now Poland: Województwo Zachodniopomorskie: Szczecin area); Benno, 1943:68 (Netherlands); Deleurance, 1946b:67 (France: Bouche-du-Rhône: Camargue: Bois des Rièges); de Beaumont, 1947b:399 (Cyprus); Zavadil in Zavadil and Šnoflak, 1948:135, 136 (in key to Sphecidae of Czechoslovakia); Aerts, 1950a:50 (Germany: Nordrhein-Westfalen: Rheidter Wertchens near Köln); Pittioni, 1950:28 (Cyprus); de Beaumont, 1951h:35 (Switzerland: Neuchâtel area); Nouvel and Ribaut, 1953:181 (France: Haute-Garonne: Saint-Béat); de Beaumont, 1954e:97 (Italy); Scobiola, 1954:885 (first record from Romania: several localities); Steiner, 1955:140 (France: Dordogne); Vogrin, 1955:41 (Yugoslavia); Ceballos, 1956:392 (in catalog of Hymenoptera of Spain); Preuss, 1956:15 (Germany: Schleswig-Holstein: Mölln in Lauenburg); Zirngiebl, 1957:177 (Germany: Rheinland-Pfalz: Birkenheide); Benno, 1958b:20 (in review of Dutch Sphecidae); Niedl and Deneš, 1967:75 (Czech Republic: Třeboň area); Balthasar, 1972:127 (in Sphecid Fauna of Czechoslovakia). – **As *Lindenius armatus***: Lepeletier de Saint Fargeau and Brullé, 1835:793 (new generic assignment, in revision of Crabronini); Herrich-Schaeffer, 1840:294 (Germany: Bayern: Regensburg area); Dahlbom, 1844:299 (in revision of *Lindenius*), 1845:516 (in key to *Lindenius*); Wissmann, 1849:15 (Germany: Kingdom of Hannover: Münden); Tischbein, 1850:10 (Germany: Rheinland-Pfalz: Herrstein in Fürstenthum Birkenfeld); Wesmael, 1852:125 (Belgium); Ruthe and Stein, 1857:315 (Germany: Berlin area); Taschenberg, 1858:102 (in key to Sphecidae of Germany), 1866:181 (in revision of Hymenoptera of Germany); von Aichinger, 1870:315 (Austria: Tirol); Dours, 1874:154 (in catalog of Hymenoptera of France); Wierzejski, 1874:261 (Poland: Kraków; Ukraine: Podole Region: Mielnica, Sinków, Skała); Beuthin, 1876:230 (Germany: Hamburg area); Acloque, 1897:90 (in Sphecid Fauna of France and Algeria); Ferton, 1901a:114 (list of prey); N. Arnold, 1902:88 (Russia: Mohilev Province, now Belorussia); Adlerz, 1904:136 (known prey: Hymenoptera, e.g., *Apantheles*, Braconidae); de Gaulle, 1908:121 (in catalog of French Hymenoptera); A. Wagner, 1920:46 (Germany: Lower Elbe region); Zavadil, 1926:36 (Czechoslovakia); Baudot, 1931:255 (characteristics of cocoon); Minkiewicz, 1935:196 (Poland: Kazimierz on Wisła at 51°20'N 21°58'E); A. Wagner, 1938a:118 (northwestern Germany); Hoop, 1941b:70 (Germany: Schleswig-Holstein: Süderhastedt); Schneid, 1941:1032 (Germany: Bayern: Bamberg area); Yarrow and Guichard, 1941:7 (first record from Great Britain: Hampstead Heath), 10 (in key to British *Lindenius*); Bat'a, 1944a:25 (Czech Republic); Guichard and Yarrow, 1948:92 (Britain: London: Hampstead Heath); Bat'a, 1952:167 (Czech Republic); Grandi, 1954:244 (Italy); Bradley, 1957:45 (Lepeletier's specimens so named in M. Spinola collection, Turin); de Beaumont, 1957b:138 (northern Iran), 1960a:23 (Greece: Island of Rhodes); Hamann, 1960:196 (Austria: Oberösterreich: Mönchgraben at 48°13'N 14°21'E); de Beaumont, 1964c:153 (in Sphecid Fauna of Switzerland), 1967a:362 (Turkey; as full species); Gauss, 1967:559 (Germany: Baden-Württemberg); J. Heinrich, 1967:82 (Germany: Bayern:

Aschaffenburg); Benedek, 1968:77 (Hungary, floral records), 1969a:85 (Hungary; marshy meadow), 1969b:421 (Hungary: Csopak, collected in vicinity of aphid *Hyalopteritena* pruni (Geoffroy)); Schmidt, 1969:166 (Germany: Rhein-Main area: Mainzer Sand); Benedek, 1970:104 (Hungary: Tapolca); Oehlke, 1970:788 (Democratic Germany); Lefeber, 1971b:223 (Belgium: Bassenge, Gruitrode); Schmidt, 1971b:51 (Germany: Rheinland-Pfalz: Gonsenheimer Wald, Mainzer Sand); Stritt, 1971a:105 (Germany: Baden-Württemberg: Karlsruhe); Vegter, 1971:230 (Netherlands: Drenthe Province); Kofler, 1972:115 (Austria: eastern Tirol); R. Bohart and Menke, 1976:384 (in checklist of world Sphecidae); Georghiou, 1977:190 (Cyprus); Kolesnikov, 1977:320 (Russia: Bryansk Oblast'); Benedek, 1979:236 (Hungary: Bakony Hills); Casolari and Casolari Moreno, 1980:117 (specimens in M. Spinola collection, Torino); Woydak, 1981:45 (Germany: Westfalen: Hamm); Donath, 1982:215 (Germany: Cottbus Bezirk); Düweke, 1988:688 (Germany: Baden-Württemberg: Kaiserstuhl); Delarze, 1992:68 (Switzerland: Valais: Les Follatères); Minoranskiy and Shkuratov, 1996:82 (Russia: Rostov Oblast'); Pagliano, 2011a:138 (damaged specimen in M. Spinola collection, Torino, is probably *Lindenius pygmaeus armatus*). – **As *Crabro pygmaeus armatus***: Wengris, 1962:207 (Lithuania: Vilnius area); Marshakov, 1970:36 (new status, nesting behavior); Skibińska, 1981:358 (Poland: Warszawa-Białołęka), 1982:121, 124 (Poland: Mazovian Voivodship: Hamernia, Ursynów, Warszawa, Wola Mrokowska); Kowalczyk, 1988b:66 (Poland: environs of Łódź). – **As *Lindenius pygmaeus* form *armatus***: Dubois, 1919:96 (new status, Belgium: Bruxelles: Uccle). – **As *Lindenius pygmaeus armatus***: de Beaumont, 1956b:179 (new status, in revision of western Palearctic *Lindenius*); Móczár, 1958a:261 (in annotated catalog of Hungarian Crabronini), 1958b:192 (Hungary: list of collecting localities); Wolf, 1959b:32 (Germany: Nassau); Grandi, 1962:98 (Italy); de Beaumont, 1965a:61 (Greece); B. Klug, 1965:142 (Germany: Baden-Württemberg: Freiburg im Breisgau area); Scobiola-Palade, 1968c:387 (Romania: Bucureşti, Budeşti, Tigăneşti); Suárez, 1969:34 (Spain: Almería Province); de Beaumont, Bytinski-Salz and Pulawski, 1973:22 (Israel); Erlandsson, 1974:86 (Yugoslavia); Kofler, 1974:320 (Austria: Kärnten); Leclercq, 1975a:212 (Israel, Turkey, Belgium), 1975b:2 (France); Guichard, 1978:272 (Greece); Pulawski, 1978:257 (in key to Sphecidae of European part of USSR); Leclercq, Gaspar, and Verstraeten, 1979:map 1434 (Belgium); Pagliano, 1980:121 (Italy: Veneto); Richards, 1980:58 (in key to Sphecidae *sensu lato* of British Isles); Schmidt, 1980:330 (Germany: Baden-Württemberg); Dollfuss, 1983b:14 (in catalog of Sphecidae *sensu lato* of Austria); Lefeber, 1983a:85 (Netherlands: Waddendistrict: Island of Terschelling); Schmidt and Westrich, 1983:124 (Greece); Chevin and Silvestre de Sacy, 1984:8 (France: Yvelines Department); Haack, Tscharntke, and Vidal, 1984:129 (Germany: Hamburg area); Tsuneki, 1984e:59 (Ukraine: Borisovka); Józan, 1985b:59 (Hungary south of Lake Balaton), 79 (floral records), 84 (ecological and zoogeographic characteristics), 1986:372 (Hungary: Kiskunság National Park); Skibińska, 1986b:151, 154 (Poland: suburbs of Warszawa), 158 (rural and suburban parks), 160 (gardens), 165 (streetside green); Steiner, 1986:106 (references to publications on nesting habits); Riemann, 1987b:38 (Germany: Niedersachsen: Nature Reserve Voßberge); Schmidt and Westrich, 1987:374 (Germany: Mainz area); Dollfuss, 1988:15, 27 (Austria: Bisamberg near Vienna; Niederösterreich: Oberweiden); Riemann, 1988:223 (Germany: Bremen area); Jacobs, 1989:17 (Germany: Mecklenburg-Vorpommern); Józan, 1989:101 (Hungary: Tihany Nature Reserve); Leclercq, 1989b:425, 429 (in key to Old World *Lindenius*), 439 (references to recent publications, locality records from Russia: Daghestan, and Turkey); Pádr *in* Šedivy, 1989a:169 (in checklist of Czechoslovakian Sphecidae); Scobiola-Palade, 1989:88 (Romania: delta of Danube); Skibińska, 1989a:204 (Poland: Warszawa area), 163 (urban parks), 187 (green areas of housing estates), 174 (various green urban habitats); Jacobs and Oehlke, 1990:123 (population regress in Democratic Germany after 1960), 180 (new records from Democratic Germany); Kowalczyk, 1990:292 (Poland: Góry Świętokrzyskie); Pádr, 1990:83 (Czech Republic: Praha area); Rohe, 1990:1049 (Germany: Rheinland-Pfalz: Lenneberg forest); Schwammberger and Priesner, 1990:543 (Austria: Kärnten); Dollfuss, 1991:139 (in key to Sphecidae of North and Central Europe); Kowalczyk, 1991a:91, 94, 100, 102, 105, 107 (Poland: Łódź); Negrisolo, 1991:320 (Italy: Venezia Province); Pagliano, 1991b:356, 357 (in key to Italian Crabroninae); Sorg and Wolf, 1991:195 (Germany: Koppelstein Reserve southeast of Koblenz); Gusenleitner, 1992:685 (Austria: Steiermark); Józan, 1992b:174 (Hungary: Boronka-melléki Protected Area),

1992c:289 (Hungary: Zselic Hills); K. Weber, 1992:87 (Germany: Bayern: Bamberg District); Kuhlmann, 1993:75 (Germany: known from Westfalen); Leclercq, 1993c:40 (in checklist of Crabronini of Europe and Mediterranean Basin; collecting localities from Europe and Asiatic Turkey); Leclercq and Barbier, 1993:87 (map of distribution in France); Sorg and Wolf, 1993:60 (Germany: Rheinland-Westfalen: Nature Reserve Die Spey); Gayubo and Borsato, 1994:211 (Italy: Veneto); Kowalczyk, 1994:76 (Poland: Łagiewniki forest in Łódź); Pádr and Lukáš, 1994:893 (Slovakia: High Tatra Mountains); U. Peters, Sohmen, Stuke, and Prüter, 1994:66 (Germany: Schleswig-Holstein: gardens in Hof Möhr); Theunert, 1994c:42 (Germany: summary of records from Niedersachsen and Bremen); Jansen and Kaluza, 1995:7 (Germany: endangered in Sachsen); Józan, 1995:105 (Hungary: projected Duna-Dráva National Park); Negrisolo, 1995a:22 (Italy: Veneto); Negrisolo *in* Minelli, Ruffo, and La Posta, 1995b:7 (in catalog of Italian fauna); Scharrer, 1995:27 (Croatia: Island of Krk); Schmid-Egger, 1995:61 (Germany: northwestern Baden-Württemberg); Schmid-Egger, Risch, and Niehuis, 1995:193 (Germany: summary of records from Rheinland-Pfalz); Arens, 1996:441 (Germany: Bayern: Bayreuth area); Jakubzik, 1996:252 (Germany: Köln); Jakubzik and Cölln, 1996b:400 (Germany: Rheinland-Pfalz); Voblenko, Blösch, 1996:5 (Germany: Bayern: Tennenloher Forst Nature Reserve near Erlangen); Gorobchishin, and Nesterov, 1996:14 (Ukraine: Polesye Region); Witt, 1996:106 (Germany: Brandenburg), 109 (locality records); Woydak, 1996:52 (Germany: Westfalen: summary of distribution and nesting behavior); Dollfuss, Gusenleitner, and Bregant, 1998:520 (Austria: summary of collecting records from Burgenland); Drewes, 1998:49 (Germany: Niedersachsen: Goldbeck 26 km west-southwest of Hamburg); Flügel, 1998:60 (Germany: Brandenburg: Unteres Odertal National Park); Gorobchishin, 1998a:49 (Ukraine: Kiev and surroundings), 1998b:54 (Ukraine: Sumy Oblast': Vakalivshchina); Jakubzik, Schlüter, and Cölln, 1998:1181, 1183 (Germany: Rheinland-Pfalz); Józan, 1998:311 (Hungary: Duna-Dráva National Park); N. Schneider and Wahis, 1998:21 (Luxemburg: sandstone quarries); Kuhlmann, Wolf, and Woydak, 1999:569 (Germany: endangered in Nordrhein-Westfalen); Majzlan, Rychlík, and Deván, 1999:146 (Slovakia: Čenkovská Step Nature Reserve); Neumayer, Schwarz, and Bregant, 1999:224 (Austria: in checklist of Sphecidae of Land Kärnten); Pauly, 1999:110 (in catalog of Belgian aculeates); M. Schwarz, 1999:86 (Austria: Oberösterreich: city of Linz area); Zehnder and Zettel, 1999:131 (Switzerland: recolonization of flooded area in Valais Canton); Blösch, 2000:283 (in Sphecid Fauna of Germany); Dressler, 2000:32 (Germany: Hessen: Darmstadt area); Józan, 2000:109 (Hungary: Bakony Mountains); Mokrousov, 2000b:31 (Russia: Nizhniy Novgorod Oblast'); Haeseler, 2001:266 (Germany: Niedersachsen: Brookdeich near Oldenburg); Józan, 2001:279 (Hungary: Somogy County); Zettel, Gross, and Mazzucco, 2001:75 (Austria: Wien); Bieri, 2002:76 (Liechtenstein); Józan, 2002:53 (Hungary: Mecsek Mountains); Shlyakhtenok and Skibinska, 2002:34 (Belorussia: no specific locality); Drewes, 2003:139 (Germany: Baden-Württemberg: Kaiserstuhl); Tischendorf and Treiber, 2003:121 (Germany: Hessen: 15 km southwest of Frankfurt am Main: nesting under high power lines); Deván, 2004:147 (western Slovakia); Shkuratov, 2004a:80 (Russia: Rostov Oblast'), 2004b:168 (Russia: Rostov Oblast': Gosudarstvennyi Muzey-Zapovednik M.A. Sholokhova); Skibińska *in* Bogdanowicz, Chudzicka, Pilipiuk, and Skibińska, 2004:356 (in catalog of Polish Crabronidae); van Achterberg and Peeters, 2004:31 (in checklist of Sphecidae of Netherlands); Kofler, 2005:175 (Austria: Tirol: Lienz District: Gödnach in Dölsach Common); Pagliano and Negrisolo, 2005:289 (in Sphecid Fauna of Italy); Straka, 2005a:403 (vulnerable in Czech Republic); Dollfuss, 2006:529 (locality records from Bosnia, Bulgaria, Croatia, Jordan, Kazakhstan, Kyrgyzstan, Romania, Syria, Tajikistan, Turkmenistan, Ukraine, Uzbekistan); Gayubo, González, de la Nuez, Asís, and Tormos, 2006:206 (first record from Spain: Cantabria: Matienzo de Ruesga); Gorobchishin, 2006:122 (Ukraine: several localities); N. Burguet, 2007:unnumbered p. 20 (France: Puy-de-Dôme: sands Girauds-Faures in Orléat commune); Bitsch and Leclercq, 2009:226 (in supplement to vol. I of Faune de France, 1993: France: first record from Puy-de-Dôme: Mirefleurs); Donie, 2009:9 (Germany: Niedersachsen: Oldenburg); Guéorguiev and Ljubomirov, 2009:265 (Bulgaria: Maleshevska Planina); Burguet *in* Durand and Burguet, 2010:29 (France Département d'Ardèche: Ardèche Gorges); Shorenko and Konovalov, 2010:21 (Ukraine); Józan, 2011:182 (in checklist of Sphecidae *sensu lato* of Hungary); Murai and Amr, 2011:119 (recorded from Syria by Dollfuss, 2006); Burguet *in* Durand and Burguet, 2012:3 (France: Puy-de-Dôme: sands

Girauts-Faures in Orléat commune); Prisniy, 2012:49 (Russia: Belgorod Oblast'); Shlyakhtenok, 2012b:91 (Belorussia: Beresina National Reserve: overgrowing dry meadow); Strumia, Pagliano, and Gayubo, 2012:56 (Italy: Toscana: Riserva di San Rossore); Shlyakhtenok, 2013:186 (in annotated catalog of aculeate wasps of Belorussia); Zettel, Zimmermann, and Wiesbauer, 2013:12 (Austria: Wien: Donaupark); Flügel, 2014:254 (Brandenburg: Hangelsberger Heide); Yıldırım, Ljubomirov, and Lelej, 2014:15 (distribution in Turkey by biogeographic provinces); Atbaei, Fallahzadeh, and Ljubomirov, 2015:13 (Iran: Fars Province); Blažej, Macek, and Trýzna, 2016:122 (Czech Republic: České Švýcarsko = Bohemian Switzerland National Park); Le Divelec, Chapelin-Viscardi, and Larivière, 2016:109 (northern France: in agricultural landscapes); Sadeghi, Fallahzadeh, Ostovan, Ljubomirov, and Hesami, 2016:431 (Iran: Fars Province); Yildirim, Ljubomirov, Özbek, and Yüksel, 2016:49 (Turkey: Iğdır: Gaziler); Říha, 2017:175 (Czech Republic: Brno); Carminati, Mora, and Cretin, 2019:17 (France: in list of Sphecidae *sensu lato* of Franche-Comté); Sadeghi, Fallahzadeh, Ostovan, Ljubomiov, and Hesami, 2019a:265 (Iran: Fars: Siyakh); Kejval, Blažej, and Erhart, 2020:103 (western Czech Republic); Kaplan and Yildirim, 2021:59 (in catalog of Crabronidae of Turkey), 2023:1685 (in checklist of Sphecidae *sensu lato* of Turkey); Olszewski, Budrys, Orlovskytė, Wiśniowski, and Ljubomirov, 2023:2 (nesting habits).

Lindenius curtus Lepeletier de Saint Fargeau and Brullé, 1835:799, ♂. Holotype or syntypes: ♂, France: Versailles area (lost). Neotype: ♂, France: Mesnil-le-Roi (MNHN), designated by Leclercq, 1974d:286. Synonymized with *Crabro pygmaeus* by Dahlbom, 1845:516, and with *Lindenius pygmaeus armatus* by Leclercq, 1974d:286. – Dahlbom, 1844:306 (in revision of Sphecidae and Pompilidae; Germany: Moabit near Berlin); Lepeletier de Saint Fargeau, 1845:201 (in revision of world Hymenoptera); von Kiesenwetter, 1849:91 (Germany: Kingdom of Saxony: Oberlausitz area); Ruthe and Stein, 1857:315 (Germany: Berlin area); Schenck, 1857:130 (in revision of fossorial wasps of Germany); Kirchner, 1867:224 (in catalog of European Hymenoptera); Schenck, 1867a:351 (known from Germany); Acloque, 1897:91 (in Sphecid Fauna of France and Algeria).

Crabro kratochvili Šnoflak *in* Zavadil and Šnoflak, 1948:136, ♂ (as *Kratochvili*, incorrect original capitalization). Holotype: ♂, Czechoslovakia: Brno (NMPC). Synonymized with *Lindenius pygmaeus* by Leclercq, 1954c:197, with *Lindenius pygmaeus pygmaeus* by de Beaumont, 1956b:178, and with *Lindenius pygmaeus armatus* by Bohart and Menke, 1976:384 based on geographic distribution. – Leclercq, 1954c:197 (in catalog of world Crabronini, original description translated into French).

Crabro armatus × *Kratochvili* var. *mixta* Zavadil *in* Zavadil and Šnoflak, 1948:136, footnote, ♂. Syntypes: ♂, Czechoslovakia: Brno (NMPC). Not available: Article 1.3.3. Synonymized with *Lindenius pygmaeus pygmaeus* by de Beaumont, 1956b:178, and with *Lindenius pygmaeus armatus* by Bohart and Menke, 1976:384 based on geographic distribution.

As *Crabro pygmaeus* (present correction to *Lindenius pygmaeus armatus* based on geographic distribution): Vander Linden, 1829:70 (bibliographic references, redescription, Belgium: Bruxelles); Tischbein, 1852:141 (Germany); Wesmael, 1852:591 (Belgium); Sickmann, 1885:178 (Germany: Niedersachsen: Wellingholthausen), 1893:75 (Germany: Niedersachsen: Iburg); von Heyden, 1905:82 (Germany: Hessen: Frankfurt); Šustera, 1909:34 (Czech Republic: vicinity of Praha); Schirmer, 1912:164 (Germany: Berlin area); Dubois, 1920:87 (Belgium: Uccle), 1921b:1163 (in key to Belgian Sphecidae); Bondroit, 1933:32 (Belgium: Bruxelles); Minkiewicz, 1936:2 (male of ambulant watcher type); Caruel, 1951:100 (France: Marne Department); Noskiewicz and Puławski, 1960:157 (in key to Polish Sphecidae); Scobiola-Palade, 1967b:54 (Romania); Tumšs and Maršakovs, 1970:31 (Latvia); Georghiou, 1977:190 (Cyprus).

As *Lindenius pygmaeus* (present correction to *Lindenius pygmaeus armatus* based on geographic distribution): Schenck, 1860:146 (Germany: Nassau Region); Brischke, 1862:105 (Germany: Preussen Province, now Poland: Pomorze Region), 1888b:100 (Germany: Preussen Province, now Poland: Pomorze Region); Alfken, 1914:275 (northwestern Germany); Guiglia, 1944a:150 (Cyprus: Limassol); Leclercq, 1950a:4 (discussion of names *Lindenius armatus* and *L. pygmaeus*), 1951e:2 (bibliography of Belgian records); Bischoff and Stadler, 1954:127 (Germany: Bayern: Romberg); Aerts, 1955:57 (Germany: Rheinland); Grandi, 1961:238 (nesting behavior), 526 (description of larva);

Lefeber, 1966:209 (Netherlands: Bemelen); Leclercq, 1967a:34 (Great Britain: Dorset: Wimborne); Lefeber, 1971a:18 (Netherlands: Horn, Meinweg; Belgium: As, Bassenge); Lefeber and Petit, 1974:164 (Belgium: Plombières); Simon Thomas, 1974:57 (Netherlands: Limburg: Tienray); Lomholdt, 1976:351 (in Sphecid Fauna of Fennoscandia and Denmark); Lefeber, 1984:29 (Netherlands: Maastricht), 1998:182 (Netherlands: Limburg: Sint-Pietersberg near Maastricht at 50°50'N 5°41'E); van der Smissen, 1998:61 (Germany: Mecklenburg-Vorpommern, Niedersachsen, Schleswig-Holstein); K. Weber, 1998:142 (Germany: Bayern: Bamberg area); Wickl, 1999a:105 (Germany: Bayern: Oberpfalz area); Klein and Lefeber *in* Peeters, van Achterberg, et al., 2004:392 (in Wasp and Ant Fauna of Netherlands).

As *Lindenius subaeneus*: Simon Thomas, 1974:57 (Netherlands: Limburg: Tienray), corrected to *Lindenius pygmaeus armatus* in Errata.

ssp. *bamianus* Leclercq

Lindenius pygmaeus bamianus Leclercq, 1989b:439, ♀. Holotype: ♀, Afghanistan: Bamian: Band-e Amir (BMNH). – Leclercq, 1989b:425 (in key to Old World *Lindenius*).

58. *sardashti* Leclercq

Lindenius sardashti Leclercq, 1975a:207, ♂. Holotype: ♂, Iran: Azerbaijan: 32 km north-northwest of Sardasht (USNM). – Leclercq, 1989b:424, 428 (in key to Old World *Lindenius*), 440 (reference to Leclercq, 1975a), 1993d:40 (in checklist of Crabronini of Europe and Mediterranean Basin); Dollfuss, 2006:529 (Jordan, Syria, Turkey, diagnostic characters); Ljubomirov and Yildirim, 2008:294 (in catalog of Crabronidae of Turkey); Murai and Amr, 2011:119 (recorded from Syria by Dollfuss, 2006); Yıldırım, Ljubomirov, and Lelej, 2014:15 (distribution in Turkey by biogeographic provinces); Koçak and Kemal, 2015:146 (in checklist of Hymenoptera of Turkey); Jahantigh, Rakhshani, Mokhtari, and Ramroodi, 2017:50 (Iran: known from West Azerbaijan Province); Kaplan and Yildirim, 2021:59 (in catalog of Crabronidae of Turkey), 2023:1685 (in checklist of Sphecidae *sensu lato* of Turkey).

59. *satschouanus* (Kohl)

Crabro satschouanus Kohl, 1915:300, ♀ (as *sa-tschouanus*, incorrect original hyphenation). Lectotype: ♀, northwestern China: Sachou Oasis (NHMW), designated by Marshakov, 1975b:326. – **As *Lindenius satschouanus***: Leclercq, 1954c:198 (new generic assignment, in catalog of world Crabronini); de Beaumont, 1956b:184 (is probably a member of *pygmaeus* group), 1967a:361 (Turkey; redescription); Marshakov, 1975b:326 (Mongolia, Kazakhstan, Uzbekistan, redescription); R. Bohart and Menke, 1976:384 (in checklist of world Sphecidae); Dollfuss, 1989:10 (lectotype in NHMW); Leclercq, 1989b:426, 427 (in key to Old World *Lindenius*), 440 (references to recent publications, Afghanistan), 1993d:40 (in checklist of Crabronini of Europe and Mediterranean Basin); Nazarova, 1998:41 (Tajikistan: Tigrovaya Balka Nature Reserve); Esenbekova and Kazenas, 2000:48 (southeastern Kazakhstan; near Bakanas); Kazenas, 2002a:96 (geographic distribution, collecting localities in Kazakhstan); Dollfuss, 2006:527 (correction to Leclercq's key, 1989), 530 (Kazakhstan, Turkmenistan); Ljubomirov and Yildirim, 2008:295 (in catalog of Crabronidae of Turkey); Dunford, Turbyville, and Leavengood, 2014:9 (listed as medically important in Afghanistan); Yıldırım, Ljubomirov, and Lelej, 2014:15 (distribution in Turkey by biogeographic provinces); Koçak and Kemal, 2015:146 (in checklist of Hymenoptera of Turkey); Mokrousov, Shlyakhtenok, and Grebennikov, 2016:24 (first record from Russia: Kalmykia: 2 km east of Evdik at 47.34°N 45.24°E); Antropov, 2017b:235 (in catalog of Crabroninae of Russia); Kaplan and Yildirim, 2021:59 (in catalog of Crabronidae of Turkey), 2023:1685 (in checklist of Sphecidae *sensu lato* of Turkey); Medetov, Embergenov, Kholmatov, Elmurodova, Rakhimov, and Tajibaeva, 2024:425 (Uzbekistan: distribution).

Lindenius kaszabi Tsuneki, 1972a:152, ♂. Holotype: ♂, Mongolia: Bayanhongor Aymag: Ehingol oasis (TMB). Synonymized with *Lindenius satschouanus* by Marshakov, 1975b:326. – R. Bohart and Menke, 1976:384 (in checklist of world Sphecidae).

60. *sierrae* Leclercq

Lindenius sierrae Leclercq, 1989b:440, ♀, ♂. Holotype: ♀, Spain: Sierra Nevada: no specific locality (BMNH). – Leclercq, 1989b:424, 431, 432 (in key to Old World *Lindenius*); Bitsch and Leclercq *in* Bitsch, Antropov, Gayubo, Leclercq, Schmid-Egger, K. Schmidt, and Straka, 2021:142 (in revision of Sphecidae *sensu lato* of Europe).

61. *spilostomus* (Kohl)

Crabro spilostomus Kohl, 1899:311, ♀, ♂. Lectotype: ♂, Tunisia: Tunis (NHMW), designated by de Beaumont, 1956b:162. – Morice, 1911:134 (Algeria: Constantine); Kohl, 1915:303 (in revision of Palearctic Crabronini). – **As *Lindenius spilostomus***: Leclercq, 1950a:5 (new generic assignment, Tunisia), 1954c:195 (in catalog of world Crabronini); de Beaumont, 1956b:162 (in revision of western Palearctic *Lindenius*); R. Bohart and Menke, 1976:384 (in checklist of world Sphecidae); Dollfuss, 1989:10 (type material in NHMW); Leclercq, 1989b:422, 424, 431 (in key to Old World *Lindenius*), 440 (references to recent publications; Tunisia: Fretissa), 1993d:40 (in checklist of Crabronini of Europe and Mediterranean Basin; Algeria: Oran); Dollfuss, 2006:530 (Spain: Sevilla; Tunisia); Ben Khedher, Yildirim, and Braham, 2020a:103 (Tunisia: Le Kef, Mahdia, and Zaghouan provinces); Bitsch and Leclercq *in* Bitsch, Antropov, Gayubo, Leclercq, Schmid-Egger, K. Schmidt, and Straka, 2021:143 (in revision of Sphecidae *sensu lato* of Europe).

62. *subaeneus* Lepeletier de Saint Fargeau and Brullé

Lindenius subaeneus Lepeletier de Saint Fargeau and Brullé, 1835:798, ♀, ♂. Syntypes: France: Paris area (M. Spinola collection, Torino). – Dahlbom, 1844:305 (in revision of Sphecidae and Pompilidae), 1845:516 (in key to *Lindenius*); Lepeletier de Saint Fargeau, 1845:200 (in revision of world Hymenoptera); Belke, 1853:433 (Ukraine: Kamieniec Podolski); Schenck, 1861:159 (redescription, Germany: Danzig, now Poland: Gdańsk, obvious misidentification because of overall geographic distribution); Brischke, 1862:105 (Germany: Preussen Province, now Poland: Pomorze Region, obvious misidentification because of overall geographic distribution); Kirchner, 1867:224 (in catalog of European Hymenoptera); Schenck, 1867a:352 (known from Germany); Dours, 1874:154 (in catalog of Hymenoptera of France); Brischke, 1888b:100 (Germany: Preussen Province, now Poland: Pomorze Region; obvious misidentification because of overall geographic distribution); Acloque, 1897:91 (in Sphecid Fauna of France and Algeria); Dalla Torre, 1897:630 (in catalog of world Sphecidae); de Gaulle, 1908:122 (in catalog of French Hymenoptera); Graeffe, 1911:44 (Italy: Trieste area); Berland, 1925:178 (France); Móczár, 1939:5 (Hungary: Jászberény); Giner Marí, 1943a:248 (in Sphecid Fauna of Spain); Blüthgen, 1949:86 (first records from Germany); Leclercq, 1950a:5 (France, Switzerland: Genève area), 1954c:195 (in catalog of world Crabronini); de Beaumont, 1956b:167 (in revision of western Palearctic *Lindenius*); Bradley, 1957:45 (Lepeletier's specimens in Turin); Móczár, 1958b:192 (Hungary: list of collecting localities); de Beaumont, 1964c:193 (in Sphecid Fauna of Switzerland); Wolf, 1959b:32 (known from Germany, but not from Nassau); Gauss, 1967:559 (Germany: Baden-Württemberg: Kaiserstuhl, Vorbergzone); J. Heinrich, 1967:82 (Germany: Bayern: Marktheidenfeld); Scobiola-Palade, 1967a:162 (Romania: Constanţa District: Băneasa), 1967b:54 (Romania), 1968c:387 (Romania: Budeşti, Pantelimon, Turnu Măgurele); Zangheri, 1969:1707 (Italy: in catalog of flora and fauna of Romagna Region); Oehlke, 1970:789 (Democratic Germany); Scobiola-Palade, 1972b:255 (Romania); Leclercq, 1975a:212 (France); nec Simon Thomas, 1974:57 (= *Lindenius pygmaeus armatus*); Leclercq, 1975b:2 (France); R. Bohart and Menke, 1976:385 (in checklist of world Sphecidae); Pulawski, 1978:256 (in key to Sphecidae of European part of USSR); Preuss, 1979d:86 (Germany: first record from Rheinland-Pfalz: Dirmstein 6 km east of Grünstadt); Casolari and Casolari Moreno, 1980:117 (specimens in M. Spinola collection, Torino); Pagliano, 1980:121 (Italy: Piemonte); Preuss, 1980a:23 (Germany; nesting in loess cliffs); Schmidt, 1980:330 (Germany: Baden-Württemberg); Westrich and Schmidt, 1985b:111 (Germany: endangered in Baden-Württemberg); Dollfuss, 1983a:75 (Austria: endangered in Niederösterreich), 1983b:14 (in catalog of Sphecidae of Austria); Düweke, 1988:688 (Germany: Baden-Württemberg: Kaiserstuhl); Wolf, 1985a:6 (Germany: Frankfurt area); Steiner, 1986:106 (references to publications on nesting habits); Leclercq, 1989b:423, 424, 432 (in key to Old World *Lindenius*), 441 (references to

recent publications); Pádr *in* Šedivy, 1989a:169 (in checklist of Czechoslovakian Sphecidae); Jacobs and Oehlke, 1990:122 and 180 (not collected in Democratic Germany after 1960); Pagliano, 1990:93 (in catalog of Italian Sphecidae); Day, 1991:xvi (summary of European Endangered Hymenoptera Lists); Dollfuss, 1991:139 (in key to Sphecidae of North and Central Europe); Pagliano, 1991b:356, 357 (in key to Italian Crabroninae); Delarze, 1992:68 (Switzerland: Valais: Les Follatères); Bitsch and Leclercq, 1993:215 (in revision of western European Crabroninae); Leclercq, 1993c:41 (in checklist of Crabronini of Europe and Mediterranean Basin; references to recent publications); Leclercq and Barbier, 1993:88 (map of distribution in France); Wolf, 1993:14 (Germany: Bayern: Gersthofen); Dollfuss, 1994:98 (endangered in Austria); Pádr and Lukáš, 1994:894 (Slovakia: High Tatra Mountains); Schmid-Egger, 1994a:688 (Germany: Rheinland-Pfalz: Höllenberg near Grünstadt); Negrisolo *in* Minelli, Ruffo, and La Posta, 1995b:7 (in catalog of Italian fauna); Schmid-Egger, Risch, and Niehuis, 1995:193 (summary of records from Germany: Rheinland-Pfalz Province); Schmid-Egger, Schmidt, and D. Doczkal, 1996:374, 377 (Germany: strongly endangered in Baden-Württemberg); Schmidt and Schmid-Egger, 1997:17 (in checklist of German Sphecidae); Blösch, 2000:284 (in Sphecid Fauna of Germany); Esenbekova and Kazenas, 2000:48 (southeastern Kazakhstan: no specific locality); Basset, 2001:84 (France: Département de Gironde); Feitz, Schneider, and Pauly, 2001:131 (first record from Luxemburg: Bettembourg: Zillerei); Ohl et al., 2001:139 (distribution in Germany by provinces); Schmid-Egger, 2001:17 (France: Alsace: Bollenbergs); Wolf, 2001a:171 (Germany: Bayern: Lech valley from Augsburg to Donau); Zettel, Gross, and Mazzucco, 2001:75 (Austria: Wien, first Austrian record in 100 years); Kazenas, 2002a:96 (geographic distribution, collecting localities in Kazakhstan); Vischer, 2002:289 (Germany: Sachsen-Anhalt: vineyards in Saale-Unstrut area); Drewes, 2003:139 (Germany: Bayern: Karlstadt am Main); Mandery, Kraus, Voith, Wickl, Scheuchl, Schubert, and Warncke, 2003:67 (Germany: in catalog of wasps and bees of Bayern,); Wickl, Voith, Mandery, Weber, Kraus, Bausenwein, and Blösch, 2003:195 (Germany: Bayern: no longer endangered); Reder, 2004:29 (Germany: Hessen: Königstädten); Shkuratov, 2004a:80 (Russia: Rostov Oblast': village Dubovskoye); Skibińska *in* Bogdanowicz, Chudzicka, Pilipiuk, and Skibińska, 2004:356 (in catalog of Polish Crabronidae, occurrence in Poland questionable); Stolle et al., 2004:372 (Germany: Sachsen-Anhalt: in red list of Sphecidae); Wiśniowski, 2004:47 (in checklist of Polish Sphecidae: recorded from Poland by Brischke, 1888, most likely in error); Burger, 2005:33 (Germany: Thüringen); Pagliano and Negrisolo, 2005:290 (in Sphecid Fauna of Italy); Vago, 2005b:19 (France: Aisne: Chermizy-Ailles); Dollfuss, 2006:530 (locality records from France, Kazakhstan, and Turkey); Jacobs, 2007:123, 124 (in key to Crabronidae of Germany); Vepřek and Straka, 2007:206 (in catalog of Sphecidae of Czech Republic and Slovakia, known from Slovakia only); Danilov, 2008:348 (Russia: Altayskiy Kray: Barnaul area); Józan, 2008:812 (first record from Hungary: Szögliget: Ménes-völgy); Ljubomirov and Yildirim, 2008:295 (in catalog of Crabronidae of Turkey); U. Frommer, 2009a:36 (all records from Germany: Hessen are misidentifications); Bitsch and Leclercq, 2009:226 (in supplement to vol. I of Faune de France, 1993: France: Aisne: Chemizy-Ailles); Pagliano, 2009:182 (Italy: Lazio: Capena); Schmid-Egger, 2010a:16 (in red list of Aculeata of Germany: rare); Wurdack and Gack, 2010:153 (Germany: Baden-Württemberg: Kaiserstuhl); Baghirov, 2011b:147 (Russia: recorded from Altayskiy Kray by Danilov, 2008); Burger, 2011a:287 (Germany: in red list of Sphecidae *sensu lato* of Thüringen); Józan, 2011:182 (in checklist of Sphecidae *sensu lato* of Hungary); Pagliano, 2011a:138 (specimens in M. Spinola collection, Torino); Tischendorf, Frommer, Flügel et al., 2011:89 (Germany: Hessen: data insufficient to evaluate how endangeed); Boillat, 2012:226 (Switzerland: in checklist of insects of Canton de Genève); Pankov, 2013:230 (Russia: Ivanovo Oblast'); A. Scholz and Liebig, 2013:22 (Germany: Sachsen: in list of Sphecidae *sensu lato*); Koçak and Kemal, 2015:146 (in checklist of Hymenoptera of Turkey); Le Divelec, Chapelin-Viscardi, and Larivière, 2016:109 (northern France: in agricultural landscapes); Saure, 2016b:49 (Germany: Sachsen-Anhalt: fruit orchards); Stolle and Saure, 2016:923 (Germany: in list of Sphecidae *sensu lato* of Sachsen-Anhalt); Yildirim, Ljubomirov, Özbek, and Yüksel, 2016:49 (Turkey: Erzurum: Pasinler); Antropov, 2017b:235 (in catalog of Crabroninae of Russia); Kemal and Koçak, 2018:34 (Turkey: in list of pterygot insects of Van Province); Carminati, Mora, and Cretin, 2019:17 (France: in list of Sphecidae *sensu lato* of Franche-Comté); Akulov, Proshchalykin, and Mokrousov, 2020:47 (Russia: central

Krasnoyarsk Kray); Bitsch and Leclercq *in* Bitsch, Antropov, Gayubo, Leclercq, Schmid-Egger, K. Schmidt, and Straka, 2021:143 (in revision of Sphecidae *sensu lato* of Europe); Kaplan and Yildirim, 2021:59 (in catalog of Crabronidae of Turkey); Can and Saboori, 2023:81 (Turkey: parasitized by larvae of mite *Leptus rosellae* Haitlinger (Trombidiformes: Erythraeidae)); Kaplan and Yildirim, 2023:1685 (in checklist of Sphecidae *sensu lato* of Turkey). – **As *Crabro subaeneus***: F. Smith, 1856:413 (new generic assignment, in catalog of Hymenoptera in British Museum); Kohl, 1883e:656 (Switzerland), 1893a:21 (Austria: Niederösterreich); Mocsáry, 1897:83 (Kingdom of Hungary, some localities are in today's Croatia, Romania and Slovakia); Antiga and Bofill, 1904:22 (Spain: Cataluña Province); Kohl, 1915:303 (in revision of Palearctic Crabronini); Berland, 1925:178 (in Sphecid Fauna of France; North African specimens = *Lindenius hasdrubal*); Schmiedeknecht, 1930:659, 660 (in keys to Hymenoptera of North and Central Europe); Steck, 1935:326 (Switzerland); Zavadil, Šustera, and Bat'a, 1937:167 (in catalog of Sphecidae of Czechoslovakia); Zavadil *in* Zavadil and Šnoflak, 1948:134, 136 (in key to Sphecidae of Czechoslovakia); Leininger, 1951:115 (Germany: Baden-Württemberg: Neuenburg); Móczár, 1953:311 (Hungary); Ceballos, 1956:395 (in catalog of Sphecidae of Spain, as *subacneus*), 1959:231 and 1964:95 (in supplement to catalog of Sphecidae of Spain); Noskiewicz and Puławski, 1960:156 (in key to Polish Sphecidae, not yet found in Poland); Balthasar, M. Hrubant, and E. Hrubant, 1967:169 (Bulgaria: Slanchev Bryag near Nessebar); Balthasar, 1972:126 (in Sphecid Fauna of Czechoslovakia).

63. *tecuya* Pate

As *Lindenius columbianus*: Rohwer, 1917a:241 (California: Santa Barbara), corrected to *Lindenius tecuya* by Pate, 1947a:5.

Lindenius tecuya Pate, 1947a:4, ♀, ♂. Holotype: ♂, USA: California: Santa Barbara County: Solomon Canyon 12 mi. southwest of Santa Maria (ANSP). – Krombein *in* Muesebeck, Krombein, and Townes, 1951:1015 (in catalog of North American Hymenoptera); Leclercq, 1954c:199 (in catalog of world Crabronini); R. Bohart and Menke, 1976:385 (in checklist of world Sphecidae); Krombein, 1979b:1662 (in catalog of North American Hymenoptera); Rust, Menke, and Miller, 1985:47 (California: Channel Islands).

64. *tingriensis* Leclercq

Lindenius tingriensis Leclercq, 1989b:441, ♂. Holotype: ♂, Tibet: Tingri (BMNH). – Leclercq, 1989b:424, 429 (in key to Old World *Lindenius*); Hua, 2006:280 (in list of Chinese insects, geographic distribution).

65. *tylotis* Court and R. Bohart

Lindenius tylotis Court and R. Bohart, 1958:164, ♀, ♂. Holotype: ♂, USA: California: Yolo County: Davis (CAS). – Evans, 1959b:162 (description of larva); R. Bohart and Menke, 1976:385 (in checklist of world Sphecidae); Krombein, 1979b:1662 (in catalog of North American Hymenoptera).

sp.

Marchal, 1893b:LXVIII (preying on *Chlorops lineata* Fabricius, Chloropidae); Morice, 1911:135 (Algeria: Biskra); Blades and Maier, 1996:72 (Canada: British Columbia: Osoyoos–Mount Kobau area at 49°05'N 119°40'W); Kazenas, 2004b:107 (Kazakhstan: western Tien Shan); Dollfuss, 2006:530 (four species); Kazenas, 2007a:92 (Kazakhstan: Akmala Oblast': Kurgandzhin Nature Reserve and vicinity, two species); Ljubomirov and Yildirim, 2008:296 (in catalog of Crabronidae of Turkey); Ghazi-Soltani, Ebrahimi, Iranipour, and Pour Abad, 2010:800 (Iran: East Azerbaijan, two species); Pagliano, 2011a:137 (specimens in M. Spinola collection, Torino, are *Crossocerus* sp., *Ectemnius nigritarsus*, *Ectemnius* sp., and *Lestica clypeata*), 144 (*Crossocoerus podagricus* in M. Spinola collection, Torino, are *Lindenius* sp.); Vieira, Oliveira, Brewster, and Gayubo, 2013:17 (two species, Portugal: Douro International Natural Park); Jahantigh, Rakhshani, Mokhtari, and Ramroodi, 2017:50 (Iran: East Azerbaijan Province, two species).

NOMEN NUDUM IN *LINDENIUS*

Lindenius cayennensis: Casolari and Casolari Moreno, 1980:117 (specimen in M. Spinola collection, Torino); Pagliano, 2011a:139 (specimen in M. Spinola collection, Torino).

SPECIES DESCRIBED IN *LINDENIUS* AND TRANSFERRED TO OTHER GENERA

apicalis Lepeletier de Saint Fargeau and Brullé = *Entomognathus brevis* (Vander Linden, 1829)
argentatus Lepeletier de Saint Fargeau, 1834 = *Encopognathus*
gredleri Kohl, 1883 = *Ectemnius borealis* Zetterstedt, 1838
nasutus Gribodo, 1884 = *Entomognathus brevis* (Vander Linden, 1829)
paleomystax Bennet and Engel, 2006 = *Lindocerus* Antropov, 2016
robertsoni Rohwer, 1920 = *Enoplolindenius*
webonah Banks, 1921 = *Encopognathus*