

Last updated: 2 July 2010

## **ENTOMOGNATHUS**

*Entomognathus* Dahlbom, 1844:295. Type species: *Crabro brevis* Vander Linden, 1829, by monotypy.  
*Koxinga* Pate, 1944b:341. Type species: *Entomognathus siraiyae* Pate, 1944, by original designation and monotypy.  
*Mashona* Pate, 1944b:341. Type species: *Thyreopus apiformis* Arnold, 1926, by original designation and monotypy.  
*Toncahua* Pate, 1944b:341. Type species: *Entomognathus texanus* Cresson, 1887, by original designation and monotypy.  
*Florkinus* Leclercq, 1956b:2. Type species: *Florkinus evolutionis* Leclercq, 1956, by original designation and monotypy.

Reviews: R. Bohart, 1995 (New World species), Leclercq, 1997b (African and Asian species).

Keys: Li and He, 2000a (China).

Review of biology: Kazenas, 2001b:182.

### **1. *alaris* R. Bohart**

*Entomognathus alaris* R. Bohart, 1995:503, ♀, ♂. Holotype: ♀, USA: Arizona: Cochise County: Willcox (UCD). – R. Bohart, 1995:501 (in key to North American *Entomognathus*); Amarante, 2002:29 (in catalog of Neotropical Crabronidae).

### **2. *aneurytibialis* Li and He**

*Entomognathus aneurytibialis* Li and He, 2000a:55, ♂. Holotype: ♂, China: Yunnan Province: Xishuangbanna: Menga (Inst. Zool., Acad. Sinica).

### **3. *apache* R. Bohart**

*Entomognathus apache* R. Bohart, 1995:503, ♀, ♂. Holotype: ♀, USA: Arizona: Cochise County: 13 mi. SW Apache (AMNH). – R. Bohart, 1995:501 (in key to North American *Entomognathus*); Amarante, 2002:29 (in catalog of Neotropical Crabronidae).

### **4. *apiformis* (Arnold)**

*Thyreopus apiformis* Arnold, 1926:343, ♀. Holotype: ♀, Zimbabwe: Vumbu Mts. near Umtali (SAM). – Arnold, 1927:125 (description of ♂), 1930:13 (in checklist of Afrotropical Sphecidae). – **As *Entomognathus apiformis***: Leclercq, 1954c:201 (new combination, in catalog of world Crabronini), 1961b:68 (in key to *Entomognathus* of continental Africa); R. Bohart and Menke, 1976:382 (listed); Leclercq, 1997b:118 (in key to African and Asian *Entomognathus*), 120 (bibliographic references, faunal records, tentatively assigned to subgenus *Mashona*).

### **5. *arenivagus* Krombein**

? *Entomognathus* sp.: Brimley, 1938:450 (North Carolina: Bryson City), corrected to *Entomognathus arenivagus* by Krombein, 1963e:249.

*Entomognathus* n. sp.: Krombein and Evans, 1954:235 (Florida: Arcadia), corrected to *Entomognathus arenivagus* by Krombein, 1963e:249.

*Entomognathus arenivagus* Krombein, 1963e:249, ♂, ♀. Holotype: ♂, USA: Florida: DeSoto County: Arcadia (USNM). – R. Bohart and Menke, 1976:382 (listed); Ahlstrom, 1995:110 (in checklist of insects of North Carolina); Krombein, 1979b:1659 (in catalog of North American Hymenoptera); R. Bohart, 1995:501 (in key to North American *Entomognathus*).

### **6. *arizonae* R. Bohart**

*Entomognathus arizonae* R. Bohart, 1995:504, ♀, ♂. Holotype: ♀, USA: Arizona: Cochise County: 28 mi. N Douglas (UCD). – R. Bohart, 1995:501 (in key to North American *Entomognathus*).

### 7. *arnoldi* Bohart and Menke

*Crabro tridens* Arnold, 1945:165, ♀, junior primary homonym of *Crabro tridens* Fabricius, 1798, which is a junior synonym of *Oxybelus uniglumis* (Linnaeus, 1758). Syntypes: Madagascar: Bekily (MNHN). – **As *Entomognathus tridens***: Leclercq, 1954c:202 (new combination, in catalog of world Crabronini), 1961b:72 (Madagascar; description of ♂), 1997b:115 (in key to African and Asian *Entomognathus*), 120 (bibliographic references, faunal records, tentatively assigned to subgenus *Mashona*); Pulawski, 2003b:796 (in checklist of Malagasy Sphecidae).

*Entomognathus arnoldi* Bohart and Menke, 1976:382. Substitute name for *Crabro tridens* Arnold.

### 8. *bidentatus* (Arnold)

*Thyreopus bidentatus* Arnold, 1927:122, ♀. Holotype: ♀, South Africa: Cape Province: Aliwal North (BMNH). – Arnold, 1930:13 (in checklist of Afrotropical Sphecidae). – **As *Entomognathus bidentatus***: Leclercq, 1954c:201 (new combination, in catalog of world Crabronini), 1961b:66 (in key to *Entomognathus* of continental Africa); R. Bohart and Menke, 1976:382 (listed); Leclercq, 1997b:117, 118 (in key to African and Asian *Entomognathus*), 120 (bibliographic references, faunal records, additional description); Dollfuss, 2006:519 (South Africa: Eastern Cape Province: 7 km S Cradock; Western Cape Province: Ashton).

### 9. *birmanus* Leclercq

*Entomognathus birmanus* Leclercq, 1997b:121, ♂. Holotype: ♂, Burma: Shuvegu (ZMHU). – Leclercq, 1997b:116 (in key to African and Asian *Entomognathus*).

### 10. *brevis* (Vander Linden)

*Crabro brevis* Vander Linden, 1829:72, ♀, ♂. Syntypes: Belgium: Bruxelles and Italy: Bologna (Inst. Roy. Sci. Nat. Belgique, Bruxelles). – Shuckard, 1837a:175 (in revision of British Aculeata); von Siebold, 1839:51 (Germany: Danzig, now Poland: Gdańsk); Dahlbom, 1842a:13 (in review of Scandinavian aculeates); F. Smith, 1849b:2551 (preying on Alticinae), 1856:404 (in catalog of Hymenoptera in British Museum); A. Morawitz, 1866a:270 and 1866b:346 (specimens in Eversmann collection); Taschenberg, 1875:382 (Germany: Halle); Kohl, 1880:134 (Austria: Tirol, and Italy: Trentino–Alto Adige), 1883e:656 (Switzerland); Sickmann, 1883:75 (Germany: Niedersachsen: Wellingholthausen); 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); Gasperini, 1889:68 (Dalmatia: Spalato, now Croatia: Split); F. Morawitz, 1889a:160 (China: Gansu: Djoni Monastery); Kohl, 1893a:21 (Austria: Niederösterreich); F. Morawitz, 1893a:113 (Russia: Karelian Isthmus); Sickmann, 1893:75 (Germany: Niedersachsen: Iburg); Krieger, 1894:3 (Germany: Kingdom of Saxony); Meunier, 1896:270 (Belgium: Bruxelles area); Dalla Torre, 1897:585 (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 Boffill, 1904:22 (Spain: Cataluña Province); W. Schulz, 1904b:98 (Czechoslovakia, Hungary, Syria, Turkey); Kubes, 1905:84 (Czech Republic: Babice, Maria Sorg u Jáchymova); Mosolov, 1905:19 (Russia: Moscow Government: Mikhailovskoye); von Heyden, 1905:83 (Germany: Hessen: Frankfurt); Móczár and Henter, 1907:206 (Hungary: Tiszaalpár); Schmiedeknecht, 1907:201 (in key to Hymenoptera of Central Europe); de Gaulle, 1908:121 (in catalog of French Hymenoptera); Dittrich, 1911b:20 (Germany: Niederschlesien Province, now Poland: Dolny Śląsk Region); Birula, 1912:536 (Ukraine: Zhytomyr Oblast': Radomyshl'); Szilády, 1913:89 (Hungary: Budaörs, Gyulafehérvár, Gyilkos-tó, Nagyenyed, ); Alfken, 1914:275 (NW Germany); Benoist, 1915:241 (nesting habits, prey); Kohl, 1915:316 (in revision of Palearctic Crabronini); O. Meyer, 1919:149 (Germany: Posen Province, now Poland: Poznań Region); A. Wagner, 1920:46 (Germany: Lower Elbe region); Dubois, 1921b:164 (in key to Belgian Sphecidae), 166 (phenology, nesting habits); Hedicke, 1922:270 (Germany: Brandenburg: Gross Machnower Weinberg); Berland, 1925d:176 (in Sphecid Fauna of France); Bischoff, 1925:299 (Poland: Grajewo area); Grandi, 1925b:69 (nesting habits); Shestakov, 1925:36 (Russia: Yaroslavl' area); Friese, 1926:150 (in key to Sphecidae of Central Europe, short morphological and biological characteristics); Zavadil, 1926:36 (Czechoslovakia); Benoist, 1928:410 (France: Basses-Alpes: Barcelonnette; Bouwman, 1930:105 (in revision of Sphecidae of Netherlands);

Schmiedeknecht, 1930:660 (in keys to Hymenoptera of North and Central Europe); Bischoff, 1931:9 (Spain); Grandi, 1931:51 (nesting habits), 57 (Italy: Toscana: Vallata delle Pozze near Le Mandriole); Bondroit, 1932:42 (Belgium: common in Bruxelles area); Giordani Soika, 1932a:22 (Italy: lido di Venezia); Nadig, 1933:77 (Morocco: Meknes); E. Nielsen, 1933:273 (summary of nesting habits); Balles, 1934:17 (Germany: Baden-Württemberg: 12 localities); Jansson, 1934:289 (Sweden); Forsius *in* Forsius and Hellén, 1935:11 (in checklist of Hymenoptera of Finland); Grandi, 1935a:109 (Italy); Steck, 1935:326 (Switzerland); Vergne, 1935:119 (France: Auvergne: Billom); Crèvecoeur and Maréchal, 1936:257 (in catalog of Belgian Hymenoptera); Drogoszewski, 1936:129 (Poland: Łowicz, Opatów); Dulac, 1937:19 (France: Saône-et-Loire: Saint-Laurent d'Andenay); Goebel, 1937:39 (Poland: Poznań District: Poznań-Dębina, Sławie, Strzeszyn, Strzeszynek); Zavadil, Šusterka, and Baťa, 1937:168 (in catalog of Sphecidae of Czechoslovakia); Móczár, 1938c:81 (Hungary: Kőszeg Hills), 1939:5 (Hungary: Jászberény); Yasumatsu, 1939e:14 (China: Jilin Province: Changchun); Dovnar-Zapolskiy, 1940:303 (Russia: Kursk Oblast'); Guiglia, 1941c:167 (Italy: Calabria: Grande Sila); Leclercq, 1941b:16 (Belgium: Liège area); Benno, 1943:68 (Netherlands); Giner Mari, 1943a:249 (in Sphecidae Fauna of Spain); Guiglia, 1943b:72 (Albania: Kopluku), 1944b:33 (Italy); Carl and de Beaumont, 1947:69 (Switzerland: Graubünden = Grisons Canton: Swiss National Park); Móczár, 1947b:90 (Hungary: Siebenbürgen: Székelykeresztúr, now Romania: Transylvania: Cris-turu Secuiese); Tsuneki, 1947e:428 (Japan: Hokkaido); Balthasar, 1948:140 (Slovakia: Kovačovské Kopce, Parkan); Tsuneki, 1948c:8 (Japan: Hokkaido); Zavadil *in* Zavadil and Šnoflak, 1948:137 (in key to Sphecidae of Czechoslovakia); Ceballos, 1949:100 (Spain); de Andrade, 1949:22 (Portugal); Franz, 1949:13 (Austria: Hohe Tauern); Aerts, 1950a:50 (Germany: Nordrhein-Westfalen: Rheidter Wertchens near Köln), 1950b:23 (Germany: Rheinland-Pfalz: Lorelei); Cavro, 1950:37 (France: Département du Nord); de Beaumont, 1950f:412 (Algeria); Georgel, 1950:64 (France: Seine-et-Oise: Sucy-en-Brie); de Beaumont, 1951h:35 (Switzerland: Neuchâtel area); Fæster, 1951:458 (distribution in Scandinavia); Caruel, 1952b:101 (France: Marne Department); Móczár, 1953:311 (Hungary); Nouvel and Ribaut, 1953:181 (France: Hautes-Pyrénées: Cauterets, Orédon); de Beaumont, 1954e:98 (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: İzmit); Ceballos, 1956:392 (in catalog of Hymenoptera of Spain); 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); Pulawski, 1958a:188 (Bulgaria: Kniazhevo near Sofia, Kurilo); Diniz, 1959:31 (Portugal: Évora, Lisboa, Singeverga); Noskiewicz and Pulawski, 1960:157 (in key to Polish Sphecidae); Lehrer and Scutaru, 1963:285 (Romania: Moldova: Baia in Suceava District, Mircești and Surănești in Iași District); Ceballos, 1964:94 (in supplement to catalog of Spanish Sphecidae, as *bevis*); Bonelli, 1966c:220 (Italy: Trentino–Alto Adige: Vigo di Fassa); Miczulski, 1967:189 (Poland: Czechów, Felin, and Sławin near Lublin); Niedl and Deneš, 1967:75 (Czech Republic: Třeboň area); Scobiola-Palade, 1967b:54 (Romania); Tumšs and Maršakovs, 1970:31 (Latvia); Balthasar, 1972:131 (in Sphecidae Fauna of Czechoslovakia); Niedl and Deneš, 1972:151 (Czech Republic: Třeboň area); Józán, 1981:306 (Hungary: Hortobágy National Park); Skibińska, 1981:358 (Poland: Warszawa-Białoleka), 1982:124 (Poland: Warszawa area); Blagoveshchenskaya, 1994:90 (Russia: Ul'yanovsk Oblast'). – **As *Lindenius brevis***: Lepeletier de Saint Fargeau and Brullé, 1835:800 (new combination, in revision of Crabronini); Lepeletier de Saint Fargeau, 1845:202 (in revision of world Hymenoptera); A. Morawitz, 1864:458 (Russia: St.-Petersburg); Radoszkowski, 1876b:137 (Egypt, record not confirmed by subsequent authors); Acloque, 1897:90 (in Sphecidae Fauna of France and Algeria); Bradley, 1957:45 (Lepeletier's specimens in Turin); Casolari and Casolari Moreno, 1980:117 (specimens in M. Spinola collection). – **As *Entomognathus brevis***: Dahlbom, 1844:295 (new combination, in revision of Sphecidae and Pompilidae), 1845:515 (in key to *Entomognathus*); Wissmann, 1849:15 (Germany: Kingdom of Hannover: common); Tischbein, 1852:141 (Germany); 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); Schenck, 1857:108 (in revision of fossorial wasps of Nassau Region, Germany); Taschenberg, 1858:100 (in key to Sphecidae of Germany); Assmus,

1859:617 (Russia: Moscow Oblast'); 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:121 (in revision of Italian Sphecidae); Kirchner, 1867:224 (in catalog of European Hymenoptera); Schenck, 1867a:352 (Germany: Nassau Region); Dietrich, 1868:362 (Switzerland: Zurich Canton); Wierzejski, 1868:118 (Poland: Kraków area; Ukraine: Podole Region); Aichinger, 1870:315 (Austria: Tirol); Thomson, 1870:159 (in revision of Swedish Crabroninae); A. Costa, 1871b:50 (in revision of Italian Sphecidae); Dours, 1874:154 (in catalog of Hymenoptera of France); Thomson, 1874:260 (in revision of Hymenoptera of Scandinavia); Wierzejski, 1874:261 (Ukraine: Podole Region: Bucyki, Kalinowce, Skala, Warwaryńce); Beuthin, 1876:230 (Germany: Hamburg area); Siebke, 1880:68 (Norway); Marquet, 1881:185 (France: Haute-Garonne: Toulouse); A. Costa, 1883:58 (Italy: Sardegna: Tissi); Friese, 1883:201 (Germany: Sachsen-Anhalt: Kösen, Weissenfels); Wüstnei, 1886:37 (Germany: Schleswig-Holstein: Husum, Sonderburg); Brischke, 1888b:100 (Germany: Preussen Province, now Poland: Pomorze Region); Borries, 1897:48 (nesting habits); Strand, 1898b:95 (Norway); N. Arnold, 1902:88 (Russia: Mohilev Province, now Belarus'); Nevinson, 1902:12 (Great Britain: Cornwall: Newquay); E. Saunders, 1902b:144 (British Channel Islands: Jersey Island; France: Bretagne: St. Briac); Aurivillius, 1904:279 (in revision of Swedish Sphecidae); E. Saunders, 1904c:639 (Spain); Cavro, 1910:685 (France: Département du Nord: Roubaix); Graeffe, 1911:44 (Italy: Trieste area); Adlerz, 1912:58 (nesting habits); Schirmer, 1912:164 (Germany: Berlin area); Dubois, 1919:96 (Belgium: Bruxelles: Uccle); Łoziński, 1920:121 (Poland: Dąbrowa near Tarnów and Maków Podhalański); R. Perkins, 1924a:226 (Great Britain: Devon); Coulon, 1925:123 (France: Biel, Elbeuf, Oise; Morocco: Tanger); Hamm and Richards, 1926:320 (summary of nesting habits), 329 (list of prey); Hémon, 1926:199 (France: Finistère: Fouesnant); Maneval, 1928:30 (nest and prey); Baudot, 1931:255 (characteristics of cocoon); Minkiewicz, 1935:215 (Poland: Lake Garbaś 20 km W Suwałki); Spooner, 1931:15 (Great Britain: Cambridgeshire), 1933:203 (Great Britain: Bedfordshire: Sandy); Bernard, 1935:66 (France: Var: Fréjus area); Maneval, 1937:166 (nest structure, list of prey); A. Wagner, 1938a:118 (northwestern Germany); de Graham, 1941:99 (Great Britain: Lincolnshire); Schneid, 1941:1032 (Germany: Bayern: Bamberg area); J. Perkins, 1942:199 (Sweden: Skåne: Degabergera and Kivik); Richards, 1944b:134 (nest, halictine prey); T. Fletcher, 1945:54 (Great Britain: Gloucestershire: Cooper's Hill, Wotton); Chambers, 1949:231 (Great Britain: Bedfordshire); de Graham, 1950:349 (eggs of unknown insect deposited on thorax); Leclercq, 1950a:7 (miscellaneous collecting localities); Szulczewski, 1950:105 (Poland: Wielkopolski National Park 15 km S Poznań); Abrahamsen, 1951:119, 129 (nesting habits, preying on halictine *Chaetocnema*); Leclercq, 1951e:2 (bibliography of Belgian records); Bischoff and Stadler, 1954:127 (Germany: Bayern: Romberg); Grandi, 1954:244 (Italy); Leclercq, 1954c:200 (in catalog of world Crabronini), 303 (nest and prey records); Aerts, 1955:57 (Germany: Rheinland); Leclercq, 1956i:132 (Luxemburg); Evans, 1957b:103 (discussion of larval characters); Grandi, 1957:391 (Italy: Abruzzi); Yeo, 1957:20 (Great Britain: Middlesex, now in London); de Beaumont, 1958c:213 (Swiss National Park); Nouvel and Ribaut, 1958:16 (France: Pyrénées-Orientales: Banyuls-sur-Mer); de Beaumont, 1959a:44 (Italy); Grandi, 1959b:288 (Italy: Modena: Zocca); Wolf, 1959b:32 (Germany: Nassau); Leclercq, 1960c:423 (locality records from Spain); Tsuneki, 1960g:50 (nesting behavior); Grandi, 1961:240 (nesting behavior), 528 (larva); Hoop, 1961:64 (Germany: Schleswig-Holstein: Kronshagen); Valkeila, 1962b:68 (southwestern Finland); Felton, 1963:179 (Great Britain: Kent County); Babiý, 1964:117 (Austria: Land Salzburg); de Beaumont, 1964c:153 (in Sphecidae Fauna of Switzerland); B. Klug, 1965:144 (Germany: Baden-Württemberg: Freiburg im Breisgau area); Gauss, 1966c:240 (specimen bearing dipteran egg); 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: Bayern: Unterfranken District); Leclercq, 1967a:34 (locality records from Great Britain); Tsuneki, 1967e:2 (China: Manchuria), 17 (China: Harbin); Benedek, 1968:77 (Hungary, floral records); Haneda, 1968b:57 (Japan: Nagano Prefecture: Ina District); Leclercq, 1968b:39 (Great Britain: Kent); Okuno, 1968:31 (Japan); Parré, 1968:124 (Germany: Sachsen-Anhalt: Staßfurt); Scobiola-Palade, 1968c:387 (Romania: Bucureşti, Budeşti, Periş, Pipera); 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)); de Beaumont, 1969:94 (Turkey); Lefebvre, 1969a:79 (Netherlands: t'Rooth), 1969c:234 (Netherlands: St. Pietersberg = Montagne Saint Pierre); Romanova, 1969:135 (Russia: North Caucasus); Tsuneki and Tano, 1969:31 (distribution in Japan); Zangheri, 1969:1707 (Italy: in catalog of flora and fauna of Romagna Region); Benedek, 1970:104 (Hungary: Tapolca); Oehlke, 1970:789 (Democratic Germany); Petit, 1971:22 (Belgium: Luxemburg: Lipperscheid); Leclercq, 1971:222 (Spain); Schmidt, 1971b:52 (Germany: Mainz area), 1971c:76 (Germany: Schleswig-Holstein); Stritt, 1971a:105 (Germany: Baden-Württemberg: Karlsruhe); Vegter, 1971:230 (Netherlands: Drenthe Province); Haeseler, 1972:157, 200 (Germany: anthropogenic habitats of Schleswig-Holstein); Kazenas, 1972b:167 (Kazakhstan); Kofler, 1972:116 (Austria: eastern Tirol); R. Miller and Kurczewski, 1972:61 (in review of nesting habits of *Entomognathus*); Scobiola-Palade, 1972a:151 (Romania: delta of Danube: Caraorman); de Beaumont, Bytinski-Salz and Pulawski, 1973:22 (Israel); Tano, 1973a:50 (nesting habits); Kazenas, 1974b:110 (feeding on flowers of *Euphorbia* spp., Euphorbiaceae, and *Silaum besseri* L., Apiaceae, in Kazakhstan); Kofler, 1974:320 (Austria: Kärnten); Erlandsson, 1974:86 (Italy, Spain, Yugoslavia); Käpylä, 1974:64 (Finland: diurnal activity); Simon Thomas and Veenendaal, 1974b:4 (France: Landes: Escourse); Leclercq, 1975b:2 (France); Lefebvre, 1975b:120 (Netherlands: Schiepersberg); Lomholdt, 1975b:32 (Denmark: Anholt Island); R. Bohart and Menke, 1976:382 (listed); Lomholdt, 1976:344 (in Sphecidae Fauna of Fennoscandia and Denmark); Marshakov, 1976b:616 (in revision of *Entomognathus* of USSR); Tsuneki, 1976d:307 (China: Manchuria); Guichard, 1977:254 (Great Britain: Surrey); Kolesnikov, 1977:321 (Russia: Bryansk Oblast); Schmidt, 1977:99 (Germany: Schwarzwald); Schmidt, 1977-1978:58 (Germany); Guichard, 1978:272 (first record from Greece: Mt. Parnassus, Timfristos); Pulawski, 1978:254 (in key to Sphecidae of European part of former USSR); Schwammberger, 1978:421 (Germany: Württemberg); Benedek, 1979:236 (Hungary: Bakony Hills); Leclercq, Gaspar, and Verstraeten, 1979:carte 1432 (Belgium); Richards, 1979:399 (British Channel Islands); Schmidt, 1979a:56 (Germany: Ost-Holstein); Jacob-Remacle and Leclercq, 1980:192 (Belgium: gardens in Liège); Pagliano, 1980:120 (Italy: Piemonte); Petit, 1980:43 (Belgium: Ahrhütte, Gönnersdorf, Saeftinge; Luxemburg: Pintsch); Richards, 1980:59 (in key to Sphecidae of British Isles); Cooter, 1981:46 (Great Britain: Herefordshire); Dollfuss and Ressler, 1981:322 (Austria: Niederösterreich: Scheibbs District); Gayubo, 1982b:17 (Spain: Spain: Ávila, Cáceres, and Salamanca provinces), 1882e:103 (Spain: Cádiz Province); Leclercq, 1982a:125 (Belgium: Liège), 1982b:155 (China: Harbin); Dollfuss, 1983b:14 (in catalog of Sphecidae of Austria); Riemann, 1983:87 (Germany: Bremen-Daverden area); Schmidt and Westrich, 1983:124 (Greece); Chevin and Silvestre de Sacy, 1984:7 (France: Yvelines Department); Gayubo, 1984b:92 (Spain: Salamanca Province), 1984c:376 (Portugal: El Algarve Province); Jacob-Remacle, 1984:260 (Belgium: urban center of Liège); Lefebvre, 1984:29 (Netherlands: Maastricht); Nilsson, 1984:104 (Sweden: Västmanland Province); Schmidt and Westrich, 1984:241 (Germany: Rheinland-Pfalz: Bad Münster); Tsuneki, 1984e:59 (Ukraine: Borisovka; Mongolia: Urga, now Ulan Baator); Haeseler, 1985a:350 (Germany: Schleswig-Holstein); Józán, 1985b:58 (Hungary S Lake Balaton), 79 (floral records), 84 (ecological and zoogeographic characteristics); Lefebvre, 1985:87 (Netherlands: southern Limburg); Scobiola-Palade, 1985:98 (Romania: delta of Danube); Brechtel, 1986:72 (Germany: Südpfalz); Gayubo, 1986a:62 (Spain: Ciudad Real Province), 1986d:116 (Spain: Zamora Province), 1986f:1001 (prey: Halticinae); Gayubo and Heras, 1986:53 (Spain: Segovia Province); Gayubo and Sanza, 1986:63 (Spain: Burgos, Segovia); Islamov, 1986:532 (Uzbekistan: Tashkent Oblast); Jozán, 1986:371 (Hungary: Kiskunság National Park); Nemkov, 1986:100 (Russia: Irkutsk Oblast); Skibińska, 1986b:151, 154 (Poland: suburbs of Warszawa), 165 (streetside green), 187 (green areas of housing estates), 174 (various green urban habitats); Vikberg, 1986:77 (Finland); Schmidt and Westrich, 1987:375 (Germany: Mainz area); Dollfuss, 1988:14, 26 (Austria: Bismberg near Vienna; Niederösterreich: Oberweiden); Karsai, 1988:100 (Hungary: Kiskunság National Park); Riemann, 1988:223 (Germany: Bremen area); Wolf, 1988b:140 (Germany: Rheinland-Westfalen); Jacobs, 1989:17 (Germany: Mecklenburg-Vorpommern); Józán, 1989:101 (Hungary: Tihany Nature Reserve); Pádr *in* Šedivy, 1989a:169 (in checklist of Czechoslovakian Sphecidae); Pankevich, Belyavskaya, Molchanova, Shlyakhtenok, and

Blinov, 1989:97 (Belarus': Berezinskiy Nature Reserve); Skibińska, 1989a:204 (Poland: Warszawa area), 1989b:291 (Poland: moist meadow in Warszawa area); Weiffenbach, 1989:110 (Germany: Hessen: Gießen area); Archer, 1990c:17 (Great Britain: Leicestershire); Gayubo, Asis, and Tormos, 1990b:76 (Spain: Cáceres Province); Jacobs and Oehlke, 1990:179 (new records from Democratic Germany); Kowalczyk, 1990:292 (Poland: Góry Świętokrzyskie); Kuznetzova, 1990:22 (Russia: Voronezh Oblast': Galich'ya Gora Nature Reserve); Pádr, 1990:83 (Czech Republic: Praha area); Pagliano, 1990:91 (in catalog of Italian Sphecidae); Schwammberger and Priesner, 1990:543 (Austria: Kärnten); Gayubo, Borsato, and Osella, 1991:405 (Italy); Dollfuss, 1991:135 (in key to Sphecidae of North and Central Europe); Negrisolo, 1991:319 (Italy: Treviso and Udine Provinces); Nilsson, 1991:83 (Sweden: Lake Mälaren); Pagliano, 1991b:355 (in key to Italian Crabroninae); Sorg and Wolf, 1991:195 (Germany: Koppelstein Reserve SE Koblenz); Archer, 1992a:56 (Great Britain: Leicestershire); Delarze, 1992:67 (Switzerland: Valais: Les Follatères); Józán, 1992a:229 (Hungary: Béda-Karapanca Protected Area), 1992b:174 (Hungary: Boronka-melléki Protected Area), 1992c:289 (Hungary: Zselic Hills); Nemkov, 1992b:246 (Russia: Far East: Khingan Nature Reserve); Sorg and Cölln, 1992:132 (Germany: Rheinland-Pfalz: Gönnersdorf); K. Weber, 1992:87 (Germany: Bayern: Bamberg District); Wolf, 1992b:92 (Germany: Nordrhein-Westfalen: Olpe); Leclercq, 1993c:33 (collecting localities from Europe, Turkey, Iran, Kazakhstan, and Morocco); Bitsch and Leclercq, 1993:188 (in revision of western European Crabroninae); Kuhlmann, 1993:75 (Germany: known from Westfalen); Leclercq and Barbier, 1993:71 (map of distribution in France); Torregrosa, Gayubo, Tormos, and Asís, 1993:19 (Spain: Alicante Province); Kowalczyk, 1994:75 (Poland: Łagiewniki forest in Łódź); Pádr and Lukáš, 1994:893 (Slovakia: High Tatra Mountains); Schmid-Egger, 1994a:688 (Germany: Rheinland-Pfalz: Höllenberg near Grünstadt); Theunert, 1994c:41 (summary of records from Niedersachsen and Bremen, Germany); Archer, 1995a:23 (Great Britain: Yorkshire: frequency); Gorobchishin, 1995:18 (Ukraine: Kanev Nature Reserve); Józán, 1995:105 (Hungary: projected Duna-Dráva National Park); Negrisolo *in* Minelli, Ruffo, and La Posta, 1995b:7 (in catalog of Italian fauna); Nemkov *in* Nemkov, Kazenas, Budrys, et Antropov, 1995:425 (in key to Sphecidae of Russian Far East); Scharer, 1995:27 (Germany: Bayern: Karlstadt, Lohr, Mainfranken, Miltenberg); Schmid-Egger, Risch, and Niehuis, 1995:184 (summary of records from Germany: Rheinland-Pfalz Province); Skibińska, 1995:423, 425, 426, 427 (Poland: pine forest in Białowieża Primeval Forest); Wolf, 1995:16 (Germany: Rheinland-Pfalz: near Lorelei Rock on Rhein River); Arens, 1996:441 (Germany: Bayern: Bayreuth area); Gorobchishin, 1996:53 (Ukraine: Kanev Nature Reserve); Harvey and Plant, 1996:73 (Great Britain: summary of records from Essex); Jakubzik, 1996:252 (Germany: Köln); Jakubzik and Cölln, 1996b:399 (Germany: Rheinland-Pfalz); Minoranskiy and Shkuratov, 1996:82 (Russia: Rostov Oblast'); Schmid-Egger, Schmidt, and Doczkal, 1996:377 (Germany: Baden-Württemberg: endangered); Voblenko, Gorobchishin, and Nesterov, 1996:14 (Ukraine: Polesye Region); Woydak, 1996:50 (Germany: Westfalen: summary of distribution and nesting behavior); Wu and Zhou, 1996a:110 (in revision in Economic Insect Fauna of China); Archer, 1997a:49 (Great Britain: Yorkshire: Cave Wold); Gauss, 1997:27 (egg of miltogrammatid flies deposited on adult specimens); Leclercq, 1996d:261 (bibliographic references); Celary, 1997:59 (in checklist of Animals of Poland); Petit, 1997:351 (Belgium: Liège Province: Lanaye: colonization of new habitat); Schmidt and Schmid-Egger, 1997:14 (in checklist of German Sphecidae); Elligsen, 1998:70 (Ukraine: Sambir area); Dollfuss, Gusenleitner, and Bregant, 1998:520 (Austria: summary of collecting records from Burgenland); Drewes, 1998:49 (Germany: Niedersachsen: Goldbeck 26 km WSW Hamburg); Jakubzik, Schlüter, and Cölln, 1998:1181, 1183 (Germany: Rheinland-Pfalz); Lefeber, 1998:182 (Netherlands: Limburg: Sint-Pietersberg near Maastricht at 50°50'N 5°41'E); Salzman-Wandeler, 1998a:98 (Switzerland: Luzern Canton: Sempach); van der Smissen, 1998:60 (Germany: Mecklenburg-Vorpommern, Schleswig-Holstein); K. Weber, 1998:140 (Germany: Bayern: Bamberg area); Gayubo, García, Torres, and González, 1999:90 (Spain: Soria Province); Kuhlmann, Wolf, and Woydak, 1999:569 (endangered in Nordrhein-Westfalen State of Germany); Ljubomirov, 1999b:52 (Bulgaria: Mt. Vitosha near Sofia); Mandery, 1999:105 (Germany: Bayern: Coburg area); Neumayer, Schwarz, and Bregant, 1999:224 (Austria: in checklist of Sphecidae of Land Kärnten); Pauly, 1999:110 (in catalog of Belgian aculeates); Petit, 1999:113 (Netherlands: Nieuw-Namen); Salzman-Wandeler and Rez-

banyu-Reser, 1999:100 (Switzerland: Tessin: Monte Generoso); M. Schwarz, 1999:86 (Austria: Oberösterreich: city of Linz area); Blösch, 2000:275 (in Sphecid Fauna of Germany); Dressler, 2000:32 (Germany: Hessen: Darmstadt area); Gayubo, González, and Torres, 2000:186 (Spain: Salamanca Province); González, Gayubo, and Tormos, 2000:20 (Andorra: Santa Coloma); Jacobs, 2000:7, 17 (Germany: Land Mecklenburg-Vorpommern: not endangered); Kuhlmann, 2000:60, 64 (Germany: Hessen: Diemel River valley); Li and He, 2000a:55 (in key to *Entomognathus* of China); Ljubomirov, 2000:11 (Bulgaria, specimens in N. Nedelkov collection); M. Mader and Chalwatzis, 2000:60 (Germany: Hessen: Oderwald Mts.); Schmid-Egger, 2000b:275 (Germany: Baden-Württemberg: shores of Rhine River); Kazenas, 2001b:38 (in checklist of Sphecidae of Kazakhstan and Central Asia); Kazenas and Esenbekova, 2001:134 (Kazakhstan: Almatinskiy Nature Reserve); Ohl et al., 2001:139 (distribution in Germany by provinces); Salzmann-Wandeler and Rezbanyai-Reser, 2001:157 (Switzerland: Tessin Canton: Meride area); Skibińska, 2001:220 (Poland: Białowieża Primeval Forest); Tischendorf, 2001:30 (Germany: Hessen: Kühkopf-Knoblochsau Nature Reserve); Zettel, Gross, and Mazzucco, 2001:74 (Austria: Wien); Archer, 2002b:119 (Great Britain: Watsonian Yorkshire: distribution map); Archer and Edwards, 2002:102 (Great Britain: West Sussex: Ambersham and Iping commons); Beavis, 2002:109 (Great Britain: Kent: Tunbridge Wells area); Deván, 2002a:200 (Slovakia: Kobela Nature Reserve near Nové Mesto); Kazenas, 2002a:93 (geographic distribution, collecting localities in Kazakhstan); Kowalczyk, Szczepko, and Świątek, 2002:154 (Poland: Kampinos National Park near Warszawa); Shlyakhtenok and Skibinska, 2002:34 (Belarus: no specific locality); Wiśniowski, 2002:71 (Poland: Ojców National Park); Blösch, 2003b:82 (Germany: Bayern: Erlangen area, nesting in rotten willow poles); Cölln, Esser, and Jakubzik, 2003:62 (Germany: northwestern Rheinland-Pfalz: excavation sites and quarries); Drewes, 2003:138 (France, Germany, Hungary, Italy, Spain: miscellaneous locality records); Flügel, 2003:8 (Germany: Hessen: Knüllwald); González, Gayubo, Asís, Tormos, and García, 2003:61 (Spain: Soria: Chavalero); Mandery, Kraus, Voith, Wickl, Scheuchl, Schubert, and Warncke, 2003:66 (in catalog of wasps and bees of Bayern, Germany); Nieves-Aldrey, Fontal-Cazalla, Garrido-Torres, and Rey del Castillo, 2003:42 (Spain: Madrid: Estación Biogeológica de El Ventorrillo in Sierra de Guadarrama); Protsenko, 2003:68, 69 (Ukraine: Odessa Oblast: Malyi Tataru island in Danube delta at 45.21°N 29.00°E); Schmid-Egger, 2003:753 (Italy: Sicilia: six localities); Wiśniowski in Dylewska and Wiśniowski, 2003:156 (Poland: Ojców National Park); Esser, Jakubzik, Sonnenburg, and Woydak, 2004:262 (in checklist of Sphecidae of Nordrhein-Westfalen State of Germany); Gayubo et al. 2004:131 (Spain: Madrid: Estación Biogeológica de El Ventorrillo in Sierra de Guadarrama); Gayubo, Nieves-Aldrey, González, Tormos, Rey del Castillo, and Asís, 2004:108 (Spain: Madrid: Monte de El Pardo); Kazenas, 2004b:106 (Kazakhstan: western Tien Shan); Skibińska in Bogdanowicz, Chudzicka, Pilipiuk, and Skibińska, 2004:355 (in catalog of Polish Crabronidae); Stolle et al., 2004:371 (Germany: Sachsen-Anhalt: in red list of Sphecidae); van Achterberg and Peeters, 2004:31 (in checklist of Sphecidae of Netherlands); Wiśniowski, 2004:47 and 61 (in checklist of Polish Sphecidae); Cruz-Sánchez, Gayubo, González, and Torres, 2005:220 (Spain: Salamanca: San Martín del Castañar); Dubitzky, Blank, and Schönitzer, 2005:274 (Germany: Bayern: area north of Dachau); Gayubo and Özbek, 2005:27 (Turkey: Erzurum: Palandöken, Þenkaya, Olur); Gregory and Wright, 2005:140 (Great Britain: Shotover Hill 5 km E Oxford); Jacobs, 2005a:445 (Bulgaria: Melnik); Kofler, 2005:175 (Austria: Tirol: Lienz District: several localities); Mandery, 2005:174 (Germany: Bayern: Hainberg Nature Reserve near Nürnberg); Pagliano and Negrisoló, 2005:278 (in Sphecid Fauna of Italy); Riemann and Hohmann, 2005:558 (Germany: Niedersachsen: city of Bremen and adjacent area); Shorenko, 2005a:165 (Ukraine: Crimea); Theunert, 2005a:17 (Germany: in checklist of Sphecidae of Niedersachsen and Bremen); Wiśniowski, 2005a:312 (Poland: Ojców National Park; occurring in all non-forest biotopes); Archer, 2006a:21 (Great Britain: Lincolnshire: Rauceby Warren National Park); Blösch, 2006:58 (males spend nights in galleries in wood); Dollfuss, 2006:519 (Algeria, Bulgaria, Italy, Kazakhstan, Kyrgyzstan, Morocco, Romania, Serbia, Spain, Syria, Tajikistan, Turkmenistan); Feitz, Gloden, Melchior, and Schneider, 2006:82 (Luxemburg: Baggerweieren area in Haff Réimech Nature Reserve); Hua, 2006:280 (in list of Chinese insects, geographic distribution); Kroupa, 2006b:25 (Germany: Bayern: Oberfranken Region); Ljubomirov, 2006:540 (Bulgaria: Rhodopes Mountains: Mutenitsa River valley; Greece: re-

cord from Rhodope Mountains by Schmidt and Westrich, 1983, reported); Magdalou, 2006a:7, 10 (France: Pyrénées-Orientales: Réserve Naturelle de la Massane), 2006b:109 (France: Pyrénées-Orientales: Mas Larrieu Nature Reserve near Argelès-sur-Mer); Nemkov, 2006b:168 (Russia: Primorskiy Kray: Kedrovaya Pad' Nature Reserve); Vepřek, 2006:510 (Czech Republic: Kokořínsko area); Flügel, 2007:39 (Germany: Hessen: Halberg near Neumorschen); Jacobs, 2007:121 (in key to Crabronidae of Germany); Kazenas, 2007a:91 (Kazakhstan: Akmala Oblast': Kurgandzhin Nature Reserve and vicinity); Kowalczyk and Nadolski, 2007:283 (Poland: Łódź: railway areas); Saure, 2007:82 (in checklist of Aculeata of Brandenburg Land, Germany); Vepřek and Straka, 2007:206 (in catalog of Sphecidae of Czech Republic and Slovakia); Yildirim and Ljubomirov, 2007:120 (Turkey: Antalya and Konya provinces); Haneda, 2008:4 (in key to Japanese Crabroninae); Danilov, 2008:348 (Russia: Altayskiy Kray: Barnaul area); Gayubo, González, Tormos, and Asís, 2008:137 (Spain: Salamanca: Parque Natural de Las Batuecas – Sierra de Francia); Kazenas, 2008b:113 (Kazakhstan: foothills of Zailiyskiy Alatau: in the mountains, occurring on basis of loess cliffs); Ljubomirov and Ban-Calefariu, 2008:205 (Romania: Maramureş District: Bârsana, Ieud, Poienile de Sub Munte, Vişeu Valley); Ljubomirov and Yildirim, 2008:256 (in catalog of Crabronidae of Turkey); Nemkov, 2008b:21 (in catalog of Crabronidae of Asiatic Russia); Archer, 2009:24 (Great Britain: Yorkshire: Sheffield); U. Frommer, 2009a:27 (Germany: in checklist of Sphecidae of Hessen); Gayubo, González, Tormos, and Asís, 2009:364 (Spain: Valladolid: Reserva Natural Riberas de Castronuño – Vega del Duero); Guéorguiev and Ljubomirov, 2009:265 (Bulgaria: Maleshevska Planina); Nemkov, 2009b:93 (in new catalog of Sphecidae and Crabronidae of Asiatic Russia); Pagliano, 2009:182 (Italy: Molise: Campolieto); Schmid-Egger, 2010a:16 (in red list of Aculeata of Germany: relatively common).

*Lindenius apicalis* Lepeletier and Brullé, 1835:794, ♀, ♂ (authorship attributed to Ziegler). Syntypes: France: Paris area (Spinola collection, Torino). Synonymized with *Crabro brevis* by Kohl, 1915:316. – Herrich-Schaeffer, 1840:294 (Germany: Bayern: Regensburg area); Dahlbom, 1844:307 (in revision of Sphecidae and Pompilidae), 1845:517 (in key to *Entomognathus*); Lepeletier de Saint Fargeau, 1845:196 (in revision of world Hymenoptera); Schenck, 1861:161 (redescription, Germany: Danzig, now Poland: Gdańsk); Brischke, 1862:105 (Germany: Preussen Province, now Poland: Pomorze Region); A. Costa, 1867c:124 (in revision of Italian Sphecidae); Kirchner, 1867:224 (in catalog of European Hymenoptera); A. Costa, 1871b:53 (in revision of Italian Sphecidae); Dours, 1874:154 (in catalog of Hymenoptera of France); Brischke, 1888b:100 (Germany: Preussen Province, now Poland: Pomorze Region); Baldini, 1894:69 (Italy: Modena area); Acloque, 1897:90 (in Sphecid Fauna of France and Algeria); Dalla Torre, 1897:583 (in catalog of world Sphecidae); Antiga and Bofill, 1904:23 (Spain: Cataluña Province); de Gaulle, 1908:121 (in catalog of French Hymenoptera); Bradley, 1957:45 (Lepeletier's specimens in Turin); Casolari and Casolari Moreno, 1980:117 (specimens in M. Spinola collection). – **As *Crabro apicalis***: F. Smith, 1856:409 (new combination, in catalog of Hymenoptera in British Museum); Schenck, 1867a:352 (known from Germany).

*Lindenius nasutus* Gribodo, 1884d:276, ♀. Holotype: ♀, Italy: Casale (Genova). Tentatively synonymized with *Entomognathus brevis* by de Beaumont, 1956b:185, definitely synonymized by Pagliano, 1990:92. – Kohl, 1915:306 (original description copied); R. Bohart and Menke, 1976:384 (listed); Leclercq, 1989b:36 (certainly an *Entomognathus*). – **As *Crabro nasutus***: Dalla Torre, 1897:611 (new combination, in catalog of world Sphecidae).

### 11. *breviusculus* (Gussakovskij)

*Crabro brevisculus* Gussakovskij, 1952:267, ♀, ♂. Lectotype: ♀, Tajikistan: Stalinabad, now Dushanbe (ZIL), designated by Marshakov, 1976b:618. – **As *Entomognathus brevisculus***: R. Bohart and Menke, 1976:382 (listed); Marshakov, 1976b:618 (in revision of *Entomognathus* of USSR); Leclercq, 1996d:261 (bibliographic references); Kazenas, 2001b:38 (in checklist of Sphecidae of Kazakhstan and Central Asia); Dollfuss, 2006:520 (Tajikistan: Nurek; Uzbekistan: Samarkand).



**12. collarti Leclercq**

*Entomognathus collarti* Leclercq, 1961b:71, ♀. Holotype: ♀, Zaire: Stanleyville, now Kisangani (MRAC). – Leclercq, 1961b:67 (in key to *Entomognathus* of continental Africa); R. Bohart and Menke, 1976:382 (listed); Leclercq, 1997b:117 (in key to African and Asian *Entomognathus*), 121 (bibliographic references, faunal records, description of ♂).

**13. coloratus R. Bohart**

*Entomognathus coloratus* R. Bohart, 1995:505, ♀. Holotype: ♀, USA: Arizona: Cochise County: 1 mi. E Douglas (UCD). – R. Bohart, 1995:501 (in key to North American *Entomognathus*).

**14. corgus Marshakov**

*Entomognathus corgus* Marshakov, 1976b:617, ♀, ♂. Holotype: ♀, Turkmenistan: Firyuza (ZIN). – Leclercq, 1996d:262 (reference to origin).

**15. dentifer (Noskiewicz)**

*Crabro dentifer* Noskiewicz, 1929:197, ♀, ♂. Syntypes: originally Poland, now Ukraine: Nizhniov, Sinkov, Volkovtse, Zaleszczyki, all in Dnestr valley (originally DZIEDUSZYCKI MUS., LVIV, now WROCLAW UNIV.). – Noskiewicz, 1939:162 (first record from Czechoslovakia: Pouzdrány, specimens recorded as *Crabro brevis* by Zavadil, Šustera and Baťa, 1937:168); Zavadil in Zavadil and Šnoflak, 1948:137 (in key to Sphecidae of Czechoslovakia); Noskiewicz and Puławski, 1960:157 (in key to Polish Sphecidae, not yet found in Poland); Lehrer and Scutaru, 1963:284 (Romania: Moldova: Surănești in Iași District); Balthasar, Hrubant, and Hrubant, 1967:170 (Bulgaria: Slanchev Bryag near Nessebyr); Balthasar, 1972:132 (in Sphecid Fauna of Czechoslovakia). – **As *Entomognathus dentifer***: Leclercq, 1954c:202 (new combination, in catalog of world Crabronini), 1956g:326 (Greece, Sardinia); Balthasar, 1958:337 (Slovakia: Štúrovo); Pulawski, 1958a:187 (Bulgaria); de Beaumont, 1965a:61 (Greece), 1967a:362 (Turkey); Scobiola-Palade, 1967b:54 (Romania); Benedek, 1968:78 (Hungary, visiting flowers of *Anethum graveolans* L., *Angelica silvestris* L., *Pastinaca sativa* L., and *Peucedanum cervaria* L.), 1969a:85 (Hungary: marshy meadow), 1970:104 (Hungary: Tapolca); Leclercq, 1960c:424 (Italy: Firenze), 1974d:285 (synonymy), 1975b:2 (France); R. Bohart and Menke, 1976:382 (listed); Marshakov, 1976b:616 (in revision of *Entomognathus* of USSR); Guichard, 1978:272 (Greece); Pulawski, 1978:254 (in key to Sphecidae of European part of former USSR); Benedek, 1979:236 (Hungary: Bakony Hills); Gayubo, 1882e:104 (Spain: Cádiz Province); Dollfuss, 1983a:75 (endangered in Niederösterreich, Austria), 77 (endangered in Burgenland, Austria), 1983b:14 (in catalog of Sphecidae of Austria); Józán, 1985b:58 (Hungary S Lake Balaton: Magyaregres area), 79 (floral records), 84 (ecological and zoogeographic characteristics), 1986:372 (Hungary: Kiskunság National Park); Pádr in Šedivy, 1989a:169 (in checklist of Czechoslovakian Sphecidae); Pankevich, Belyavskaya, Molchanova, Shlyakhtenok, and Blinov, 1989:97 (Belarus: Berezinskiy Nature Reserve); Day, 1991:xv (summary of European Endangered Hymenoptera Lists); Dollfuss, 1991:135 (in key to Sphecidae of North and Central Europe); Gayubo, Borsato, and Osella, 1991:405 (Italy: Piemonte: Perosa Argentina); Leclercq, 1993c:33 (collecting localities from Cyprus, Czechoslovakia, Greece, and Yugoslavia); Bitsch and Leclercq, 1993:190 (in revision of western European Crabroninae); Leclercq and Barbier, 1993:72 (map of distribution in France); Negrisoló in Minelli, Ruffo, and La Posta, 1995b:7 (in catalog of Italian fauna); Leclercq, 1996d:262 (previous records from Cyprus are due to misidentification); Minoranskiy and Shkuratov, 1996:82 (Russia: Rostov Oblast'); Dollfuss, Gusenleitner, and Bregant, 1998:520 (Austria: summary of collecting records from Burgenland); Shkuratov, 2000:59 (Russia: Rostov Oblast': Vëshenskaya village area at 49°37'N 41°45'E); Dollfuss, 2006:520 (Morocco: 10 km S Rich; Ukraine: Crimea: Simferopol; Uzbekistan: Aktash 70 km NE Tashkent); Pagliano and Negrisoló, 2005:278 (in Sphecid Fauna of Italy); Jacobs, 2007:121 (in key to Crabronidae of Germany, not yet found in Germany); Vepřek and Straka, 2007:206 (in catalog of Sphecidae of Czech Republic and Slovakia); Ljubomirov and Yildirim, 2008:256 (in catalog of Crabronidae of Turkey); Bitsch and Leclercq, 2009:225 (in supplement to vol. I of Faune de France, 1993: record from Cyprus is based on misidentified *Entomognathus libanonis*; France: first record from Vaucluse: Apt).

*Entomognathus permixtus* Nouvel et Ribaut, 1956:263, ♀, ♂. Syntypes: France: Toulouse, also Fenouillet and Grépiac near Toulouse (depository not indicated). Synonymized with *Entomognathus dentifer* by Móczár, 1958:262.

### 16. *dinocerus* R. Bohart

*Entomognathus dinocerus* R. Bohart, 1995:507, ♀. Holotype: ♀, Mexico: Morelos: Alpuyecá (UCD). – R. Bohart, 1995:501 (in key to North American *Entomognathus*).

### 17. *diversicornis* (Arnold)

*Crabro diversicornis* Arnold, 1945:168, ♂, ♀. Syntypes: Madagascar: Bekily (MNHN). – **As *Entomognathus diversicornis***: Leclercq, 1954c:202 (new combination, in catalog of world Crabronini); R. Bohart and Menke, 1976:382 (listed); Leclercq, 1997b:118 (in key to African and Asian *Entomognathus*), 121 (bibliographic references, correction to original description); Pulawski, 2003b:796 (in checklist of Malagasy Sphecidae).

### 18. *euryops* (Kohl)

*Crabro euryops* Kohl, 1899:312, ♂. Holotype or syntypes: ♂, Tunisia: no specific locality (NHMW). – Graeffe, 1906:455 (Tunisia: Tunis area); Kohl, 1915:315 (in revision of Palearctic Crabronini). – **As *Entomognathus euryops***: Leclercq, 1954c:200 (new combination, in catalog of world Crabronini); R. Bohart and Menke, 1976:382 (listed); Dollfuss, 1989:9 (type material in NHMW); Leclercq, 1993c:33 (in list of Crabroninae of Europe and Mediterranean Basin), 1996d:262 (diagnostic characters); Dollfuss, 2006:520 (Tunisia: 10 km N Jendouba, variation).

### 19. *evolutionis* (Leclercq)

*Encopognathus evolutionis* Leclercq, 1956b:8, ♂. Holotype: ♂, Mexico: Guanajuato: no specific locality (Inst. Roy. Sci. Nat. Belgique). – **As *Entomognathus evolutionis***: Leclercq in Bohart and Menke, 1976:382 (new combination, listed); R. Bohart, 1995:501 (in key to North American *Entomognathus*); Amarante, 2002:29 (in catalog of Neotropical Crabronidae); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:663 (in checklist of Mexican Sphecidae).

### 20. *faunus* (Arnold)

*Crabro faunus* Arnold, 1945:166, ♀. Syntypes: Madagascar: Bekily (MNHN). – **As *Entomognathus faunus***: Leclercq, 1954c:202 (new combination, in catalog of world Crabronini); R. Bohart and Menke, 1976:382 (listed); Leclercq, 1997b:115 (in key to African and Asian *Entomognathus*); Pulawski, 2003b:796 (in checklist of Malagasy Sphecidae).

### 21. *fortuitus* (Kohl)

*Crabro fortuitus* Kohl, 1915:314, ♀. Holotype: ♀, Spain: no specific locality (NHMW). – Giner Marí, 1943a:250 (in Sphecid Fauna of Spain); Ceballos, 1956:393 (in catalog of Hymenoptera of Spain), 1959:230 (in supplement to catalog of Spanish Sphecidae); Ceballos, 1964:94 (in supplement to catalog of Spanish Sphecidae). – **As *Entomognathus fortuitus***: Leclercq, 1954c:200 (new combination, in catalog of world Crabronini), 1960c:424 (Spain, diagnostic characters, description of ♂), 1971:222 (Spain); R. Bohart and Menke, 1976:382 (listed); Gayubo, 1984b:93 (Spain: Salamanca Province); Gayubo, 1986a:62 (Spain: Ciudad Real Province); Gayubo and Sanza, 1986:63 (Spain: Burgos); Bitsch and Leclercq, 1993:191 (in revision of western European Crabroninae); Leclercq, 1993c:33 (collecting localities from Spain); Leclercq and Barbier, 1993:73 (map of distribution); Leclercq, 1996d:262 (absence of epicnemial carina is unusual for the genus); Gayubo, García, Torres, and González, 1999:90 (Spain: Soria Province); Gayubo, Nieves-Aldrey, González, Tormos, Rey del Castillo, and Asís, 2004:108 (Spain: Madrid: Monte de El Pardo); Dollfuss, 2006:520 (Spain: Murcia: 20 km SW Murcia); Gayubo, González, Tormos, and Asís, 2008:137 (Spain: Salamanca: Parque Natural de Las Batuecas – Sierra de Francia), 2009:364 (Spain: Valladolid: Reserva Natural Riberas de Castronuño – Vega del Duero).

**22. *geometricus* Leclercq**

*Entomognathus geometricus* Leclercq, 1955b:193, ♂. Holotype: ♂, Panama: Bugaba (BMNH). – R. Bohart and Menke, 1976:382 (listed); R. Bohart, 1995:501 (in key to North American *Entomognathus*); Hanson and Menke, 1995:644 (known from Costa Rica); Amarante, 2002:29 (in catalog of Neotropical Crabronidae, as *geometrica*); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:663 (in checklist of Mexican Sphecidae); Amarante, 2005a:10 (correction to his 2002 catalog).

**23. *guerreroi* R. Bohart**

*Entomognathus guerreroi* R. Bohart, 1995:505, ♀, ♂. Holotype: ♀, Mexico: Guerrero: 9 mi. S Tierra Colorado (UCD). – R. Bohart, 1995:501 (in key to North American *Entomognathus*); Amarante, 2002:29 (in catalog of Neotropical Crabronidae).

**24. *ignavus* (Arnold)**

*Thyreopus ignavus* Arnold, 1927:123, ♀, ♂. Syntypes: Zimbabwe: Bulawayo (R. Stevenson collection). – Arnold, 1930:13 (in checklist of Afrotropical Sphecidae). – **As *Entomognathus ignavus***: Leclercq, 1954c:202 (new combination, in catalog of world Crabronini), 1961b:67 (in key to *Entomognathus* of continental Africa); R. Bohart and Menke, 1976:382 (listed); Leclercq, 1997b:117 (in key to African and Asian *Entomognathus*), 122 (bibliographic references).

**25. *jacoti* Leclercq**

*Entomognathus jacoti* Leclercq, 1997b:122, ♀. Holotype: ♀, Lesoto: Mamathes (AMG). – Leclercq, 1997b:118 (in key to African and Asian *Entomognathus*); Dollfuss, 2006:520 (Zambia: 60 km W Solwezi).

**26. *junglanus* Leclercq**

*Entomognathus junglanus* Leclercq, 1997b:123, ♀. Holotype: ♀, Sri Lanka: Trincomalee District: China Bay Ridge Bungalow (USNM). – Leclercq, 1997b:119 (in key to African and Asian *Entomognathus*).

**27. *lenapeorum* Viereck**

*Entomognathus lenapeorum* Viereck, 1904c:239, ♀. Holotype: ♀, USA: Pennsylvania: Lehigh Gap (ANSP). – Cresson, 1928:54 (holotype in ANSP); Krombein, 1951a:143 (Virginia: Dunn Loring; visiting tulip-tree honeydew); Krombein in Muesebeck et al., 1951:1013 (in catalog of North American Hymenoptera); Leclercq, 1954c:203 (in catalog of world Crabronini); Krombein, 1963e:251 (distinctive characters; New Jersey, Pennsylvania, Maryland, Virginia, Kansas); R. Bohart and Menke, 1976:382 (listed); Krombein, 1979b:1659 (in catalog of North American Hymenoptera); Kurczewski and Miller, 1991:254 (Pennsylvania: Erie County); R. Bohart, 1995:501 (in key to North American *Entomognathus*); Buck, 2004:26 (in checklist of Crabronidae of Ontario, Canada), 30 (distribution within Ontario), 57 (first record from Canada: Ontario: Windsor).

**28. *libanonis* (Kohl)**

*Crabro libanonis* Kohl, 1905a:220, ♀. Holotype: ♀, Lebanon: no specific locality (NHMW). – Kohl, 1915:315 (in revision of Palearctic Crabronini). – **As *Entomognathus libanonis***: Leclercq, 1954c:200 (new combination, in catalog of world Crabronini); de Beaumont, 1957b:138 (n. Iran; diagnostic characters); de Beaumont, Bytinski-Salz and Pulawski, 1973:22 (Israel); R. Bohart and Menke, 1976:382 (listed); Dollfuss, 1989:9 (type material in NHMW); Leclercq, 1993c:34 (collecting localities from Cyprus and Israel), 1996d:262 (diagnostic characters, comparison with *dentifer*); Dollfuss, 2006:520 (Iran: near Kashan; Syria: 20 km NE Latakia; Turkmenistan: Ashkhabad).

**29. *malianus* Leclercq**

*Entomognathus malianus* Leclercq, 1997b:123, ♀, ♂. Holotype: ♂, Niger: 20 km S Tahoua at 14°45'N 5°20'E (FSAG). – Leclercq, 1997b:120 (in key to African and Asian *Entomognathus*); Dollfuss, 2006:520 (Kenya: Voi); Leclercq, 2007g:194 (holotype in FSAG).

**30. matthewsi Leclercq**

*Entomognathus matthewsi* Leclercq, 1997b:123, ♀, ♂. Holotype: ♀, Mali: Mourdiah (BMNH). – Leclercq, 1997b:116 (in key to African and Asian *Entomognathus*).

**31. memorialis Banks**

*Entomognathus memorialis* Banks, 1921:16, ♀. Holotype: ♀, USA: Virginia: Glencarlyn (MCZ). – Krombein in Muesebeck et al., 1951:1013 (in catalog of North American Hymenoptera); Krombein, 1952:95 (USA: Virginia: Westmoreland State Park); Leclercq, 1954c:203 (in catalog of world Crabronini); Krombein, 1963e:251 (Connecticut, New Jersey, Maryland, Virginia, Kansas), 1963f:277 (Maryland: Plummers Island near Washington, D.C.); R. Miller and Kurczewski, 1972:64 (mating, nesting habits, mature larva); R. Bohart and Menke, 1976:382 (listed); Krombein, 1979b:1659 (in catalog of North American Hymenoptera); R. Bohart, 1995:501 (in key to North American *Entomognathus*); Buck, 2004:26 (in checklist of Crabronidae of Ontario, Canada), 30 (distribution within Ontario), 57 (first record from Canada: Ontario: list of localities).

**32. mexicanus Cameron**

*Entomognathus mexicanus* Cameron, 1904i:266, sex not indicated. Holotype or syntypes: Mexico: no specific locality (BMNH). – Leclercq, 1950a:7 (member of subgenus *Toncahua*), 1954c:203 (in catalog of world Crabronini); Krombein in Muesebeck et al., 1951:1013 (in catalog of North American Hymenoptera, as *mexicana*); R. Bohart and Menke, 1976:382 (listed); R. Bohart, 1995:501 (in key to North American *Entomognathus*); Amarante, 2002:29 (in catalog of Neotropical Crabronidae, as *mexicana*); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:663 (in checklist of Mexican Sphecidae); Amarante, 2005a:10 (correction to his 2002 catalog).

**33. midas (Arnold)**

*Crabro midas* Arnold, 1945:161, ♀. Syntypes: Madagascar: Behara (MNHN). – **As *Entomognathus midas***: Leclercq, 1954c:203 (new combination, in catalog of world Crabronini); R. Bohart and Menke, 1976:382 (listed; as *midus*); Leclercq, 1997b:116 (in key to African and Asian *Entomognathus*), 124 (bibliographic references); Pulawski, 2003b:796 (in checklist of Malagasy Sphecidae).

**34. mimicus (Arnold)**

*Crabro mimicus* Arnold, 1945:163, ♀, ♂. Syntypes: Madagascar: Bekily (MNHN). – **As *Entomognathus mimicus***: Leclercq, 1954c:203 (new combination, in catalog of world Crabronini), 303 (nest and prey records); R. Miller and Kurczewski, 1972:61 (in review of nesting habits of *Entomognathus*); R. Bohart and Menke, 1976:382 (listed); Leclercq, 1997b:116 (in key to African and Asian *Entomognathus*), 124 (bibliographic references); Pulawski, 2003b:796 (in checklist of Malagasy Sphecidae).

**35. nadeni Marshakov**

*Entomognathus nadeni* Marshakov, 1976b:617, ♂. Holotype: ♂, Turkmenistan: Firyuza (ZIN). – Leclercq, 1996d:263 (reference to country of origin); Kazenas, 2001b:38 (in checklist of Sphecidae of Kazakhstan and Central Asia).

**36. namibiae Leclercq**

*Entomognathus namibiae* Leclercq, 1997b:124, ♂. Holotype: ♂, Namibia: Lüderitz District: Aus (BMNH). – Leclercq, 1997b:118 (in key to African and Asian *Entomognathus*).

**37. nanus (Cameron)**

*Crabro nanus* Cameron, 1890b:274, ♀. Holotype or syntypes: ♀, India: West Bengal: Barrackpore (OXUM). – Cameron, 1890:270 (India: Barrackpore); Bingham, 1897:330 (in revision of Indian Hymenoptera). – **As *Entomognathus nanus***: R. Turner, 1917e:185 (new combination; India: Bihar: Chapra); Leclercq, 1954c:201 (in catalog of world Crabronini); R. Bohart and Menke, 1976:382 (listed); Leclercq, 1997b:119 (in key to African and Asian *Entomognathus*), 125 (bibliographic references, faunal records).

**38. *narratus* Leclercq**

*Entomognathus narratus* Leclercq, 1963:45, ♀. Holotype: ♀, India: Madhya Pradesh: Jabalpur (originally G.R. Ferguson collection, now CAS). – R. Bohart and Menke, 1976:382 (listed); Leclercq, 1997b:119 (in key to African and Asian *Entomognathus*).

**39. *nathani* Leclercq**

*Entomognathus nathani* Leclercq, 1963:44, ♀. Holotype: ♀, India: Tamil Nadu: Cinchona in Anamalai Hills (originally G.R. Ferguson collection, now CAS). – R. Bohart and Menke, 1976:382 (listed); Leclercq, 1997b:119 (in key to African and Asian *Entomognathus*), 125 (bibliographic references, faunal records, description of ♂).

**40. *nitidus* (Cameron)**

*Oxybelus nitidus* Cameron, 1890b:281, ♀. Holotype or syntypes: India: West Bengal: Barrackpore (OXUM). – Cameron, 1890b:276 (India: Barrackpore); Dalla Torre, 1897:646 (in catalog of world Sphecidae). – **As *Crabro nitidus***: Bingham, 1897:330 (new combination, redescription); W. Schulz, 1906:210 (is a *Crabro*, not an *Oxybelus*). – **As *Entomognathus nitidus***: Leclercq, 1954c:201 (new combination, in catalog of world Crabronini); R. Bohart and Menke, 1976:382 (listed); Leclercq, 1997b:115 (in key to African and Asian *Entomognathus*), 126 (bibliographic references, faunal records from Sri Lanka, description of ♂).

**41. *occidentalis* R. Bohart**

*Entomognathus occidentalis* R. Bohart, 1995:506, ♀, ♂. Holotype: ♀, USA: California: Tulare County: Ash Mountain (UCD). – R. Bohart, 1995:501 (in key to North American *Entomognathus*).

**42. *patricius* (Arnold)**

*Thyreopus patricius* Arnold, 1932:13, ♀, ♂. Syntypes: Zimbabwe: Bulawayo (SAM). – **As *Crabro patricius***: Leclercq, 1954c:202 (new combination, in catalog of world Crabronini), 303 (nest and prey records), 1961b:66 (in key to *Entomognathus* of continental Africa); R. Miller and Kurezewski, 1972:61 (in review of nesting habits of *Entomognathus*); R. Bohart and Menke, 1976:382 (listed); Leclercq, 1997b:116 (in key to African and Asian *Entomognathus*), 126 (bibliographic references, faunal records from Zimbabwe and South Africa, prey: Galerucinae chrysomelids); Dollfuss, 2006:520 (Keya: Voi).

**43. *pulicus* Leclercq**

*Entomognathus pulicus* Leclercq, 1963:43, ♂. Holotype: ♂, India: Tamil Nadu: Dohnavur near Tirunelveli (FSAG). – R. Bohart and Menke, 1976:382 (listed); Leclercq, 1997b:119 (in key to African and Asian *Entomognathus*), 126 (bibliographic references), 2007g:194 (holotype in FSAG).

**44. *resinus* Leclercq**

*Entomognathus resinus* Leclercq, 1997b:127, ♀. Holotype: ♀, Cameroon: Mindif, shore of Mayo Boula at 10°27'N 14°25'E (FSAG). Paratype: Kenya. – Leclercq, 1997b:116 (in key to African and Asian *Entomognathus*), 2007g:194 (holotype in FSAG).

**45. *rochei* Leclercq**

*Entomognathus rochei* Leclercq, 1997b:127, ♀, ♂. Holotype: ♀, Malaysia: Perak: Kledong Siong Forest Reserve (BMNH). – Leclercq, 1997b:115 (in key to African and Asian *Entomognathus*); Dollfuss, 2006:520 (Malaysia: Ipoh 5 km E Tanjong Rambutan).

**46. *ruficaudatus* (Arnold)**

*Crabro ruficaudatus* Arnold, 1945:164, ♀. Syntypes: Madagascar: Ivondro, Rogez (MNHN). – **As *Entomognathus ruficaudatus***: Leclercq, 1954c:202 (new combination, in catalog of world Crabronini), 1961b:71 (Madagascar); R. Bohart and Menke, 1976:382 (listed); Leclercq, 1997b:115, 119 (in key to African and Asian *Entomognathus*),

128 (bibliographic references, tentatively assigned to subgenus *Mashona*); Pulawski, 2003b:796 (in checklist of Malagasy Sphecidae).

#### 47. *rugosissimus* R. Turner

*Entomognathus rugosissimus* R. Turner, 1917g:83, ♀. Holotype or syntypes: ♀, Malawi: Mlanje (BMNH). – Leclercq, 1954c:202 (new combination, in catalog of world Crabronini), 1961b:66 (in key to *Entomognathus* of continental Africa); R. Bohart and Menke, 1976:382 (listed); Leclercq, 1997b:116 (in key to African and Asian *Entomognathus*), 128 (bibliographic references, description of ♂); Dollfuss, 2006:520 (Zimbabwe: 15 km SE Muzarabani, 30 km W Harare). – **As *Thyreopus rugosissimus***: Arnold, 1926:342 (revision), 1930:13 (in checklist of Afro-tropical Sphecidae).

#### 48. *sahlbergi* (A. Morawitz)

*Crabro sahlbergi* A. Morawitz, 1866a:257, ♀ (as *Sahlbergi*, incorrect original capitalization). Holotype: ♀, Russia: Siberia: Okhotsk (ZIL). – Dalla Torre, 1897:624 (in catalog of world Sphecidae); Kohl, 1915:319 (original description copied). – **As *Entomognathus sahlbergi***: Leclercq, 1954c:200 (new combination, in catalog of world Crabronini); Tsuneki, 1972a:158 (Mongolia, description of ♀); R. Bohart and Menke, 1976:382 (listed); Marshakov, 1976b:618 (in revision of *Entomognathus* of USSR); Nemkov in Nemkov, Kazenas, Budrys, et Antropov, 1995:425 (in key to Sphecidae of Russian Far East); Leclercq, 1996d:263 (review of previous citations); Li and He, 2000a:55 (in key to *Entomognathus* of China); Nemkov, 2008b:21 (in catalog of Crabronidae of Asiatic Russia), 2009b:93 (in new catalog of Sphecidae and Crabronidae of Asiatic Russia).

*Crabro sahlbergi* A. Morawitz, 1866b:329. Objective synonym of *Crabro sahlbergi* A. Morawitz, 1866a:257.

#### 49. *schmidti* de Beaumont

*Entomognathus schmidti* de Beaumont, 1967a:362, ♀, ♂. Holotype: ♀, Turkey: Mersin: Namrun (Lausanne). – de Beaumont, 1969:94 (Turkey); R. Bohart and Menke, 1976:382 (listed); Leclercq, 1993c:34 (in list of Crabroninae of Europe and Mediterranean Basin), 1996d:263 (reference to original description); Ljubomirov and Yildirim, 2008:257 (in catalog of Crabronidae of Turkey).

#### 50. *schmiedeknechti* (Kohl)

*Crabro schmiedeknechti* Kohl, 1905a:219, ♀, ♂ (a *Schmiedeknechti*, incorrect original capitalization). Syntypes: Greece: Korfu, Kephallonia, Zante, Athens (NHMW). – Kohl, 1915:318 (in revision of Palearctic Crabronini); de Beaumont, 1954c:98 (Italy); Pulawski, 1958:187 (Bulgaria: Kniazhevo near Sofia); Balthasar, Hrubant, and Hrubant, 1967:170 (Bulgaria: Slanchev Bryag near Nessebar). – **As *Entomognathus schmiedeknechti***: Leclercq, 1954c:200 (new combination, in catalog of world Crabronini); de Beaumont, 1959a:44 (Italy), 1965a:61 (Greece), 1967a:364 (Turkey); R. Bohart and Menke, 1976:382 (listed); Marshakov, 1976b:617 (in revision of *Entomognathus* of USSR); Pulawski, 1978:254 (in key to Sphecidae of European part of former USSR); Dollfuss, 1989:9 (type material in NHMW); Pagliano, 1990:92 (in catalog of Italian Sphecidae), 1991b:355 (in key to Italian Crabroninae); Bitsch and Leclercq, 1993:191 (in revision of western European Crabroninae); Leclercq, 1993c:34 (collecting localities from Greece and Turkey); Negrisolò in Minelli, Ruffo, and La Posta, 1995b:7 (in catalog of Italian fauna); Leclercq, 1996d:263 (individual variation of clypeus); Gayubo and Özbek, 2005:27 (Turkey: Erzurum: University campus, Olur); Pagliano and Negrisolò, 2005:279 (in Sphecid Fauna of Italy); Yildirim and Ljubomirov, 2005:1794 (Turkey: Erzurum: Olur); Dollfuss, 2006:521 (Bulgaria: Slanchev Bryag; Syria: 20 km NE Latakia); Ljubomirov and Yildirim, 2008:257 (in catalog of Crabronidae of Turkey); Pagliano, 2009:182 (Italy: Molisae: Campolieto).

#### 51. *schwarzi* Leclercq

*Entomognathus schwarzi* Leclercq, 1997b:129, ♀, ♂. Holotype: ♀, Niger: Moujia at 14°24'N 5°22'E (FSAG). Paratypes: Gambia, Mali, Senegal. – Leclercq, 1997b:119 (in key to African and Asian *Entomognathus*), 2007g:194 (holotype in FSAG).

**52. *singarae* Leclercq**

*Entomognathus singarae* Leclercq, 1963:45, ♀. Holotype: India: Tamil Nadu: Singara in Nilgiri Hills (originally G.R. Ferguson collection, now CAS). – R. Bohart and Menke, 1976:382 (listed); Leclercq, 1997b:116 (in key to African and Asian *Entomognathus*), 129 (bibliographic references, faunal records from Sri Lanka, additional description).

**53. *siraiya* Pate**

*Entomognathus siraiya* Pate, 1944:341, ♂, ♀. Holotype: ♂, Taiwan: Taihorinsho (MCZ). – Leclercq, 1954c:201 (in catalog of world Crabronini); Leclercq, 1958c:101 (Malaysia: Selangor; Taiwan); Tsuneki, 1966d:2 (Taiwan, listed); Tsuneki, 1968g:17 (Taiwan), 28 (in key to Crabronini of Taiwan and Ryukyus); Haneda, 1971b:33; Leclercq, 1963:47 (Vietnam), 1973c:300 (Taiwan); 1977j:291 (Taiwan); R. Bohart and Menke, 1976:382 (listed); Wu and Zhou, 1996a:111 (in revision in Economic Insect Fauna of China); Leclercq, 1997b:115 (in key to African and Asian *Entomognathus*), 130 (bibliographic references, specimens previously recorded by Leclercq from Burma, Malaysia, and Vietnam actually are *rochei*); Porter, Stange, and Wang, 1999:10 (in checklist of Sphecidae of Taiwan); Li and He, 2000a:55 (in key to *Entomognathus* of China); Li and He, 2001:757 (China: Tianmushan Nature Reserve at 30°22'N 119°26'E), 2004:1088 (in hymenopterous fauna of Zhejiang Province, China); Hua, 2006:280 (in list of Chinese insects, geographic distribution).

**54. *srianus* Leclercq**

*Entomognathus srianus* Leclercq, 1997b:130, ♂. Holotype: ♂, Sri Lanka: Ratnapura District: 2 mi S Meddagala in Sinharaja Jungle (USNM). – Leclercq, 1997b:117 (in key to African and Asian *Entomognathus*); Dollfuss, 2006:521 (Sri Lanka: Matara District: 3 km NW Kotapola).

**55. *stevensoni* (Arnold)**

*Thyreopus stevensoni* Arnold, 1926:344, ♀, ♂ (as *Stevensoni*, incorrect original capitalization). Holotype: sex not indicated: Zimbabwe: Bulawayo, or South Africa: North West Province: Lichtenburg (SAM). – Arnold, 1930:13 (in checklist of Afrotropical Sphecidae). – **As *Entomognathus stevensoni***: Leclercq, 1954c:201 (new combination, in catalog of world Crabronini), 1961b:70 (Zaire), 1961b:67 (in key to *Entomognathus* of continental Africa); R. Bohart and Menke, 1976:382 (listed); Leclercq, 1997b:119 (in key to African and Asian *Entomognathus*), 131 (bibliographic references, faunal records from Botswana, Burkina Faso, Gabon, Gambia, Mali, Namibia, Nigeria, Senegal, South Africa, Togo, Zaire, and Zimbabwe); Dollfuss, 2006:521 (Kenya: Lodwar, Voi; South Africa: Klerksdorp, Ritchie; Zimbabwe: Mount Selinda).

**ssp. *fraternus* (Arnold)**

*Thyreopus stevensoni* var. *fraternus* Arnold, 1936:29, ♀. Holotype: ♀, Zimbabwe: Chirinda Forest (SAM). – **As *Entomognathus stevensoni fraternus***: Leclercq, 1954c:201 (new combination, in catalog of world Crabronini, as synonym of *Entomognathus stevensoni*); R. Bohart and Menke, 1976:382 (new status, listed).

**56. *subnasutus* (Arnold)**

*Thyreopus subnasutus* Arnold, 1927:124, ♀. Holotype: ♀, Zimbabwe: Sawmills (R. Stevenson collection). – Arnold, 1930:13 (in checklist of Afrotropical Sphecidae). – **As *Entomognathus subnasutus***: Leclercq, 1954c:202 (new combination, in catalog of world Crabronini), 1961b:66 (in key to *Entomognathus* of continental Africa); R. Bohart and Menke, 1976:382 (listed); Leclercq, 1997b:117 (in key to African and Asian *Entomognathus*), 132 (bibliographic references, faunal records from Namibia, description of ♂); Dollfuss, 2006:521 (Zambia: 50 km W Chingola).

**57. *surgicus* Leclercq**

*Entomognathus surgicus* Leclercq, 1961b:68, ♂. Holotype: ♂, Zaire: Garamba National Park (MRAC). – Leclercq, 1961b:67 (in key to *Entomognathus* of continental Africa); R. Bohart and Menke, 1976:382 (listed); Leclercq,

1997b:119 (in key to African and Asian *Entomognathus*), 132 (bibliographic references, recorded from Cameroon, Gabon, Gambia, Mali, Nigeria, Senegal, variation, description of ♀).

### 58. *swellendamensis* (Arnold)

*Thyreopus swellendamensis* Arnold, 1934:20, ♀, ♂. Syntypes: South Africa: Cape Province: Swellendam (BMNH, SAM). – **As *Entomognathus swellendamensis***: Leclercq, 1954c:202 (new combination, in catalog of world Crabronini), 1961b:67 (in key to *Entomognathus* of continental Africa); R. Bohart and Menke, 1976:382 (listed); Leclercq, 1997b:118 (in key to African and Asian *Entomognathus*), 133 (bibliographic references, Cape Town).

### 59. *syrittus* Leclercq

*Entomognathus syrittus* Leclercq, 1961b:70, ♀. Holotype: ♀, Zaire: Haut-Uele: Paulis (MRAC). – Leclercq, 1961b:68 (in key to *Entomognathus* of continental Africa); R. Bohart and Menke, 1976:382 (listed); Leclercq, 1997b:118 (in key to African and Asian *Entomognathus*), 133 (bibliographic references, records from Gabon, South Africa, Tanzania, Uganda).

### 60. *texanus* Cresson

*Entomognathus texanus* Cresson, 1887:286, footnote, ♀, ♂. Lectotype: ♀, USA: Texas: no specific locality (ANSP), designated by Cresson, 1916:103. – W. Fox, 1895a:132 (in revision of North American Crabronini); Dalla Torre, 1897:631 (in catalog of world Sphecidae, as *Crabro texanus*); Ashmead, 1899d:166 (in checklist of North American Crabronidae); Cresson, 1916:103 (type material in ANSP); Pate, 1944:341 (type species of subgenus *Toncahua*); Krombein in Muesebeck et al., 1951:1014 (in catalog of North American Hymenoptera, as *texana*); Leclercq, 1954c:203 (in catalog of world Crabronini); Krombein, 1963e:252 (taxonomic history, diagnostic characters; Pennsylvania, Kansas, Oklahoma, Texas, Mexico: Tamaulipas); Cazier and Mortenson, 1965d:33 (nesting habits, as *texana*); R. Miller and Kurczewski, 1972:63 (in review of nesting habits of *Entomognathus*, as *texana*); R. Bohart and Menke, 1976:382 (listed); Krombein, 1979b:1660 (in catalog of North American Hymenoptera); R. Bohart, 1995:501 (in key to North American *Entomognathus*); Amarante, 2002:29 (in catalog of Neotropical Crabronidae, as *texana*); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:663 (in checklist of Mexican Sphecidae); Amarante, 2005a:10 (correction to his 2002 catalog); Ruíz Cancino, Coronado Blanco, and Horta Vega, 2005:170 (Mexico: recorded from Tamaulipas State).

*Anothyreus panurgoides* Viereck, 1904c:239, ♀, ♂ (♀ = *Crabro tenuis*). Lectotype: ♂, USA: Pennsylvania: Lehigh Gap (ANSP), designated Cresson, 1928:55. Synonymized with *Entomognathus texanus* by Krombein, 1963e:253. – **As *Entomognathus panurgoides***: Krombein in Muesebeck et al., 1951:1014 (new combination, in catalog of North American Hymenoptera); Leclercq, 1954c:203 (in catalog of world Crabronini).

### 61. *tricoloripes* (Arnold)

*Thyreopus tricoloripes* Arnold, 1934:18, ♀, ♂. Syntypes: South Africa: Cape Province: Katberg (BMNH, SAM). – **As *Entomognathus tricoloripes***: Leclercq, 1954c:202 (new combination, in catalog of world Crabronini), 1961b:66 (in key to *Entomognathus* of continental Africa); R. Bohart and Menke, 1976:382 (listed); Leclercq, 1997b:117 (in key to African and Asian *Entomognathus*), 133 (bibliographic references).

### 62. *verecundus* (Arnold)

*Thyreopus verecundus* Arnold, 1932:15, ♀, ♂. Syntypes: Zimbabwe: Spongweni (SAM). – **As *Entomognathus verecundus***: Leclercq, 1954c:202 (new combination, in catalog of world Crabronini), 1961b:67 (in key to *Entomognathus* of continental Africa); R. Bohart and Menke, 1976:382 (listed); Leclercq, 1997b:117, 118 (in key to African and Asian *Entomognathus*), 133 (bibliographic references, Botswana: Serowe); Dollfuss, 2006:521 (Zimbabwe: Matobo 50 km S Bulawayo).

### 63. *yunnanensis* Li and He



*Entomognathus yunnanensis* Li and He, 2000c:198, ♂. Holotype: ♂, China: Yunnan: Menglun, Banna, Yiwu (Academia Sinica, Beijing).

**sp.**

Brimley, 1938:450 (North Carolina: Bryson City); Krombein and Evans, 1954:235 (Florida); Morice, 1921:824 (Iran: Qazvin); de Beaumont, 1969:94 (Turkey); Ljubomirov and Yildirim, 2008:258 (in catalog of Crabronidae of Turkey).

**SPECIES DESCRIBED IN *ENTOMOGNATHUS* AND TRANSFERRED TO OTHER GENERA**

*chapraensis* R. Turner, 1917 = *Encopognathus*

*isolatus* R. Turner, 1917 = *Encopognathus*

**NOMEN NUDUM IN *ENTOMOGNATHUS***

*Entomognathus kohlii* Brauns: Dollfuss, 1989:9 (type material in NHMW).