

Last updated: 18 November 2018

## **RHOPALUM**

*Euplilis* Risso, 1826:227. Type species: *Euplilis rufiventris* (Panzer, 1799) [= *Crabro rufiventris* Panzer, 1799 = *Sphex clavipes* Linnaeus, 1758], designated by Pate, 1935:246. Suppressed by International Commission on Zoological Nomenclature, 1978:237 (Opinion 1106). – Pate, 1935:246 (as valid name for *Rhopalum*); Menke, R. Bohart, and Richards, 1974:219 (proposition to International Commission on Zoological Nomenclature to suppress *Euplilis* in favor of *Rhopalum*); R. Bohart, 1975:75 (support for deleting *Euplilis*); Day, Fitton, Bolton, and Gauld, 1975:96 (support for preserving *Euplilis* as valid name); Evans, 1975c:98 (support for deleting *Euplilis* as valid name); Krombein, 1975:96 (support for preserving *Euplilis* as valid name); Menke, 1975:97 (support for deleting *Euplilis*); Merisuo, 1975b:99 (support for deleting *Euplilis*); R. Bohart and Menke, 1976:68 (reply to Krombein, 1975:96); Willink and Stange, 1975:99 (support for deleting *Euplilis*); Krombein, 1976a:205 (additional support in favor of preserving *Euplilis*).

*Rhopalum* Stephens, 1829a:366. Type species: *Crabro rufiventris* Panzer, 1799 [= *Sphex clavipes* Linnaeus, 1758], designated by J. Curtis, 1837:text accompanying plate 656. See also Stephens, 1829b:366 and J. Curtis, 1829:123. Conservation of the name: International Commission on Zoological Nomenclature, 1978:237 (Opinion 1106).

*Physoscelus* Lepeletier de Saint Fargeau and Brullé, 1835:804. Type species: *Crabro rufiventris* Panzer, 1799 [= *Sphex clavipes* Linnaeus, 1758], designated by Westwood, 1839:80.

*Corynopus* Lepeletier de Saint Fargeau and Brullé, 1835:802. Type species: *Crabro tibialis* of Panzer, 1801 [= *Crabro tibialis* Fabricius, 1798 = *Sphex coarctatus* Scopoli, 1763], by monotypy.

*Physoscelis* Westwood, 1839:80. Lapsus or emendation of *Physoscelus* Lepeletier de Saint Fargeau and Brullé, 1835.

*Dryphus* Herrich-Schaeffer, 1840:123. Type species: *Crabro tibialis* Fabricius, 1798 = *Sphex coarctatus* Scopoli, 1763], by monotypy. Synonymized with *Corynopus* Lepeletier de Saint Fargeau and Brullé by Pate, 1943c:2.

*Alliognathus* Ashmead, 1899d:219. Type species: *Crabro occidentalis* W. Fox, 1895, by original designation. Synonymized with *Corynopus* by Court and R. Bohart in R. Bohart and Menke, 1975:47.

*Calceorhopalum* Tsuneki, 1952b:111. Type species: *Rhopalum calceatum* (Tsuneki, 1947) [= *Crabro calceatus* Tsuneki, 1947, junior primary homonym of *Crabro calceatus* Rossi, 1794 = *Rhopalum pygidiale* R. Bohart, 1976], by original designation.

*Latrorhopalum* Tsuneki, 1952b:111. Type species: *Rhopalum latronum* (Kohl, 1915) [= *Crabro latronum*, by original designation.

*Aporhopalum* Leclercq, 1955k:3. Type species: *Rhopalum perforator* F. Smith, 1876, by original designation.

*Zelorhopalum* Leclercq, 1955k:4. Type species: *Rhopalum aucklandi* Leclercq, 1955, by original designation.

*Notorhopalum* Leclercq, 1979b:354, as subgenus of *Rhopalum*. Type species: *Rhopalum carnegiacum* Leclercq, 1979, by original designation and monotypy.

Revisions: Tsuneki, 1952b (Japan, Korea, Sakhalin, and Kuril Islands), Leclercq, 1970a (Latin America); R. Bohart, 1974 (North America); Leclercq, 1994b (redefinition of genus, Chilean species), 1997 (Australia), 2002b (New World), 2011 (Asian species), 2012a (African species); H.-J. Jacobs, 2016 (review of subgenus *Latrorhopalum* of continental Asia).

Keys: Alayo Dalmau, 1976 (Cuba), Leclercq, 1991 (European species of subgenus *Corynopus*), 2011:5 (Asian species with bicolored tergum I).

Review of biology: Kazenas, 2001b:187.

Common name in New Zealand: policemen wasps (Ferro et al., 1977:18)

**1. *acamas* Leclercq**

*Rhopalum acamas* Leclercq, 2002b:40, ♀. Holotype: ♀, Colombia: Huila: Las Cuevas de los Guacherones (BMNH). – Leclercq, 2002b:15 (in key to New World *Rhopalum*); Amarante, 2005a:7 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae).

**2. *adamsi* Leclercq**

*Rhopalum adamsi* Leclercq, 2011:7, ♀, ♂. Holotype: ♀, Sri Lanka: Kandy District: Adams Peak Trail 4.5 mi west of Maskeliya (USNM).

**3. *amamiinsulanum* Terayama and Suda**

*Rhopalum amamiinsulanum* Terayama and Suda, 2015:1, ♀. Holotype: ♀, Japan: island of Amami Oshima: town of Setouchi: Jito pass (National Institute of Agro-Environmental Sciences, Tsukuba, Japan).

**4. *ammaticum* Leclercq**

*Rhopalum ammaticum* Leclercq, 1963:71, ♀. Holotype: ♀, India: Karnataka: Ammati in Coorg District (originally G.R. Ferguson coll., now CAS). – R. Bohart and Menke, 1976:389 (in checklist of world Sphecidae); Leclercq, 2011:8 (in list of Asian *Rhopalum*).

**5. *angulicolle* Cameron**

*Rhopalum angulicolle* Cameron, 1904i:263, ♀. Holotype or syntypes: ♀, Mexico: no specific locality (BMNH). – Leclercq, 1950b:7 (is a member of *Rhopalum*), 1954c:187 (in catalog of world Crabronini); R. Bohart and Menke, 1976:389 (in checklist of world Sphecidae); Amarante, 2002:33 (in catalog of Neotropical Crabronidae); Leclercq, 2002b:19, 31 (in key to New World *Rhopalum*), 41 (locality records from Mexico); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:664 (in checklist of Mexican Sphecidae); Amarante, 2005a:7 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae).

*Rhopalum femorum* Leclercq, 1970a:100, ♂. Holotype: ♂, Mexico: central Guerrero: no specific locality (FSAG). Synonymized with *Rhopalum angulicolle* by Leclercq, 2002b:41. – Leclercq, 1970a:96 (in key to Latin American *Rhopalum*); R. Bohart and Menke, 1976:389 (in checklist of world Sphecidae); Amarante, 2002:34 (in catalog of Neotropical Crabronidae); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:665 (in checklist of Mexican Sphecidae).

**6. *angustipetiolatum* Tsuneki**

*Rhopalum angustipetiolatum* Tsuneki, 1971a:25, ♀. Holotype: ♀, Taiwan: Nantou Prefecture: Pempuchi (originally K. Tsuneki coll., now USNM). – Haneda, 1971b:33 (Taiwan); Murota, 1973b:119 (Taiwan); Leclercq, 1973c:301 (Taiwan); R. Bohart and Menke, 1976:389 (in checklist of world Sphecidae); Porter, Stange, and Wang, 1999:10 (in checklist of Sphecidae of Taiwan); Leclercq, 2011:8 (in list of Asian *Rhopalum*).

**7. *annickae* Leclercq**

*Rhopalum annickae* Leclercq, 1997:42, ♀, ♂. Holotype: ♀, Australia: South Australia: 25 km south-southwest of Pinnaroo at 35°28'S 140°47'E (ANIC).

**8. *ansatum* Leclercq**

*Rhopalum ansatum* Leclercq, 2002b:42, ♀. Holotype: ♀, Colombia: Valle: Peñas Blancas (FSCA). – Leclercq, 2002b:19 (in key to New World *Rhopalum*); Amarante, 2005a:7 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae).

**9. *anteum* Leclercq**

*Rhopalum anteum* Leclercq, 1957b:215, ♀, ♂. Holotype: ♂, Australia: Victoria: Port Phillip (BMNH). – Leclercq, 1957b:8 (in key to Australian *Rhopalum*); R. Bohart and Menke, 1976:389 (in checklist of world Sphecidae); Cardale, 1985:267 (in catalog of Australian Sphecidae); Leclercq, 1997:44 (in revision of Australian *Rhopalum*).

**10. *antennatum* Li and He**

*Rhopalum antennatum* Li and He, 1998c:305, ♀, ♂. Holotype: ♀, China: Zhejiang Province: Songyang (Zhejiang Agricultural University). – Li and He, 2001:757 (China: Tianmushan Nature Reserve at 30°22'N 119°26'E), 2004:1092 (in hymenopterous fauna of Zhejiang Province, China); Leclercq, 2011:6 (in key to Asian species with bicolored tergum I), 8 (in list of Asian *Rhopalum*).

**11. *antillarum* Leclercq**

*Rhopalum antillarum* Leclercq, 1957a:54, ♂. Holotype: ♂, Cuba: no specific locality (MHNG). – Alayo Dalmau, 1976:17 (in key to Cuban *Rhopalum*), 32 (in checklist of Cuban Sphecidae); R. Bohart and Menke, 1976:389 (in checklist of world Sphecidae); Amarante, 2002:33 (in catalog of Neotropical Crabronidae); Leclercq, 2002b:12, 29 (in key to New World *Rhopalum*), 42 (additional description, description of ♀, locality records from Ecuador and Venezuela); Amarante, 2005a:7 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae); Genaro, 2006:54 (in checklist of Cuban Sphecidae and Crabronidae, occurrence in Cuba questionable). – **As *Euplilis antillarum***: Alayo Dalmau, 1968b:8 (new combination, original description translated into Spanish), 1973:193 (in catalog of Cuban Hymenoptera).

**12. *anvillum* Leclercq**

*Rhopalum anvillum* Leclercq, 1997:45, ♂. Holotype: ♂, Australia: South Australia: 49 km southwest of Pinnaroo at 35°42'S 140°49'E (ANIC).

**13. *ataiyal* Tsuneki**

*Rhopalum ataiyal* Tsuneki, 1982e:34, ♂. Holotype: ♂, Taiwan: Nantou Prefecture: Pempuchi valley (originally K. Tsuneki coll., now Hyogo Mus.). – Tano, 1995:44 (holotype in K. Tsuneki collection); Hashimoto and Nakaniishi, 1997:19 (holotype transferred to Hyogo Mus.); Hua, 2006:282 (in list of Chinese insects, geographic distribution); Leclercq, 2011:8 (in list of Asian *Rhopalum*).

**14. *atlanticum* R. Bohart**

*Rhopalum atlanticum* R. Bohart, 1974:256, ♂, ♀. Holotype: ♂, USA: Georgia: Athens (USNM). – R. Bohart, 1974:254, 256 (in key to North American *Rhopalum*); R. Bohart and Menke, 1976:630 (in checklist of world Sphecidae); Kisslow and Matthews, 1977:85 (nesting habits); Krombein, 1979b:1662 (in catalog of North American Hymenoptera, list of prey); Leclercq, 2002b:15, 30 (in key to New World *Rhopalum*), 43 (may be a geographic form of *Rhopalum grenadinum*, locality records from USA and Mexico).

**15. *aucklandi* Leclercq**

*Rhopalum aucklandi* Leclercq, 1955k:14, ♀, ♂. Holotype: ♀, New Zealand: Auckland (BMNH). – Leclercq, 1955k:6, 7 (in key to *Rhopalum* of New Zealand); R. Bohart and Menke, 1976:389 (in checklist of world Sphecidae); Callan, 1979:37 (New Zealand; listed); Valentine and Walker, 1991:40 (in catalog of New Zealand Hymenoptera); Harris, 1994:54 (in Fauna of New Zealand, nest).

**16. *australiae* Leclercq**

*Rhopalum australiae* Leclercq, 1957b:210, ♀. Holotype: ♀, Australia: Australian Capital Territory: Blundells (ANIC). – Leclercq, 1957b:187 (in key to Australian *Rhopalum*); R. Bohart and Menke, 1976:389 (in checklist of world Sphecidae); Cardale, 1985:267 (in catalog of Australian Sphecidae); Leclercq, 1997:45 (in revision of Australian *Rhopalum*).

**17. *austriacum* (Kohl)**

*Crabro austriacus* Kohl, 1899:308, ♀, ♂. Syntypes: Austria: Niederösterreich: no specific locality and Piesting (NHMW). – Kohl, 1899:309 and 310 (in key to Palearctic *Rhopalum*); Schmiedeknecht, 1907:200 (in key to Hymenoptera of North and Central Europe); Kohl, 1915:338 (in revision of Palearctic Crabronini); Zavadil, 1926:37 (Czechoslovakia); Schmiedeknecht, 1930:658 (in keys to Hymenoptera of North and Central Europe); Zavadil,

1937a:71 (eastern Slovakia); Zavadil, Šustera, and Bat'a, 1937:169 (in catalog of Sphecidae of Czechoslovakia, as *austriacum*); Zavadil, 1939:121 (Czech Republic: Morava: several localities); Balthasar, 1942:4 (Czech Republic: Moravia, as *austriacum*); Zavadil in Zavadil and Šnoflak, 1948:137, 138 (in key to Sphecidae of Czechoslovakia); de Beaumont, 1950a:70 (first record from Switzerland); Vogrin, 1955:41 (Yugoslavia, as *austriacum*); Noskiewicz and Puławski, 1960:158, 159 (in key to Polish Sphecidae). – **As *Euplilis austriaca***: Zavadil, 1946:8 (new combination, Czechoslovakia: Ostrava area). – **As *Rhopalum austriacum***: Leclercq, 1954c:189 (new combination, in catalog of world Crabronini); Móczár, 1958b:191 (Hungary: list of collecting localities); Babiý, 1964:117 (Austria: Land Salzburg); de Beaumont, 1964c:155 (in Sphecid Fauna of Switzerland); Gauss, 1966a:66 and 1966b:308 (Germany: Baden-Württemberg: Wittental near Freiburg), 1967:559 (Germany: Baden-Württemberg); Oehlke, 1970:790 (Democratic Germany); Balthasar, 1972:134 (in Sphecid Fauna of Czechoslovakia); de Beaumont, Bytinski-Salz and Pulawski, 1973:21 (Israel); Leclercq, 1975b:2 (France: Var: Callian; Grimaud); R. Bohart and Menke, 1976:393 (in checklist of world Sphecidae); Marshakov, 1976d:106 (in revision of *Rhopalum* of USSR: Ukraine: Crimea; Russia: Far East); Schmidt, 1980:331 (Germany: Baden-Württemberg); Pulawski, 1978:254 (in key to Sphecidae of European part of former USSR); Dollfuss and Ressler, 1981:322 (Austria: Niederösterreich: Scheibbs District); Dollfuss, 1983b:14 (in catalog of Sphecidae of Austria); Westrich and Schmidt, 1985b:111 (Germany: endangered in Baden-Württemberg); Dollfuss, 1987:22 (Austria), 1989:12 (type material in NHMW); Pádr in Šedivý, 1989a:169 (in checklist of Czechoslovakian Sphecidae); Jacobs and Oehlke, 1990:122 and 181 (not collected in Democratic Germany after 1960); Pádr, 1990:82 (Czech Republic: Praha area); Schwammberger and Priesner, 1990:543 (Austria: Kärnten); Day, 1991:xviii (summary of European Endangered Hymenoptera Lists); Dollfuss, 1991:142 (in key to Sphecidae of North and Central Europe); Gusenleitner, 1992:685 (Austria: Steiermark); Bitsch and Leclercq, 1993:224 (in revision of western European Crabroninae); Leclercq, 1993c:41 (in annotated checklist of Crabronini and Oxybelini of Europe and Mediterranean Basin); Leclercq and Barbier, 1993:89 (map of distribution in France); Wiśniowski, 1993b:280 (first record from Poland: Ojców National Park); Nemkov in Nemkov, Kazenas, Budrys, et Antropov, 1995:428 (in key to Sphecidae of Russian Far East); Gusenleitner, 1996b:811 (Austria: Steiermark); Schmid-Egger, Schmidt, and Doczkal, 1996:378 (Germany: Baden-Württemberg: probably endangered); Celary, 1997:59 (in checklist of Animals of Poland); Schmidt and Schmid-Egger, 1997:27 (in checklist of German Sphecidae); Józán, 1998:307, 311 (Hungary: Duna-Dráva National Park); Gusenleitner, 1999:594 (Austria: first record from Burgenland: Winten NW Eberau); Neumayer, Schwarz, and Bregant, 1999:225 (Austria: in checklist of Sphecidae of Land Kärnten); M. Schwarz, 1999:86 (Austria: Oberösterreich: city of Linz area); Blösch, 2000:285 (in Sphecid Fauna of Germany); Józán, 2001:280 (Hungary: Somogy County); Ljubomirov, 2001b:51 (Bulgaria: Mount Vitoshka near Sofia); Ohl et al., 2001:141 (distribution in Germany by provinces); Wiśniowski, 2002:71 (Poland: Ojców National Park); Wiśniowski in Dylewska and Wiśniowski, 2003:158 (Poland: Ojców National Park); Deván, 2004:148 (western Slovakia); Dollfuss, 2004b:782 (Algeria: Djanet); Skibińska in Bogdanowicz, Chudzicka, Pilipiuk, and Skibińska, 2004:357 (in catalog of Polish Crabronidae); Stolle et al., 2004:373 (Germany: Sachsen-Anhalt: last collected in 1958); Wiśniowski, 2004:47 and 61 (in checklist of Polish Sphecidae), 2005a:312 (Poland: Ojców National Park; found only on wooden buildings), 2005b:340 (in Poland known only from Ojców National Park); Jacobs, 2007:126, 127 (in key to Crabronidae of Germany); Józán, 2006a:286 (Hungary: Béda-Karapancsa section of Duna-Dráva National Park), 2007:173, 180 (Hungary: Zselic hills); Vepřek and Straka, 2007:206 (in catalog of Sphecidae of Czech Republic and Slovakia), 231 (earlier record from Bohemia by Pádr, 1990, is probably a misidentification; unknown from Bohemia); Mei, 2008:178 (first record from Italy: Roma: Tenuta di Castelporziano); Nemkov, 2008b:21 (in catalog of Crabronidae of Asiatic Russia); Bitsch and Leclercq, 2009:226 (in supplement to vol. I of Faune de France, 1993: recent records from Bulgaria and Poland reported); Nemkov, 2009b:97 (in new catalog of Sphecidae and Crabronidae of Asiatic Russia); Schmid-Egger, 2010a:18 (in red list of Aculeata of Germany: very rare); Burger, 2011:73 (Germany: first record Thüringen: Weimar); Gogala, 2011:25 (Slovenia); Józán, 2011:182 (in checklist of Sphecidae s.l. of Hungary); Leclercq, 2011:8 (in list of Asian *Rhopalum*); Boillat, 2012:226 (Switzerland: in checklist of insects of Canton de Genève);

Leclercq, 2012a:30 (in key to African *Rhopalum*; recorded from Algeria by Dollfuss, 2004); Nemkov, 2012c:445 (in catalog of Crabronidae of Russian Far East); Strumia, Pagliano, and Gayubo, 2012:57 (Italy: Toscana: Riserva di San Rossore); Reder, 2014:1537 (Germany: first record from Rheinland-Pfalz: Flörsheim-Dalsheim); Bitsch, 2014:402 (recorded from Italy by Mei, 2008); Yıldırım, Ljubomirov, and Lelej, 2014:15 (distribution in Turkey by biogeographic provinces); Mokrousov and Popov, 2016:578 (Russia: Abkhazia); Stolle and Saure, 2016:925 (Germany: in list of Sphecidae s.l. of Sachsen-Anhalt); Antropov, 2017b:236 (in catalog of Crabroninae of Russia).

### 18. *avexum* Leclercq

*Rhopalum avexum* Leclercq, 1963:65, ♀, ♂. Holotype: ♀, Philippines: Luzon: Baguio: Benguet (USNM). Paratype: India: Tamil Nadu. – Baltazar, 1966:351 (in catalog of Hymenoptera of Philippines); R. Bohart and Menke, 1976:389 (in checklist of world Sphecidae); Tsuneki, 1984b:13 (Philippines), 1984f:6 (Philippines), 31 and 32 (in key to Crabronini of Philippines); Leclercq, 2011:8 (in list of Asian *Rhopalum*).

### 19. *avocetum* Leclercq

*Rhopalum avocetum* Leclercq, 1997:45, ♀. Holotype: ♀, Australia: Victoria: Mount Dandenong (ANIC).

### 20. *baguione* Tsuneki

*Rhopalum baguione* Tsuneki, 1984f:10, ♀. Holotype: ♀, Philippines: Luzon Island: Baguio City: Mines View Park (originally K. Tsuneki coll., now?). – Tsuneki, 1984f:34 (in key to Crabronini of Philippines); Nuhn and Menke, 1994:26 (holotype not transferred to USNM, possibly returned to T. Murota, the collector); Menke, 1995:14 (type still in K. Tsuneki collection); Tano, 1995:46 (holotype in K. Tsuneki collection); Leclercq, 2011:6 (in key to Asian species with bicolored tergum I), 8 (in list of Asian *Rhopalum*).

### 21. *banosense* Leclercq

*Rhopalum banosense* Leclercq, 2002b:43, ♀, ♂. Holotype: ♀, Ecuador: Tungurahua: Baños (BMNH). – Leclercq, 2002b:18, 32 (in key to New World *Rhopalum*); Amarante, 2005a:8 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae).

### 22. *barbatum* Leclercq

*Rhopalum barbatum* Leclercq, 1997:46, ♀, ♂. Holotype: ♀, Australia: 5 km SWW Paynes Find (ANIC).

### 23. *beaumonti* Móczár

*Rhopalum beaumonti* Móczár, 1957:423, ♂ (as *Beaumonti*, incorrect original capitalization). Holotype: ♂, Hungary: Plattensee = Lake Balaton: Gyenesdiás (TMB). – Móczár, 1958a:261 (in annotated catalog of Hungarian Crabronini), 1958b:190 (Hungary: list of collecting localities); Felton, 1969:20 (Austria: Burgenland); Balthasar, 1972:137 (in Sphecid Fauna of Czechoslovakia, can be expected in the country); R. Bohart and Menke, 1976:389 (in checklist of world Sphecidae); Marshakov, 1976d:110 (in revision of *Rhopalum* of USSR: W Kazakhstan); Pulawski, 1978:254 (in key to Sphecidae of European part of former USSR); Dollfuss, 1983b:14 (in catalog of Sphecidae of Austria: Neusiedl), 1991:142 (in key to Sphecidae of North and Central Europe); Leclercq, 1991f:103 (description of ♀), 105 (in key to *Rhopalum beaumonti*, *coarctatum*, and *gracile*); Bitsch and Leclercq, 1993:220 (in revision of western European Crabroninae); Leclercq, 1993c:42 (in annotated checklist of Crabronini and Oxybelini of Europe and Mediterranean Basin); Dollfuss, 1994:103 (endangered in Austria); K. Schmidt, 1997:43 (variation and distribution, first records from Germany and Turkey); Schnee, 1997:98 (first record from Germany: Sachsen: Nature Reserve Pressler Heidewald- und Moorgebiet); Schmidt and Schmid-Egger, 1997:27 (in checklist of German Sphecidae); Blösch, 2000:285 (in Sphecid Fauna of Germany); Zettel, 2000:29 (Austria: Burgenland: Oggau); Ohl et al., 2001:141 (distribution in Germany by provinces); van der Smissen, 2001:63 (Germany: Schleswig-Holstein: extinct); Kazenas, 2002a:97 (geographic distribution, collecting localities in Kazakhstan); Dollfuss, 2004b:782 (Turkey: Van: Van Lake east of Ercis); Saure, 2005:19 (Germany: Berlin), 2006:133 (Germany: Berlin); Jacobs, 2007:125, 127 (in key to Crabronidae of Germany); Saure, 2007:83 (in checklist of Aculeata of Land Brandenburg,

Germany); Ljubomirov and Yildirim, 2008:297 (in catalog of Crabronidae of Turkey); Bitsch and Leclercq, 2009:226 (in supplement to vol. I of Faune de France, 1993; Schmidt, 1997, illustrated frontal tubercle and basal flagellomeres; known from Austria, Germany, Hungary, Ukraine, Kazakhstan, and Turkey); Schmid-Egger, 2010a:18 (in red list of Aculeata of Germany: very rare); Józán, 2011:182 (in checklist of Sphecidae s.l. of Hungary); Leclercq, 2011:8 (in list of Asian *Rhopalum*); Yıldırım, Ljubomirov, and Lelej, 2014:15 (distribution in Turkey by biogeographic provinces); Koçak and Kemal, 2015:150 (in checklist of Hymenoptera of Turkey); Haris, 2016:34 (in list of species described by L. Móczár from Carpathian Basin).

#### 24. *bendorensis* Leclercq

*Rhopalum bendorensis* Leclercq, 1997:46, ♀. Holotype: ♀, Australia: Bendora (ANIC). – Matthews, 2000c:1 (nesting habits).

#### 25. *bogotae* Leclercq

*Rhopalum bogotae* Leclercq, 2002b:45, ♂. Holotype: ♂, Colombia: Candín Amarca 2 mi SE Bogota (CAS). – Leclercq, 2002b:35 (in key to New World *Rhopalum*); Amarante, 2005a:8 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae).

#### 26. *bohartum* Tsuneki

*Rhopalum bohartum* Tsuneki, 1966d:15, ♀. Holotype: ♀, Ryukyu Islands: Island of Ishigaki (BISHOP). – Tsuneki and Tano, 1969:31 (distribution in Japan); Leclercq, 1973c:301 (Taiwan: Taihorin); R. Bohart and Menke, 1976:389 (in checklist of world Sphecidae); Tsuneki, 1982g:63 (known from the Ryukyu archipelago); Porter, Stange, and Wang, 1999:10 (in checklist of Sphecidae of Taiwan); Haneda, Nozaka, Tano, Kurokawa, Murota, and Murota, 2007:55 (Japan: Ryukyu Archipelago: Amami Oshima Islands); Haneda, 2008:6 (in key to Japanese Crabroninae); Murota and Kurokawa, 2009:15 (Japan: Ryukyu Archipelago: Amami Oshima Islands); Leclercq, 2011:8 (in list of Asian *Rhopalum*, may be a subspecies or synonym of *Rhopalum simalurensis*).

*Rhopalum bohartorum* Tsuneki, 1966g:25 (unjustified emendation of *bohartum*). – Tsuneki, 1968g:30 (Taiwan; in key to Crabronini of Taiwan and Ryukyus); Murota, 1973b:119 (Taiwan); Leclercq, 1973c:301 (Taiwan); Tsuneki, 1977j:291 (Taiwan: Taihorin); Yamane, Ikudome, and Terayama, 1999:499 (in Identification Guide to Crabronidae of Nansei = Ryukyu Islands, Japan); Hua, 2006:282 (in list of Chinese insects, geographic distribution); Sung, Lin, Chang, Cheng, and Chen, 2006:164 (Taiwan: pollinator of mango); S. Takahashi, Haneda, and Tano, 2009:43, 48 (distribution in Japan).

#### 27. *brachinense* Leclercq

*Rhopalum brachinense* Leclercq, 1997:48, ♀. Holotype: ♀, Australia: South Australia: Trezona Camp, Brachina Creek (ANIC).

#### 28. *brevinodum* (Spinola)

*Physoscelus brevinodus* Spinola, 1851:361, ♀. Holotype: ♀, Chile: central provinces: no specific locality (lost). Neotype: ♀, Chile: Concepción (FSAG), designated by Leclercq, 1994b:255. – Leclercq, 2007g:194 (holotype in FSAG). – **As *Crabro brevinodus***: F. Smith, 1856:393 (new combination, in catalog of Hymenoptera in British Museum); Reed, 1894:649 (revision, description of ♂); Dalla Torre, 1897:585 (in catalog of world Sphecidae); Jaffuel and Piri6n, 1926:375 (Chile: valle de Marga Marga); Janvier, 1928:77 (nesting habits); Piek and Spanjer, 1986:183 (in list of Sphecidae with known prey). – **As *Rhopalum brevinodum***: Leclercq, 1954c:186 (new combination, in catalog of world Crabronini), 298 (nest and prey records); R. Bohart and Menke, 1976:393 (in checklist of world Sphecidae); Sielfeld, 1980b:74 (in checklist of Chilean Sphecidae); Steiner, 1986:106 (references to publications on nesting habits); Leclercq, 1994b:253 and 254 (in key to *Rhopalum* of Chile), 255 (bibliographic references, faunal records, diagnostic characters), 2002b:8, 33 (in key to New World *Rhopalum*), 45 (bibliographic references, locality records from Argentina); Dollfuss, 2004b:782 (Argentina: Neuqu6n: Pucara); Amarante, 2005a:7 (in addendum to



his 2002 catalog of Neotropical Crabronidae and Sphecidae); Chiappa, 2012:8 (Chile: Región de Valparaíso: no specific locality).

*Rhopalum pucarense* Leclercq, 1970a:102, ♀. Holotype: ♀, Argentina: Pucara in Parco Nacional Lanin (IML). Synonymized with *Rhopalum brevinodum* by Leclercq in R. Bohart and Menke, 1976:389, synonymy confirmed by Leclercq, 1994b:255. – Leclercq, 1970a:94 (in key to Latin American *Rhopalum*).

### 29. *brontense* Leclercq

*Rhopalum brontense* Leclercq, 1997:49, ♂. Holotype: ♂, Australia: Tasmania: Bronte Lagoon (ANIC).

### 30. *bruchi* Schrottky

*Rhopalum bruchi* Schrottky, 1909b:250, ♀. Holotype or syntypes: ♀, Argentina: Catamarca: no specific locality (MACN). – Schrottky, 1913a:233 (Argentina: Catamarca); Leclercq, 1954c:186 (in catalog of world Crabronini), 1970a:91 (is probably a *Podagritys*); R. Bohart and Menke, 1976:393 (in checklist of world Sphecidae, possibly belongs in *Podagritys*); Leclercq, 2000:32 (original description copied); Amarante, 2002:33 (in catalog of Neotropical Crabronidae), 2005a:8 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae, as species incertae sedis), 2005a:10 (correction to his 2002 catalog).

### 31. *bukidnon* Tsuneki

*Rhopalum bukidnon* Tsuneki, 1984f:9, ♀. Holotype: ♀, Philippines: Mindanao Island: Bukidnon: Sungeo (originally K. Tsuneki coll., now?). – Tsuneki, 1984f:34 (in key to Crabronini of Philippines); Nuhn and Menke, 1994:27 (holotype not transferred to USNM, possibly returned to T. Murota, the collector); Menke, 1995:14 (type still in K. Tsuneki collection); Tano, 1995:46 (holotype in K. Tsuneki collection); Leclercq, 2011:6 (in key to Asian species with bicolored tergum I), 8 (in list of Asian *Rhopalum*).

### 32. *cajanum* Leclercq

As *Rhopalum calderoni*: Leclercq, 1970a:97 (in key to Latin American *Rhopalum*) and 101 (♂ only). Corrected to *Rhopalum calderoni* by Leclercq, 2002b:45.

*Rhopalum cajanum* Leclercq, 2002b:45, ♀, ♂. Holotype: ♀, Peru: Amazonas: Chachapoyas (BMNH). Paratypes: Colombia, Ecuador. – Leclercq, 2002b:20, 38 (in key to New World *Rhopalum*); Amarante, 2005a:8 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae) Rasmussen and Asenjo, 2009:10 (in checklist of Crabronidae of Peru).

### 33. *calderoni* Leclercq

*Rhopalum calderoni* Leclercq, 1970a:101, ♀, ♂. Holotype: ♀, Bolivia: no specific locality (FSAG). – Leclercq, 1970a:92 (in key to Latin American *Rhopalum*), nec 97 and 101 = *Rhopalum cajanum*); R. Bohart and Menke, 1976:393 (in checklist of world Sphecidae); Amarante, 2002:33 (in catalog of Neotropical Crabronidae); Leclercq, 2002b:24, 40 (in key to New World *Rhopalum*), 46 (description of male, locality records from Bolivia and Colombia); Amarante, 2005a:8 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae); Leclercq, 2007g:195 (holotype in FSAG).

### 34. *caldux* Leclercq

*Rhopalum caldux* Leclercq, 2002b:47, ♀, ♂. Holotype: ♂, Ecuador: Tungurahua: Baños (BMNH). – Leclercq, 2002b:24, 40 (in key to New World *Rhopalum*); Amarante, 2005a:8 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae); Rasmussen and Asenjo, 2009:10 (in checklist of Crabronidae of Peru, as *caldaux*).

### 35. *caliense* Leclercq

*Rhopalum caliense* Leclercq, 2002b:48, ♀, ♂. Holotype: ♂, Colombia: Valle: Peñas Blancas 10 km west of Cali (FSCA). – Leclercq, 2002b:10, 28 (in key to New World *Rhopalum*); Amarante, 2005a:7 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae).

**36. calixtoides Leclercq**

*Rhopalum calixtoides* Leclercq, 1997:50, ♀. Holotype: ♀, Australia: Tasmania: Barrow Creek 8 km northeast of Nunamara at 41°21'S 147°22'E (ANIC).

**37. calixtum Leclercq**

*Rhopalum calixtum* Leclercq, 1957b:231, ♀. Holotype: ♀, Australia: Queensland: Brisbane (ANIC). – Leclercq, 1957b:6 (in key to Australian *Rhopalum*); R. Bohart and Menke, 1976:393 (in checklist of world Sphecidae); Leclercq, 1979b:354 (additional localities); Cardale, 1985:265 (in catalog of Australian Sphecidae); Leclercq, 1997:50 (in revision of Australian *Rhopalum*).

**38. calverti (Pate)**

*Euphilis calverti* Pate, 1947d:1, ♂. Holotype: ♂, Costa Rica: Bonnell Farm on Río Surubres (ANSP). – H. Allen, 1995:15 (type in ANSP). – **As *Rhopalum calverti***: Leclercq, 1954c:187 (new combination, in catalog of world Crabronini); R. Bohart and Menke, 1976:393 (in checklist of world Sphecidae); Hanson and Menke, 1995:644 (known from Costa Rica); Amarante, 2002:33 (in catalog of Neotropical Crabronidae); Leclercq, 2002b:11, 14, 30 (in key to New World *Rhopalum*), 49 (locality records from Costa Rica, Panama, and Trinidad, additional description); Amarante, 2005a:7 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae).

**39. calvitinum Leclercq**

*Rhopalum calvitinum* Leclercq, 2002b:50, ♀, ♂. Holotype: ♂, Costa Rica: San José: San Antonio de Escazú (Universidad de Costa Rica). – Leclercq, 2002b:11, 14, 34 (in key to New World *Rhopalum*); Amarante, 2005a:7 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae).

**40. canberrae Leclercq**

*Rhopalum canberrae* Leclercq, 1997:50, ♀, ♂. Holotype: ♀, Australia: Australian Capital Territory: Blundells Creek at 35°22'E 148°50'E (ANIC). Paratype: New South Wales.

**41. caniae Leclercq**

*Rhopalum caniae* Leclercq, 1997:51, ♀. Holotype: ♀, Australia: Queensland: Cania Gorge National Park at 24°43'S 150°59'E (ANIC).

**42. canlaoni Leclercq**

*Rhopalum canlaoni* Leclercq, 1963:73, ♀, ♂. Holotype: ♀, Philippines: Luzon: Mount. San Tomas near Baguio (AEI). – Baltazar, 1966:352 (in catalog of Hymenoptera of Philippines); R. Bohart and Menke, 1976:389 (in checklist of world Sphecidae); Tsuneki, 1984b:13 (Philippines), 1984f:6 (Philippines), 31 (in key to Crabronini of Philippines); Leclercq, 2011:8 (in list of Asian *Rhopalum*).

**43. changi Tsuneki**

*Rhopalum changi* Tsuneki, 1968g:22, ♂. Holotype: ♂, Taiwan: Ilan Prefecture: Mount Taiping (originally K. Tsuneki coll., now USNM). – Tsuneki, 1968g:29 (Taiwan; in key to Crabronini of Taiwan and Ryukyus); Nuhn and Menke, 1994:25 (holotype transferred to USNM); Porter, Stange, and Wang, 1999:10 (in checklist of Sphecidae of Taiwan); Hua, 2006:282 (in list of Chinese insects, geographic distribution); Leclercq, 2011:8 (in list of Asian *Rhopalum*).

**44. cardaleae Leclercq**

*Rhopalum cardaleae* Leclercq, 1997:51, ♀ (as *cardalae*, incorrect original spelling because dedicated to J. Cardale). Holotype: ♀, Australia: Queensland: Mount Lewis via Julatten (ANIC).



**45. *caripenne* Leclercq**

*Rhopalum caripenne* Leclercq, 2002b:50, ♂. Holotype: ♂, Venezuela: Caripo Conuco El Mirador (CNC). – Leclercq, 2002b:31 (in key to New World *Rhopalum*); Amarante, 2005a:7 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae).

**46. *carnegiicum* Leclercq**

*Rhopalum carnegiicum* Leclercq, 1979b:356, ♀. Holotype: ♀, Australia: Victoria: Carnegie (Nation. Mus. Victoria). – Cardale, 1985:269 (in catalog of Australian Sphecidae); Leclercq, 1997:51 (in revision of Australian *Rhopalum*).

**47. *carrabinum* Leclercq**

*Rhopalum carrabinum* Leclercq, 1997:52, ♀. Holotype: ♀, Australia: Western Australia: 12 km east of Carrabin (ANIC).

**48. *catgoricum* Leclercq**

*Rhopalum catgoricum* Leclercq, 2002b:51, ♂ [paratypes ♀: sex apparently in error]. Holotype: ♂, Trinidad: St. George: St. Augustine (BMNH). – Leclercq, 2002b:30 (in key to New World *Rhopalum*); Amarante, 2005a:7 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae).

**49. *caudinum* Leclercq**

*Rhopalum caudinum* Leclercq, 2002b:51, ♂. Holotype: ♂, Peru: Amazonas: Rodriguez de Mendoza (BMNH). – Leclercq, 2002b:30 (in key to New World *Rhopalum*); Amarante, 2005a:7 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae); Rasmussen and Asenjo, 2009:10 (in checklist of Crabronidae of Peru).

**50. *cecropis* Leclercq**

*Rhopalum cecropis* Leclercq, 2002b:51, ♂. Holotype: ♂, Ecuador: Morona Santiago: Macas (BMNH). – Leclercq, 2002b:30 (in key to New World *Rhopalum*); Amarante, 2005a:7 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae).

**51. *chinchillae* Leclercq**

*Rhopalum chinchillae* Leclercq, 1997:52, ♀. Holotype: ♀, Australia: Queensland: 11 km west-northwest of Chinchilla (ANIC).

**52. *chinquense* Leclercq**

*Rhopalum chinquense* Leclercq, 1994b:256, ♀, ♂. Holotype: ♀, Chile: Llanquihue: El Chinque north of Correntoso (AMNH). – Leclercq, 1994b:254 (in key to *Rhopalum* of Chile); Amarante, 2002:33 (in catalog of Neotropical Crabronidae); Leclercq, 2002b:18 (in key to New World *Rhopalum*), 52 (bibliographic reference); Dollfuss, 2004b:782 (Chile: Las Trancas Nuble: Shemguilla); Amarante, 2005a:8 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae).

**53. *claudii* (Janvier)**

*Crabro claudii* Janvier, 1928:82, nest and larva (authorship attributed to P. Herbst). Holotype: larva: Chile: Cordillera de Santiago: Pañalolen valley or Macul valley (lost). Neotype: ♀, Chile: Santiago: El Portezuelo: Colina (AMNH), designated by Leclercq, 1994b:257. – Piek and Spanjer, 1986:183 (in list of Sphecidae with known prey). – **As *Rhopalum claudii***: Leclercq, 1954c:186 (new combination, in catalog of world Crabronini, name considered nomen nudum), 298 (nest and prey records); R. Bohart and Menke, 1976:389 (in checklist of world Sphecidae, name validated by illustration of larva); Sielfeld, 1980b:74 (in checklist of Chilean Sphecidae); Steiner, 1986:106 (references to publications on nesting habits); Leclercq, 1994b:254 and 255 (in key to *Rhopalum* of Chile), 257 (bibliographic references, faunal records, history of Janvier's type material, description); Amarante, 2002:33 (in catalog of Neotropical Crabronidae); Leclercq, 2002b:16, 33 (in key to New World *Rhopalum*), 52 (bibliographic reference); Amarante, 2005a:8 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae).

**54. *clavipes* (Linnaeus)**

*Sphex clavipes* Linnaeus, 1758:569, sex not indicated. Lectotype: ♀, Europe: no specific locality (Linnean Society, London), designated by Day, 1979:59. – Fueßlin, 1775:50 (Switzerland); de Villers, 1789:220 (redescription); Gmelin, 1790:2726 (redescription); Christ, 1791:274 (redescription); Turton, 1801:488 (redescription); Day and Fitton, 1978:193 (recuration of Linnean type material). – **As *Crabro clavipes***: Dahlbom, 1839:43 and 1839-40:43 (new combination, in revision of Scandinavian Crabronini), 1842a:14 (in review of Scandinavian aculeates); F. Smith, 1851c:24 (Great Britain: no specific locality), 1853:63 (in checklist of British Hymenoptera), 1856:391 (in catalog of Hymenoptera in British Museum), 1858c:122 (in review of British Aculeata, redescription); A. Morawitz, 1866a:270 and 1866b:346 (specimens in Eversmann collection); Bold, 1870:148 (Great Britain: Northumberland and Durham); F. Smith, 1871b:13 (in catalog of British Aculeata); Taschenberg, 1875:381 (Germany: Halle); Daly, 1878:45 (Great Britain: Dorset: Glanville's Wootton); Kohl, 1880:134 (Austria: Tirol, and Italy: Trentino–Alto Adige); E. Saunders, 1880:282 (in revision of British Aculeata); Kohl, 1883e:656 (Switzerland); Sickmann, 1883:75 (Germany: Niedersachsen: Wellingholthausen); von Heyden, 1884:124 (Germany: Frankfurt am Main area); V. Perkins, 1892:204 (Great Britain: Gloucestershire: Wotton-under-Edge); 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); Freke, 1895:281 (first record from Ireland: Dublin County: Dundrum), 1896:41 (Ireland); Dalla Torre, 1897:589 (in catalog of world Sphecidae); Kohl, 1899:309 and 310 (in key to Palearctic *Rhopalum*); R. Bradley, 1900:13 (Great Britain: Birmingham); W. Evans, 1900:266 (Great Britain: Scotland: Aberfoyle); Nevinson, 1900:62 (Great Britain: Wales: Criccieth); E. Saunders, 1900a:266 (Great Britain: Scotland); A. Carter, 1901a:67 (Great Britain: Scotland: Perthshire: Comrie); E. Saunders, 1902a:52 (SW Ireland); de Cobelli, 1903:118 (Italy: Trentino: Val di Fiemme); Antiga and Bofill, 1904:22 (Spain: Cataluña Province); Jourdain 1904:221 (Great Britain: Derbyshire: Breadsall Moor); E. Saunders, 1907a:67 (Great Britain: Porthcawl); Schmiedeknecht, 1907:200 (in key to Hymenoptera of Central Europe); Bequaert, 1909:74 (...); Morley, 1909:305 (Great Britain: Isle of Wight); Cavro, 1910:685 (France: Département du Nord); Dittrich, 1911b:20 (Germany: Niederschlesien Province, now Poland: Dolny Śląsk Region); Morley, 1911:24 (western Ireland: Belclare); Hallett, 1912:94 (Britain: Glamorgan County); Alfken, 1914:274 (NW Germany); Kohl, 1915:336 (in revision of Palearctic Crabronini); O. Meyer, 1919:149 (Germany: Posen Province, now Poland: Poznań Region); Noskiewicz, 1920a:155 (Poland: Tatry Mountains: Bystre, Toporowa Cyrhla); Dubois, 1921b:162 (in key to Belgian Sphecidae), 166 (phenology, nesting habits); Stelfox, 1924:16 (Ireland: Glenasmole); Berland, 1925d:180 (in Sphecid Fauna of France); Bischoff, 1925:299 (Poland: Grajewo area); Blüthgen, 1925:165 (Germany: Saale River valley: Naumburg); Grönblom, 1925:8 (nesting habits); Schütze, 1925:111 (Germany: Lausitz Region); Shestakov, 1925:36 (Russia: Yaroslavl' area); Carpentier, Crèvecoeur and Maréchal, 1926:354 (Belgium: Barvaux-sur-Ourthe, Méry); Zavadil, 1926:36 (Czechoslovakia); Berland, 1928b:180 (add Höppner, 1910, Billups, 1883, and Hamm and Richards, 1926 to bibliography in Berland, 1925d); Maréchal, 1929:115 (description of larva); Bouwman, 1930:105 (in revision of Sphecidae of Netherlands); Hedicke, 1930b:130 (...); Schmiedeknecht, 1930:658 (in keys to Hymenoptera of North and Central Europe); Pulkkinen, 1931:154 (in revision of Sphecidae of Finland); Step, 1932:94 (...); Bondroit, 1932:42 (Belgium: recorded from Bruxelles area by Wesmael), 1933:33 (Belgium: Bruxelles); Chambers, 1933:188 (Great Britain: Bedfordshire); Merisuo, 1933a:60 (Finland: city of Turku); E. Nielsen, 1933:267 (summary of nesting habits); Routledge, 1933:88 (England: Cumberland); Balles, 1934:17 (Germany: Baden-Württemberg: Achern, Hopfengarten); Jansson, 1934:288 (Sweden); Forsius *in* Forsius and Hellén, 1935:11 (in checklist of Hymenoptera of Finland); Steck, 1935:326 (Switzerland); Crèvecoeur and Maréchal, 1936:257 (in catalog of Belgian Hymenoptera); Haines, 1936:141 (Great Britain: Scotland: Inverness-shire: Grantown); Zavadil, Šustera, and Baťa, 1937:168 (in catalog of Sphecidae of Czechoslovakia); nec Iwata, 1938d:88 (= *Rhopalum jessonicum*); Leclercq, 1941b:16 (Belgium: Liège area); Paul, 1941:38 (Germany: Pommern: Stettin area, now Poland: Województwo Zachodniopomorskie: Szczecin area); Giner Marí, 1943a:252 (in key to Spanish Sphecidae); Guiglia, 1944b:35 (Italy); Šnoflák, 1944a:143 (Czech Republic: serpentine steppe near Mohelno); nec Tsuneki,

1947:429 (= *Rhopalum jessonicum*); de Hennin and Anciaux, 1948:76 (Belgium: between Sambre and Meuse rivers); Tsuneki, 1948c:8 (Japan: Hokkaido); Zavadil in Zavadil and Šnoflak, 1948:137 and 138 (in key to Sphecidae of Czechoslovakia); Cavro, 1950:38 (France: Département du Nord); Georgel, 1950:64 (France: Seine-et-Oise: Sucy-en-Brie); de Beaumont, 1951h:35 (Switzerland: Neuchâtel area); Fæster, 1951:458 (distribution in Scandinavia); Nouvel and Ribaut, 1953:182 (France: Haute-Garonne: Luchon, Saint-Béat, Hautes-Pyrénées: Cauteretst); de Beaumont, 1954e:98 (Italy); Vergne, 1955:5 (France: Auvergne); Vogrin, 1955:41 (Yugoslavia); Ceballos, 1956:393 (in catalog of Hymenoptera of Spain); Preuss, 1956:15 (Germany: Schleswig-Holstein: Mölln in Lauenburg); Benno, 1957:144 (Netherlands: Tilburg area, nesting in stems of *Rubus*); Zirngiebl, 1957:177 (Germany: Rheinland-Pfalz: Hildesheim, Leistadt); Benno, 1958b:20 (in review of Dutch Sphecidae); Noskiewicz and Puławski, 1960:158, 159 (in key to Polish Sphecidae); Fæster, 1965:193 (Denmark: Hansted Nature Reserve); Bonelli, 1966c:220 (Italy: Trentino–Alto Adige: Fiemme, Vigo di Fassa); Tumš and Maršakovs, 1970:31 (Latvia); Niedl and Deneš, 1967:75 (Czech Republic: Třeboň area); Skibińska, 1981:358 (Poland: Warszawa-Białoleka), 1982:124 (Poland: Warszawa area); Kowalczyk, 1988a:46 (Poland: Rogów), 1988b:66 (Poland: environs of Łódź). – **As *Euplilis clavipes***: Pate, 1943d:14 (new combination, Holarctic; California, Oregon, Washington), 1946g (New York State: Adirondack Mountains); Krombein in Muesebeck et al., 1951:1018 (Holarctic, in catalog of North American Hymenoptera); Evans, 1957b:106 (discussion of Maréchal's, 1929, description of larva); Krombein in Krombein and Burks, 1967:419 (citation of Maréchal, 1929). – **As *Physoscelis clavipes***: R. Perkins, 1913b:396 (new combination, in key to British Crabronini), 1924:226 (Great Britain: Devon), 1925:153 (Great Britain: Gloucestershire and Somersetshire); Hamm and Richards, 1926:318 (summary of nesting habits), 328 (list of prey); Stelfox, 1927:303 (Ireland: list of collecting localities); Jones, 1928a:5 (nesting in old oak-stump at Wollaton Park, Nottingham), 1928b:14 (Great Britain: Hampshire: Milford-on-Sea); Butterfield and Fordham, 1931:158 (Great Britain: Yorkshire); Spooner, 1931:15 (Great Britain: Cambridgeshire); Jones, 1932b:233 (Great Britain: Wicken Fen); Hallett, 1937:73 (Great Britain: Herefordshire: Cusop, Mathon); T. Fletcher, 1945:54 (Great Britain: Gloucestershire: Chalford, Cotswolds, Rodborough, Stroud); Graham, 1950:349 (eggs of unknown insect deposited on thorax). – **As *Rhopalum clavipes***: Dahlbom, 1844:291 (267 (new combination, in revision of Sphecidae and Pompilidae), 1845:510 (in key to *Rhopalum*); Eversmann, 1849:415 (Russia: Kazan' Province); von Kiesenwetter, 1849:90 (Germany: Kingdom of Saxony: Oberlausitz area); Wissmann, 1849:15 (Germany: Kingdom of Hannover: Münden); Tischbein, 1850:9 (Germany: Rheinland-Pfalz: Herrstein in Fürstenthum Birkenfeld); Wesmael, 1852:592 (Belgium: Bruxelles); Kirchner, 1854:313 (Czechoslovakia: Kaplitz in Budweiser District, now České Budějovice; as *Rhobalum*); Ruthe and Stein, 1857:315 (Germany: Berlin area); Schenck, 1857:119 (in revision of fossorial wasps of Nassau Region, Germany); A. Costa, 1858:21 (Italy: Campania: Monti Partenii in Benevento Region); Taschenberg, 1858:99 (in key to Sphecidae of Germany); Funk, 1859:58 (Germany: Bayern: Bamberg); Schenck, 1860:146 (Germany: Nassau Region); Brischke, 1862:105 (Germany: Preussen Province, now Poland: Pomorze Region); Taschenberg, 1866:184 (in revision of Hymenoptera of Germany); A. Costa, 1867c:121 (in revision of Italian Sphecidae); Kirchner, 1867:223 (in catalog of European Hymenoptera); Schenck, 1867a:352 (Germany: Nassau Region); Wierzejski, 1868:117 (Ukraine: Podole Region: Pieniaki); Thomson, 1870:158 (in revision of Swedish Crabroninae); A. Costa, 1871b:50 (in revision of Italian Sphecidae); Dours, 1874:152 (in catalog of Hymenoptera of France); Thomson, 1874:259 (in revision of Hymenoptera of Scandinavia); Marquet, 1875:209 (France: Aude: Narbonne; Hérault:, Montpellier); Schlechtendal, 1876:54 (Germany: Sachsen: Zwickau); Radoszkowski, 1877:77 (Uzbekistan: Samarkand, Katta-Kurgan; also: Uch-Kurgan and Ayma); Siebke, 1880:68 (Norway); Marquet, 1881:184 (France: Landes); Schøyen, 1881:12 (correction to Siebke, 1880); Wüstnei, 1886:37 (Germany: Schleswig-Holstein: Emmelsbüll, Sonderburg); Brischke, 1888b:100 (Germany: Preussen Province, now Poland: Pomorze Region), 1889:204 (Germany: Steegen east of Danzig, now Poland: Stegna east of Gdańsk); Verhoeff, 1891a:4 (nesting habits), 1892b:362 (male cocoons are closer to nest entrance), 364 (nest may include progeny of one sex only), 1892c:724, 731 (nesting habits); Borries, 1897:46 (nesting habits); Lange, 1898:70 (Germany: Sachsen: Annaberg-Buchholz); Strand, 1898b:95 (Norway); J. Nielsen, 1901a:262 (nesting habits); Ad-

lerz, 1904:136 (known prey: Psocidae, Mycetophilidae, Cecidomyiidae, Muscidae); Aurivillius, 1904:279 (in revision of Swedish Sphecidae); de Gaulle, 1908:122 (in catalog of French Hymenoptera); Höppner, 1910b:167 (mixed nest of *Rhopalum clavipes* and *Crossocerus* sp. ?*capitosus*); Graeffe, 1911:44 (Italy: Trieste area); M. Müller, 1911:114 (Germany: Brandenburg: no specific locality, nesting in galls of *Lipara*); Adlerz, 1912:57 (nesting habits); Chevalier, 1912:32 (carrying psocid prey with midlegs, venter to venter); Schirmer, 1912:164 (Germany: Berlin area); Schütze, 1916:42 (Germany: Sachsen: Rachlau, visiting flowers of parseley, *Petroselinum crispum*); Noskiewicz, 1918:138 (Galicia, now western Ukraine: Marjówka), 1920b:155 (Poland, now Ukraine: forest district Kopanki near Kalusz); A. Wagner, 1920:47 (Germany: Lower Elbe region); Jansson, 1922:25 (Sweden: Öland Island); Coulon, 1925:123 (France: Oise, Germany, Switzerland); Friese, 1926:150 (in key to Sphecidae of Central Europe, morphological and biological characteristics); Hémon, 1926:199 (France: Finistère: Fouesnant); Maréchal, 1929a:111 (nesting habits), 1929b:240 (nest shared with *Hylaeus brevicornis* Nylander); Harttig, 1930b:8 (specimen bearing dipteran egg); Baudot, 1931:255 (characteristics of cocoon); Minkiewicz, 1935:219 (Poland: Lake Garbaś 20 km west of Suwałki); Richards, 1937b:107 (in checklist of British aculeates); P. Freeman, 1938:1 (nest, prey, cocoon, life cycle in England); A. Wagner, 1938a:118 (northwestern Germany); Blair, 1939:240 (nesting in old galls of *Saperda populnea* (L.), nest parasite: *Demopheles caliginosus* Gravenhorst); Struve, 1940:823 (Germany: Borkum Island); de Graham, 1941:99 (Great Britain: Lincolnshire); Kloet, 1941:235 (Great Britain: Wales: Somerford and Wilmslow); J. Perkins, 1942:199 (Sweden: southern Skåne); Spooner, 1942:110 (Great Britain: Bedfordshire); R. Perkins, 1945:147 (Great Britain: Devon: moorland near Lydford); Spooner, 1946:27 (Britain: Leicestershire: Charnwood Forest); Bristowe, 1948:36 (prey: Psocidae); Guichard and Yarrow, 1948:92 (Britain: London: Hampstead Heath); Chambers, 1949:230 (Britain: Bedfordshire); Leclercq, 1951e:3 (bibliography of Belgian records); Głowacki, 1953:518 (Poland: Podkowa Leśna near Warszawa); Bischoff and Stadler, 1954:127 (Germany: Bayern: Romberg); Fahlander, 1954:250 (Sweden: Gästrikland Region); Leclercq, 1954c:188 (in catalog of world Crabronini), 299 (nest and prey records); Aerts, 1955:57 (Germany: Rheinland); Leclercq, 1956i:133 (Luxemburg); Yeo, 1957:20 (Great Britain: Middlesex, now in London); Móczár, 1958b:191 (Hungary: list of collecting localities); Wolf, 1959b:32 (Germany: Nassau); Hoop, 1961:64 (Germany: Schleswig-Holstein: Kronshagen); Valkeila, 1962b:68 (southwestern Finland); Felton, 1963:179 (Great Britain: Kent County); Lyngnes, 1963:100 (nesting in galleries of anobiid *Grynobius*, preying on aphids, prey record probably in error); Valkeila, Brander, and Käpylä, 1963:41 (Finland: historical region Lounais-Hämeen = southwest Häme); Babiş, 1964:117 (Austria: Land Salzburg); de Beaumont, 1964c:155 (Switzerland); Valkeila, Brander, and Käpylä, 1964:75 (Finland: southern Finland: Forssa); B. Klug, 1965:138 (Germany: Baden-Württemberg: Freiburg im Breisgau area); Benedek, 1966a:163, 164 (nest occasionally in galls of *Cynips kollari* Htg., and *Rhodites rosae* L.); Gauss, 1966c:240 (specimen bearing dipteran egg); Benno, 1967:39 (in checklist of Sphecidae of Netherlands); Gauss, 1967:559 (Germany: Baden-Württemberg); J. Heinrich, 1967:82 (Germany: Bayern: Unterfranken District); Leclercq, 1967a:35 (locality records from Great Britain); Lefeber, 1967c:220 (Netherlands: Kannerbos, St. Pietersberg); Benedek, 1968:78 (Hungary, visiting flowers of *Angelica silvestris* L.); Lefeber, 1968a:5 (Netherlands: Botshol), 1968b:94 (Netherlands: Sint Pietersberg); Scobiola-Palade, 1968a:822 (first record from Romania: Prahova District: Sinaia); Wolf, 1968:12 (Germany: Nordrhein-Westfalen: Siegen, inhabitant of forest edge); Benedek, 1969a:85 (Hungary: marshy meadow); Lefeber, 1969b:99 (Netherlands: Bemelen, St. Pietersberg; Belgium: Lanaye), 1969c:234 (Netherlands: Sint Pietersberg = Montagne Saint Pierre); Romanova, 1969:134 (Russia: North Caucasus); Benedek, 1970:104 (Hungary: Tapolca); Oehlke, 1970:790 (Democratic Germany); Danks, 1971a:362 (nesting habits), 1971b:67-73 (Great Britain: Berkshire: Silwood Park), 1971c:80 (nest mortality); Leclercq, 1971:227 (Spain); Schmidt, 1971b:52 (Germany: Rheinland-Pfalz: Mainzer Sand); Stritt, 1971a:105 (Germany: Baden-Württemberg: Karlsruhe); Torossian, 1971:147 (France: Toulouse area; nesting in oak galls, preying on Psocidae; parasite: *Diomorus* sp., a Torymid); Balthasar, 1972:135 (in Sphecid Fauna of Czechoslovakia); Haeseler, 1972:157 (Germany: Schleswig-Holstein: anthropogenic habitats); Kofler, 1972:116 (Austria: eastern Tirol); Scobiola-Palade, 1972b:254 (Romania); Tsuneki, 1972a:159 (Mongolia); R. Bohart, 1974: 254, 256 (in key to North

American *Rhopalum*, 257 (in revision of North American *Rhopalum*); Haeseler, 1974:124 (Germany: Schleswig-Holstein); Leclercq, 1975b:2 (France); Lefeber, 1975b:156 (Belgium); Lomholdt, 1975b:32 (Denmark: Anholt Island); R. Bohart and Menke, 1976:389 (in checklist of world Sphecidae); Cretin and Robert, 1976:47 (France: Doubs: Chassagne-Saint Denis); Jacob-Remacle, 1976:237 (Belgium: Liège, nest structure and mortality); Lomholdt, 1976:352 (in Sphecid Fauna of Fennoscandia and Denmark); Marshakov, 1976d:106 (in revision of *Rhopalum* of USSR, including Vladivostok); Guichard, 1977:253 (Great Britain: Surrey); Roques, 1977:419 (France: Fontainebleau, nesting in pine cones); Schmidt, 1977:99 (Germany: Baden-Württemberg: Enzklösterle in Schwarzwald); Haeseler, 1978c:195 (Germany: Friesian Islands: Borkum Island); Pulawski, 1978:254 (in key to Sphecidae of European part of former USSR); Schwammlberger, 1978:421 (Germany: Württemberg); Haeseler, 1979:10 (Germany: Niedersachsen: 10 km south of Oldenburg); Krombein, 1979b:1663 (in catalog of North American Hymenoptera, list of prey); Leclercq, Gaspar, and Verstraeten, 1979:map 1435 (Belgium); Marchal and Leclercq, 1979:10 (Belgium: Gembloux); Day and Smith, 1980:173 (eggs on miltogrammine flies on adult female); Jacob-Remacle and Leclercq, 1980:193 (Belgium: gardens in Liège); Pagliano, 1980:122 (Italy: Piemonte); Richards, 1980:56 (in key to Sphecidae of British Isles); Schmidt, 1980:332 (Germany: Baden-Württemberg); Westrich, 1980:635 (Germany: Baden-Württemberg: Tübingen area); Dollfuss and Ressler, 1981:322 (Austria: Niederösterreich: Scheibbs District); Haeseler, 1981:52 (Germany: Friesian Island: Amrum Island); Woydak, 1981:46 (Germany: Westfalen: Hamm); Axelsson, 1982:80 (Sweden); Donath, 1982:215 (Germany: Cottbus Bezirk); Finnamore, 1982:135 (in Sphecid Fauna of Southern Quebec); Gayubo, 1982b:22 (Spain: Ávila: Solana de Béjar); Gayubo and Nieves, 1982:192 (nesting in abandoned galls on oak); Leclercq, 1982a:125 (Belgium: Liège), 1982e:100 (Norway: Nord-Trøndelag: Røra); Tsuneki, 1982b:10 (Korea), 1982b:17 (known from Korea); Dollfuss, 1983b:14 (in catalog of Sphecidae of Austria); Lefeber, 1983a:85 (Netherlands: Waddendistrict: northern coast sand dunes, Vlieland and Schiermonnikoog islands); Riemann, 1983:88 (Germany: Bremen-Daverden area); Chevin and Silvestre de Sacy, 1984:8 (France: Yvelines Department); Gayubo, 1984b:96 (Spain: previously recorded from Salamanca Province); Haack, Tschamntke, and Vidal, 1984:132 (Germany: Hamburg area); Jacob-Remacle, 1984:260 (Belgium: urban center of Liège); Lefeber, 1984:29 (Netherlands: Maastricht); Schneider, 1984:145 (nesting habits); Archer, 1985:96 (Great Britain: Suffolk); Haeseler, 1985:350 (Germany: Schleswig-Holstein), 1985c:571 (Germany: Friesian Islands); Jacob-Remacle, 1985:408 (Belgium; second occupant in a composite nest); Lefeber, 1985:87 (Netherlands: southern Limburg); Paik, 1985:202 (in list of Sphecidae of Korea); Turner, 1985:9 (Czech Republic: Jezerka Nature Reserve in Krušné Hory = Erzgebirge); Brechtel, 1986:72 (Germany: Südpfalz); Jozán, 1986:372 (Hungary: Kiskunság National Park); Nemkov, 1986:101 (Russia: Irkutsk Oblast'); Skibińska, 1986b:151, 154 (Poland: suburbs of Warszawa), 158 (rural and suburban parks), 160 (gardens), 165 (streetside green), 174 (various green urban habitats); Steiner, 1986:106 (references to publications on nesting habits); Vikberg, 1986:77 (Finland); Schmidt and Westrich, 1987:375 (Germany: Mainz area); Haeseler, 1988:211 (Germany: Friesian Islands); Wolf, 1988b:141 (Germany: Rheinland-Westfalen); Archer, 1989a:131 (Great Britain: York: found before coniferization); Bałazy, Banaszak, and Michalski, 1989:119 (Poland: Wielkopolski National Park); Jacobs, 1989:17 (Germany: Mecklenburg-Vorpommern); Pádr *in* Šedivý, 1989a:16 (in checklist of Czechoslovakian Sphecidae); Pankevich, Belyavskaya, Molchanova, Shlyakhtenok, and Blinov, 1989:97 (Belarus': Berezinskiy Nature Reserve); Skibińska, 1989a:206 (Poland: Warszawa area), 163 (urban parks); Weiffenbach, 1989:110 (Germany: Hessen: Gießen area); Archer, 1990b:137 (Great Britain: city of Leicester), 1990c:17 (Great Britain: Leicestershire); Jacobs and Oehlke, 1990:181 (new records from Democratic Germany); Kowalczyk, 1990:292 (Poland: Góry Świętokrzyskie); Kuznetzova, 1990:22 (Russia: Voronezh Oblast': Galich'ya Gora Nature Reserve); Nash, Boston, and Nelson, 1990:249 (Ireland: Down County); Pádr, 1990:82 (Czech Republic: Praha area); Pagliano, 1990:93 (in catalogue of Italian Sphecidae); Schwammlberger and Priesner, 1990:543 (Austria: Kärnten); von der Heide and Witt, 1990:64 (Germany: Niedersachsen); Dollfuss, 1991:142 (in key to Sphecidae of North and Central Europe); Gayubo, Borsato, and Osella, 1991:406 (Italy: Veneto: San Rocco); Jakubzik, 1991:75 (Germany: Köln); Kowalczyk, 1991a:91, 100, 102, 105 (Poland: Łódź), 1991b:121 (Poland: Augustów Forest); Kurczewski and Miller, 1991:254 (New York: Madison

County); Nilsson, 1991:83 (Sweden: Lake Mälaren); Pagliano, 1991b:357, 358 (in key to Italian Crabroninae); N. Schneider, 1991:93 (Luxemburg); Sorg and Wolf, 1991:195 (Germany: Koppelstein Reserve SE Koblenz); von der Heide, 1991:63 (Germany: peat bog near Oldenburg); Archer, 1992a:56 (Great Britain: Leicestershire); Budrys, 1992:32 (in list of Sphecidae of Lithuania); Cölln and Jakubzik, 1992:89 (Germany: Rheinland; reared from twigs of *Rubus*); Nilsson, 1992:54 (Sweden); N. Schneider and Jacob-Remacle, 1992:43 (Luxemburg), 52 (nest structure); Sorg and Cölln, 1992:132 (Germany: Rheinland-Pfalz: Gönnersdorf); K. Weber, 1992:88 (Germany: Bayern: Bamberg District); Wolf, 1992c:23 (Germany: Nordrhein-Westfalen: Plettenberg: castle Schwarzenberg ruin); Bitsch and Leclercq, 1993:225 (in revision of western European Crabroninae); Jakubzik and Cölln, 1993:136 (Germany: Rheinland-Pfalz: Bernkastel-Kues; nesting in stems of *Rubus*); Józán, 1993:413 (Hungary: Bükk National Park); Kuhlmann, 1993:76 (Germany: known from Westfalen); Leclercq, 1993c:42 (in annotated checklist of Crabronini and Oxybelini of Europe and Mediterranean Basin); Leclercq and Barbier, 1993:90 (map of distribution in France); Sorg and Wolf, 1993:60 (Germany: Rheinland-Westfalen: Nature Reserve Die Spey); Finnamore, 1994:210 (Canada: Alberta: Wagner Natural Area 8 km west of Edmonton, as *clavipes clavipes*); Kowalczyk, 1994:76 (Poland: Łagiewniki forest in Łódź); Pádr and Lukáš, 1994:894 (Slovakia: High Tatra Mountains); Theunert, 1994c:50 (summary of records from Niedersachsen and Bremen, Germany); Negrisola *in* Minelli, Ruffo, and La Posta, 1995b:8 (in catalog of Italian fauna); Nemkov *in* Nemkov, Kazenas, Budrys, et Antropov, 1995:428 (in key to Sphecidae of Russian Far East); Pagliano and Pesarini, 1995:89 (Italy: Ferrara Province); Riemann, 1995:52 (Germany: Bremen); Scharrer, 1995:28 (Germany: Bayern: Mainfranken); Schmid-Egger, 1995:64 (Germany: NW Baden-Württemberg); Schmid-Egger, Risch, and Niehuis, 1995:207 (summary of records from Germany: Rheinland-Pfalz Province); Shlyakhtenok, 1995:194 (Belarus: Berezinsky Nature Reserve); Skibińska, 1995:423, 425, 426, 427 (Poland: pine forest in Białowieża Primeval Forest); von der Dunk and Amon, 1995:52 (Germany: Nürnberg: Birkenlach forest); Archer, 1996b:37 (Great Britain: Nottinghamshire: Sherwood Forest); Arens, 1996:441 (Germany: Bayern: Bayreuth area); Fowles, 1996:35 (Great Britain: in checklist of aculeates of Wales); Harvey and Plant, 1996:74 (Great Britain: summary of records from Essex); Jakubzik, 1996:253 (Germany: Köln); Jakubzik and Cölln, 1996a:323 (Germany: nesting in stems of *Rubus*), 325 (parasitoid: undetermined eurytomid), 335 (in keys to cocoons), 1996b:401 (Germany: Rheinland-Pfalz); Schmid-Egger, Schmidt, and Doczkal, 1996:378 (Germany: Baden-Württemberg: not endangered); Shlyakhtenok, 1996:304 (Belarus: Berezinsky Nature Reserve); Voblenko, Gorobchishin, and Nesterov, 1996:14 (Ukraine: Polesye Region); Witt, 1996:106 (Germany: Brandenburg), 111 (locality records); Woydak, 1996:53 (Germany: Westfalen: summary of distribution and nesting habits); Celary, 1997:59 (in checklist of Animals of Poland); Gauss, 1997:27 (egg of miltogrammatid flies deposited on adult specimens); Riemann, 1997:50 (Germany: Achim 14 km SE Bremen); Schmidt and Schmid-Egger, 1997:28 (in checklist of German Sphecidae); Stoyanov and Ljubomirov, 1997:27 (Bulgaria: Rila Mountains); Dollfuss, Gusenleitner, and Bregant, 1998:521 (Austria: summary of collecting records from Burgenland); Drewes, 1998:49 (Germany: Niedersachsen: Goldbeck 26 km west-southwest of Hamburg); Haeseler and Ritzau, 1998:51 (Germany: Bremen: Harriersand Island in Weser River); Jakubzik, Schlüter, and Cölln, 1998:1182, 1184 (Germany: Rheinland-Pfalz); Józán, 1998:307, 311 (Hungary: Duna-Dráva National Park); Lefeber, 1998:182 (Netherlands: Limburg: Sint-Pietersberg near Maastricht at 50°50'N 5°41'E); Sugar *et al.*, 1998:16 (Canada: southern Ontario); Tschartnke, Gathmann, and Steffan-Deventer, 1998:719 (trap-nesting in Germany); van der Smissen, 1998:68 (Germany: Niedersachsen, Schleswig-Holstein); Archer, 1999b:82 (Great Britain: Yorkshire); Cölln and Jakubzik, 1999:29 (Germany: Rheinland-Pfalz: Keuper-Scharren southwest of Hungerburg); Dorow, 1999:531, 573 (Germany: Hessen: Niddahänge east of Rudingshain Forest Reserve); Erhardt, 1999:75 (Germany: Niedersachsen: Ammerland area); Generani, Pagliano, Scaramozzino, and Strumia, 1999:79 (Italy: Toscana: Isola di Montecristo); Herrmann, 1999:8 (Germany: Niedersachsen: Oldenburg area; habitats size); Ljubomirov, 1999b:53 (Bulgaria: Mount Vitosha near Sofia); Majzlan, Rychlík, and Deván, 1999:146 (Slovakia: Čenkovská Step Nature Reserve); Pauly, 1999:110 (in catalog of Belgian aculeates); M. Schwarz, 1999:86 (Austria: Oberösterreich: city of Linz area); Blösch, 2000:286 (in Sphecid Fauna of Germany); Canovai *et al.*, 2000:78 (Italy: Toscana: Isola di



Montecristo); Gonzáles, Gayubo, and Tormos, 2000:20 (Andorra: Santa Coloma); Jacobs, 2000:9 (Germany: Land Mecklenburg-Vorpommern: not endangered); Józán, 2000:110 (Hungary: Bakony Mountains); Luig and Voolma, 2000:123 (first record from Estonia); M. Mader and Chalwatzis, 2000:60 (Germany: Hessen: Oderwald Mts.); Mokrousov, 2000b:31 (Russia: Nizhniy Novgorod Oblast'); Pijfers, 2000:5 (Netherlands: Twente Region); Vepřek, 2000:236 (Slovakia: Správa in Bely Karpaty mountain range); Wiśniowski, 2000:161 (Poland: Bieszczady Mts.); Zeman and Vaněk, 2000:178 (Czech Republic: Harrachov); Archer, 2001b:14 (Great Britain: Watsonian Yorkshire); Dorow, 2001:136 (Germany: Hessen: Schönbuche Forest Reserve); Haeseler, 2001:266 (Germany: Niedersachsen: Brookdeich near Oldenburg); Józán, 2001:280 (Hungary: Somogy County); Kazenas, 2001b:187 (review of known biology); Ohl et al., 2001:141 (distribution in Germany by provinces); Shlyakhtenok and Agunovich, 2001:144 (Belarus: Berezinskiy Nature Reserve); Skibińska, 2001:220 (Poland: Białowieża Primeval Forest); Szczepko and Kowalczyk, 2001:188 (Poland: Kampinos National Park near Warszawa); van der Smissen, 2001:63 (Germany: Schleswig-Holstein: not endangered); Zettel, Gross, and Mazzucco, 2001:75 (Austria: Wien); Archer, 2002b:120 (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, 2002b:204 (Slovakia: Pekelná dolina); Esser and Cölln, 2002:1137 (SW Germany: Eifel region); Józán, 2002:53 (Hungary: Mecsek Mountains); Kazenas, 2002a:97 (geographic distribution, collecting localities in Kazakhstan); Leclercq, 2002b:13, 34 (in key to New World *Rhopalum*), 52 (bibliographic references, locality records from Canada and USA); Lukáš, 2002:191 (Slovakia: Hájnica hill near Trenčianske Bohuslavice); Martínez de Murguía, Vázquez, and Nieves Aldrey, 2002:202 (Spain: Navarra: Artikutza Forest Reserve at 43°09'28"–43°14'52"N 0°1'45'35"–01°49'30"E); Mokrousov, 2002:149 (Russia: Nizhniy Novgorod Oblast': Kerzhenskiy Nature Reserve); Shlyakhtenok and Skibinska, 2002:34 (Belarus: no specific locality); Wiśniowski, 2002:71 (Poland: Ojców National Park); Bergsten, Ekerholm, Hellquist, Hilszczanski, Nilsson, Pettersson, and Werner, 2003:71 (Sweden: Västerbotten: Romelsön island); Blösch, 2003b:82 (Germany: Bayern: Erlangen area, nesting in rotten willow poles); Cölln, Esser, and Jakubzik, 2003:63 (Germany: northwestern Rheinland-Pfalz: excavation sites and quarries); Drewes, 2003:142 (Germany: Hessen: Gießen); Flügel, 2003:9 (Germany: Hessen: Knüllwald); Generani, Pagliano, Scaramozzino, and Strumia, 2003:65 (Italy: Arcipelago Toscano); Haeseler, 2003:340 (Germany: Niedersachsen: Harriersand Island near Bremen); Kula and Tyrner, 2003b:203 (northern Czech Republic: spruce stands in air-pollution region); Mandery, Kraus, Voith, Wickl, Scheuchl, Schubert, and Warncke, 2003:70 (Germany: in catalog of wasps and bees of Bayern); Nieves-Aldrey, Fontal-Cazalla, Garrido-Torres, and Rey del Castillo, 2003:42 (Spain: Madrid: Estación Biogeológica de El Ventorrillo in Sierra de Guadarrama); Schmid-Egger, 2003:757 (Italy: Sicilia: Piano, Randazzo); Steffan-Dewenter and Leschke, 2003:1966 (Germany: Niedersachsen: orchard meadows); von der Heide and Metscher, 2003:103 (Germany: Niedersachsen: Emsland area); Wiśniowski in Dylewska and Wiśniowski, 2003:158 (Poland: Ojców National Park); Wiśniowski and Werstak, 2003:77 (Poland: Pieniny National Park); Buck, 2004:26 (in checklist of Crabronidae of Ontario, Canada); Budrienė, Budrys, and Nevronytė, 2004:22 (Lithuania: nesting in trap nests); Dollfuss, 2004b:782 (Czech Republic: Krumlov); Dorow, 2004a:127 (Germany: Hessen: Schönbuche Nature Reserve); Esser, Jakubzik, Sonnenburg, and Woydak, 2004:263 (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); Gorobchishin and Protsenko, 2004:40 (Ukraine: Kherson Oblast': Chernomorskiy Nature Reserve); Jakubzik and Cölln, 2004:271 (in key to nests of Hymenoptera nesting in stems of *Rubus*); Jakubzik, Niehuis, and Cölln, 2004:458 (Germany: Rheinland-Pfalz: Roßstein in Rhein valley at 50°06'42"N 7°43'87"E); Kula and Tyrner, 2003a:150 (Czech Republic: Děčín Sandstone Uplands: forest district Snežník: birch stands in air-polluted area); Bergsten, Nilsson, and Hellquist, 2004:7 (Sweden: Västerbotten: Nordmaling); Salzmänn-Wandeler and Rezbanyai-Reser, 2004:26 (central Switzerland); Schneider and Carrières, 2004:97 (Luxemburg: Bon-Pays Region); Skibińska in Bogdanowicz, Chudzicka, Pilipiuk, and Skibińska, 2004:357 (in catalog of Polish Crabronidae); Szczepko and Kowalczyk, 2004:126 (Poland: Kampinos National Park near Warszawa); van Achterberg and Peeters, 2004:31 (in checklist of Sphecidae of Netherlands);

Wiśniowski, 2004:47 and 61 (in checklist of Polish Sphecidae); Beavis, 2005:195 (Great Britain: Islands of Scilly); Bergsten, Ekerholm, Gabrielsson, Hellquist, Petersson, Werner, Ström, Chauvet, and Dalecky, 2005:16 (Sweden: Västerbotten: Bjuröklubbs Nature Reserve); Edwards, 2005:46 (distribution map of British Isles populations); Haeseler, 2005:629 (Germany: Niedersachsen: Steller Heide near Bremen); Kofler, 2005:175 (Austria: Tirol: Lienz District: Bannberg in Assling Common, city of Lienz, Nörsach in Nikolsdorf Common, Nußdorf in Nußdorf-Debant Common, Tristacher Au in Tristach Common); Kowalczyk and Kurzac, 2005:106 (Poland: Botanical Garden in Łódź); Kraatz, 2005:103 (Germany: Niedersachsen: Bümmerstede near Oldenburg); Pagliano and Negrisola, 2005:296 (in Sphecidae Fauna of Italy); Quest and Kuhlmann, 2005:33 (Germany: Bayern: Bayerischer Wald National Park); Riemann and Hohmann, 2005:565 (Germany: Niedersachsen: city of Bremen and adjacent area); Robinson, 2005:36 (Great Britain: Cumbria County); Saure, 2005:19 (Germany: Berlin); Schmalz, 2005:58 (references to Linnaeus, 1758); Shorenko, 2005a:166 (Ukraine: Crimea); Theunert, 2005a:18 (Germany: in checklist of Sphecidae of Niedersachsen and Bremen); Venne and Bleidorn, 2005:44 (Germany: Nordrhein-Westfalen: Moosheide Nature Reserve); Dathe, 2006:37 (*Chalcis clavipes* recorded from Plauenscher Grund near Dresden, Germany, by von Block, 1799, is now *Rhopalum clavipes*); Edwards and Broad, 2006:50 (Great Britain: distribution, status, habitat, flight period, prey, nesting habits, flower visiting, parasites, and distribution map); Feitz, Gloden, Melchior, and Schneider, 2006:82 (Luxemburg: Baggerweieren area in Haff Réimech Nature Reserve); U. Frommer, 2006:37 (Germany: Hessen: Runkel area); Gorobchishin, 2006:122 (Ukraine: Kyiv; Lviv Oblast: Roztochchya Nature Reserve); Liebig, 2006:40 (Germany: Sachsen: Muskauer Heide); Ljubomirov, 2006:543 (Bulgaria: Rhodope Mountains: Yadenitsa River valley, as *clavipes clavipes*); Nemkov, 2006b:168 (Russia: Primorskiy Krai: Kedrovaya Pad' Nature Reserve); N. Schneider, 2006:140, 142 (Luxemburg: anthropogenic habitats); Shlyakhtenok, 2006:111 (Belarus: Polesye Radiological Nature Reserve); Standfuss and Standfuss, 2006a:86 (Germany: Nordrhein-Westfalen: Dortmund); Tomarchio and Turrise, 2006:956 (Italy: Sicilia: Mount Etna); Vepřek, 2006:511 (Czech Republic: Kokořínsko area); Baghirov, 2007:93 (Russia: southwestern Siberia); Beavis, 2007:94 (Great Britain: Tunbridge Wells and Central High Weald); Chevin, Livory, Lair, Sagot, and Baldock, 2007:40 (France: Département de la Manche); Dorow, 2007:263 (Germany: Hessen: Hohestein, Niddahänge, and Schönbuche Forest Reserves); Herrmann, 2007a:53 (Germany: Niedersachsen: Ostfriesland); Jacobs, 2007:126 (in key to Crabronidae of Germany); Jansen and Kaluza, 2007:26 (Germany: northwestern Sachsen); Nemkov, 2007b:70 (Russia: Kuril Islands: Kunashir Island); Saure, 2007:83 (in checklist of Aculeata of Land Brandenburg, Germany); Shlyakhtenok, 2007:299 (Belarus: Berezinsky Nature Reserve); Vago, 2007:175 (France: départements du Nord, Pas-de-Calais, and Somme); Venne, Bleidorn, and Lauterbach, 2007:303 (Germany: Nordrhein-Westfalen: Bielefeld); Vepřek and Straka, 2007:206 (in catalog of Sphecidae of Czech Republic and Slovakia), 231 (first recorded from Slovakia by Vepřek, 2000); K. Alexander, 2008:149 (Great Britain: Norfolk: Sheringham Park); Bogusch, 2008:6 (Czech Republic: Buzice); Gayubo, González, Tormos, and Asís, 2008:137 (Spain: Salamanca: Parque Natural de Las Batuecas – Sierra de Francia); Haeseler, 2008:309 (Germany: Friesian Islands); Nemkov, 2008b:21 (in catalog of Crabronidae of Asiatic Russia); Rudoiskatel' and Fadeev, 2008:255 (Russia: Ekaterinburg area, reared from trap nests: prey, parasites); Sobek, Tschardtke, Scherber, Schiele, and Steffan-Dewenter, 2008:614 (Germany: Thüringen: Nationalpark Hainich: nesting mostly in understory); Theunert, 2008:78 (Germany: map of distribution in Niedersachsen and Bremen); Archer, 2009:24 (Great Britain: Yorkshire: Sheffield); Belkheir, 2009:18 (France: Pyrénées-Orientales: commune d'Eyne); Bitsch and Leclercq, 2009:226 (in supplement to vol. I of Faune de France, 1993: recently recorded from Bulgaria, Italy, and Spain; France: first records from Isère: le Fontanil 10 km northwest of Grenoble and Saint-Laurent-de-Beaumont; Loire: Doizieux); Donie, 2009:10 (Germany: Niedersachsen: Oldenburg); U. Frommer, 2009a:29 (Germany: in checklist of Sphecidae of Hessen); Guéorguiev and Ljubomirov, 2009:265 (Bulgaria: Maleshevska Planina); Humala and Polevoi, 2009:63 (Russia: Republic of Karelia east of Lake Onega); Nemkov, 2009b:97 (in new catalog of Sphecidae and Crabronidae of Asiatic Russia); Ødegaard, Sverdrup-Thygeson, Hansen, Hanssen, and Öberg, 2009:72 (Norway: locality records); Pagliano, 2009:182 (Italy: recorded from Sicilia by Tomarchio and Turrise, 2006); Shorenko, 2009:368 (in list of Sphecidae s.l. of Crimea); Straka,

- Dvořák, and Bogusch, 2009:265 (Czech Republic: Jizerské Mountains and Frýdlant region); S. Takahashi, Haneda, and Tano, 2009:50 (distribution in Japan); Venne, 2009:111 (Germany: Nordrhein-Westfalen: Holte-Stukenbrock, associated with *Frangula alnus* Miller, Rhamnaceae); Ermilov and Mokrousov, 2010:90 (phoretic mite *Calvolia* sp. in Middle Volga Region of Russia); Esser, Fuhrmann, and Venne, 2010:38 (Germany: in checklist of aculeates of Nordrhein-Westfalen); Falk, 2010:94 (Great Britain: heathland sites in West Midlands region); Hable, Wickl, Krauss, and von der Dunk, 2010:28 (Germany: Bayern: Sulz- and Ottmaringer Tal); Jakubzik and Cölln, 2010:1187 (Germany: Rheinland-Pfalz: Bruchertseifen near Altenkirchen); Mokrousov, 2010a:62 (Russia: Kirov and Nizhniy Novgorod Oblast's, Chuvash Republic: no specific localities); Rudoiskatel', 2010:155 (Russia: central and southern Ural Mountains); Rudoiskatel', Fadeev, and Nikolaenkova, 2010:162 (Russia: Kluchi in vicinity of Ekaterinburg at 56°35'N 60°50'E; nest parasites: ichneumonid *Demopheles corruptor* (Taschenberg), eulophid *Ginsiella triarticulata* Erdős, and Torymids *Diomorus calcaratus* Nees and *D. armatus* (Boheman)); Saure, 2010b:175 (Germany: Berlin-Reinickendorf: airport Tempel and Flughafensee Protected Area); Schmid-Egger, 2010a:18 (in red list of Aculeata of Germany: relatively common); Schmidt, 2010:139 (Germany: Bayern: collected along Main-Donau canal); Shorenko and Kononov, 2010:22 (Ukraine: Khar'kov Oblast': village Gaidary); van der Smissen, 2010a:352 (Germany: Schleswig-Holstein: locality records); Baghirov, 2011b:147 (Russia: Altayskiy Kray: Biysk, Novoaletsenskoye, Savvushka); Gogala, 2011:25 (Slovenia: Maribor); Józán, 2011:182 (in checklist of Sphecidae s.l. of Hungary); Leclercq, 2011:9 (in list of Asian *Rhopalum*, as *clavipes clavipes*); Mokrousov, Berezin, and Egorov, 2011:75 (Russia: Chuvash Republic); Shlyakhtenok, 2011:95 (Belarus': city of Minsk); Theunert, 2011a:21 (Germany: in checklist of aculeates of Niedersachsen including city of Bremen); Tischendorf, Frommer, Flügel et al., 2011:169 (Germany: Hessen: not endangered); Archer, 2012:183 (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); Chapelin-Viscardi, and Maillet-Mezeray, 2012:296 (France: Essonne: Maisse); Nemkov, 2012c:445 (in catalog of Crabronidae of Russian Far East); Prisiy, 2012:49 (Russia: Belgorod Oblast'); Shlyakhtenok, 2012a:172 (Belarus', and Russia: Krasnaya Polana near Sochi: collected in private plots), 2012b:92 (Belarus': Beresina National Reserve: overgrowing dry meadow); Strumia, Pagliano, and Gayubo, 2012:57 (Italy: Toscana: Riserva di San Rossore); Saure, 2013:21 (Berlin: Treptow-Köpenick: Gosener Wiesen); Shlyakhtenok, 2013:188 (in annotated catalog of aculeate wasps of Belarus'); Vieira, Oliveira, Brewster, and Gayubo, 2013:17 (Portugal: Serras de Aire e Candeeiros Natural Park); Wiśniowski and Szczepko, 2013:49 (Poland: Kampinos National Park near Warszawa); Bitsch, 2014:402 (France: Haut-Rhin: Heissenstein; Essonne: Maisse); U. Frommer, 2014:28 (Germany: Hessen: Lorch); Hellqvist, Abenius, and Norén, 2014:92 (in catalog of Ampulicidae, Sphecidae, and Crabronidae of Sweden, by provinces); J.-K. Kim, 2014:433 (in catalog of Sphecidae s.l. of Korean Peninsula); Mokrousov and Vafin, 2014:58 (Russia: Republic of Tatarstan); Turčínavičienė, Radzevičiūtė, Budrienė, and Budrys, 2014:4 (in DNA analysis); Pärn, Soon, Vallisoo, Hovi, and Luig, 2015:94 (Estonia: no specific locality); Else, Bolton, and Broad, 2016:28 (in checklist of Aculeata of Great Britain and Ireland: England, Scotland, Wales, Ireland, Isle of Man); Mokrousov and Popov, 2016:578 (Russia: Krasnodarskiy Kray); Ratzlaff, 2016:26 (from Canada: British Columbia: from Blades and Maier, 1992); Stolle and Saure, 2016:925 (Germany: in list of Sphecidae s.l. of Sachsen-Anhalt); Wiśniowski, 2016:130 (Poland: Ojców National Park); Antropov, 2017b:23b (in catalog of Crabroninae of Russia); Astapenkova, Heneberg, and Bogusch, 2017:7 (reared from galls of *Lipara* sp., Chloropidae); Flügel, 2017:6 (Germany: Rheinland-Pfalz: Eschkopf and Doline near Rockensüß); Magdalou, 2017:16 (France: Pyrénées-Orientales: Réserves Naturelles Catalanes: Forêt de la Massane, Vallée d'Eyne); Shorenko, 2017:76 (in Crimea collected in July).
- Crabro rufiventris* Panzer, 1799, Heft 72:12, [♀]. Holotype or syntypes: ♀, Germany: no specific locality (depository?). Synonymized with *Rhopalum clavipes* by Dahlbom, 1844:291. – Jurine, 1807:212 (in checklist of species of *Crabro*); Vander Linden, 1829:74 (bibliographic references, Belgium: Liège; France: Lille, Germany); Shuckard, 1837a:178 (in revision of British Aculeata). – **As *Pemphredon rufiventris***: Panzer, 1806:183 (new combination, in critical review of his earlier work). – **As *Rhopalum rufiventre***: Stephens, 1829a:366 (new combination, in catalog

of British insects), 1829b:34 (in checklist of British insects); Haliday, 1833:516 (Ireland: eastern coast north of Dublin). – **As *Physoscelus rufiventris***: Lepeletier de Saint Fargeau and Brullé, 1835:805 (new combination, in revision of *Crabronini*); Lepeletier de Saint Fargeau, 1845:207 (in revision of world Hymenoptera); Acloque, 1897:91 (in Sphecidae Fauna of France and Algeria); Bradley, 1957:48 (Lepeletier's specimens in Turin); Casolari and Casolari Moreno, 1980:121 (specimens in M. Spinola collection, Torino); Pagliano, 2014:86 (specimens in M. Spinola collection, Torino are *Rhopalum gracile* and *Rhopalum* sp.).

### 55. *claviventre* (Cresson)

*Crabro claviventris* Cresson, 1865a:151, ♂. Holotype: ♂, Cuba: no specific locality (IZAC). – Packard, 1867:383 (listed); Gundlach, 1886:140 (Cuba, ...); Dalla Torre, 1897:590 (in catalog of world Sphecidae); Cresson, 1916:102 (type in Gundlach collection, Habana, Cuba); Gowdey, 1926:97 (Jamaica). – **As *Physoscelis claviventris***: nec Ashmead, 1900:222 and 305 (= *grenadinum*). – **As *Euplilis claviventris***: Pate, 1947f:5 (new combination, in revision of Caribbean *Crabronini*); Alayo Dalmau, 1968b:4 (Pate's description translated into Spanish); Evans, 1972b:17 (Caribbeans: Dominica Island); Alayo Dalmau, 1973:192 (in catalog of Cuban Hymenoptera). – **As *Rhopalum claviventre***: Leclercq, 1954c:187 (new combination, in catalog of world *Crabronini*); Alayo Dalmau, 1976:17 (in key to Cuban *Rhopalum*), 32 (in checklist of Cuban Sphecidae); R. Bohart and Menke, 1976:389 (in checklist of world Sphecidae); Amarante, 2002:33 (in catalog of Neotropical *Crabronidae*); Leclercq, 2002b:21, 36 (in key to New World *Rhopalum*), 52 (bibliographic references); Portuondo and Fernández, 2004:135 (Cuba: Sierra Maestra); Amarante, 2005a:8 (in addendum to his 2002 catalog of Neotropical *Crabronidae* and Sphecidae); Genaro, 2006:53 (in checklist of Cuban Sphecidae and *Crabronidae*).

### 56. *clonatum* Leclercq

*Rhopalum clonatum* Leclercq, 2002b:52, ♀. Holotype: ♀, Brazil: São Paulo: Campinas (Kansas Univ.). – Leclercq, 2002b:9 (in key to New World *Rhopalum*); Amarante, 2005a:7 (in addendum to his 2002 catalog of Neotropical *Crabronidae* and Sphecidae).

### 57. *coarctatum* (Scopoli)

*Sphex coarctata* Scopoli, 1763:293, sex not indicated. Holotype or syntypes: Carniolia (now part of Slovenia): no specific locality (lost). – Rogenhofer and Dalla Torre, 1882:599 (is a junior synonym of *Crabro tibialis* of Lepeletier). – **As *Crabro coarctatus***: A. Morawitz, 1864:458 (new combination), 1866a:270 and 1866b:346 (specimens in Eversmann collection); Kohl, 1883e:656 (Switzerland); Sickmann, 1883:75 (Germany: Niedersachsen: Wellingholthausen, as *coarctata*); Rogenhofer and Dalla Torre, 1897:591 (as synonym of *Crabro tibialis*); Mocsáry, 1897:83 (Kingdom of Hungary, some localities are in today's Romania and Slovakia); Cavo, 1910:685 (France: Département du Nord, as *coarctatum*); Steiner, 1955:141 (France: Dordogne); Benno, 1957:144 (Netherlands: Tilburg area, nesting in stems of *Rubus*), 1958b:20 (in review of Dutch Sphecidae). – **As *Euplilis coarctatus***: Pate, 1943d:14 (new combination, Holarctic), 1947a:7 (synonymy); Strickland, 1947:127 (Canada: Alberta: Edmonton); Krombein in Muesebeck et al., 1951:1019 (Holarctic, in catalog of North American Hymenoptera); Krombein, 1954a:6 (West Virginia: Lost River State Park); Evans, 1957b:106 (discussion of Micheli's, 1929, description of larva). – **As *Corynopus coarctatus***: Richards, 1937b:107 (new combination, in checklist of British aculeates); J. Perkins, 1942:199 (Sweden: southern Skåne); T. Fletcher, 1945:54 (Great Britain: Gloucestershire: Wotton); R. Perkins, 1945:147 (Great Britain: Devon: moorland near Lydford); Guichard and Yarrow, 1948:92 (Britain: London: Hampstead Heath); Graham, 1950a:37 (Great Britain: Lincolnshire: Salmonby); Chambers, 1955:128 (Britain: Bedfordshire); Danks, 1971a:351 (nesting habits), 1971b:67-73 (Great Britain: Berkshire: Silwood Park), 1971c:80 (nest mortality); Guichard, 1972:244 (Great Britain: London: Bushey Park). – **As *Rhopalum coarctatum***: Aurivillius, 1904:279 (new combination, in revision of Swedish Sphecidae); de Gaulle, 1908:122 (in catalog of French Hymenoptera); Jansson, 1922:24 (Sweden: Öland Island); Leclercq, 1951e:3 (bibliography of Belgian records); Bischoff and Stadler, 1954:127 (Germany: Bayern: Romberg); Leclercq, 1954c:188 (in catalog of world *Crabronini*), 300 (nest and prey records); Aerts, 1955:57 (Germany: Rheinland); Tsuneki, 1955b:126 (relationships

to *Rhopalum coarctatum modestum* and *nipponicum*, as *coarctatum coarctatum*); Móczár, 1958a:261 (in annotated catalog of Hungarian Crabronini), 1958b:190 (Hungary: list of collecting localities); Wolf, 1959b:32 (Germany: Nassau); Grandi, 1961:238 (nesting habits); Hoop, 1961:64 (Germany: Schleswig-Holstein: Kiel-Eichhof); Grandi, 1962:98 (Italy); Valkeila, 1962b:68 (southwestern Finland); Valkeila, Brander, and Käpylä, 1963:41 (Finland: historical region Lounais-Hämeen = southwest Häme); Babiý, 1964:117 (Austria: Land Salzburg); de Beaumont, 1964c:156 (in Sphecid Fauna of Switzerland); B. Klug, 1965:138 (Germany: Baden-Württemberg: Freiburg im Breisgau area); Roberti, Frilli, and Pizzaghi, 1965:110 (Italy: Emilia-Romagna: Pianello in Piacenza Province); Gauss, 1966c:240 (specimen bearing dipteran egg); Benno, 1967:39 (in checklist of Sphecidae of Netherlands); de Beaumont, 1967a:364 (Turkey); Gauss, 1967:559 (Germany: Baden-Württemberg); J. Heinrich, 1967:83 (Germany: Bayern: Loht; as *caarctatum*); Leclercq, 1967a:35 (locality records from Great Britain); Lefeber, 1967c:220 (Netherlands: St. Pietersberg, Wolder, as *coarctatus*); Benedek, 1968:78 (Hungary, visiting flowers of *Anthriscus silvestris* L. and *Pastinaca sativa* L.; as *coarctatum*), 1969a:85 (Hungary; marshy meadow; as *coarctatum*); Lefeber, 1969b:99 (Netherlands: Maastricht, St. Pieterberg; Belgium: Lanaye) Lefeber, 1969c:234 (Netherlands: St. Pietersberg = Montagne Saint Pierre, as *coarctatus*); Romanova, 1969:134 (Russia: North Caucasus); Benedek, 1970:104 (Hungary: Tapolca; as *coarctatum*); Hoop, 1970:60 (Germany: Schleswig-Holstein: Heiligenhafen); Lefeber and Petit, 1970:130 (Belgium: Plombières); Oehlke, 1970:791 (Democratic Germany); Petit, 1971:22 (Luxemburg: Bourscheid); Schmidt, 1971c:76 (Germany: Schleswig-Holstein); Stritt, 1971a:105 (Germany: Baden-Württemberg: Karlsruhe); Oehlke, 1972:141 (Germany: Hiddensee Island); Haeseler, 1972:157 (Germany: Schleswig-Holstein; anthropogenic habitats); R. Bohart, 1974:254 (in key to North American *Rhopalum*), 257 (in revision of North American *Rhopalum*); Haeseler, 1974:124 (Germany: Schleswig-Holstein); Kofler, 1974:320 (Austria: Kärnten); Leclercq, 1975b:2 (France); Lefeber, 1975b:120 (Netherlands: Schiepersberg); R. Bohart and Menke, 1976:389 (in checklist of world Sphecidae); Lomholdt, 1976:354 (in Sphecid Fauna of Fennoscandia and Denmark); Marshakov, 1976d:109 (in revision of *Rhopalum* of USSR: north to Kamchatka); Simon Thomas and Wiering, 1976:109 (Netherlands: IJsselmeer Polders); Guichard, 1977:253 (Great Britain: Surrey); Kolesnikov, 1977:321 (Russia: Bryansk Oblast); Marion, 1978:90 (France: Nièvre Department); Pulawski, 1978:254 (in key to Sphecidae of European part of former USSR); Schwammberger, 1978:421 (Germany: Württemberg); Benedek, 1979:236 (Hungary: Bakony Hills); Krombein, 1979b:1663 (in catalog of North American Hymenoptera, list of prey); Leclercq, Gaspar, and Verstraeten, 1979:map 1436 (Belgium); Marchal and Leclercq, 1979:10 (Belgium: Gembloux); Schmidt, 1979a:56 (Germany: Schleswig-Holstein); Schwammberger, 1979:118 (Germany: Nordrhein-Westfalen: Gildehauser Venn Nature Reserve); Jacob-Remacle and Leclercq, 1980:193 (Belgium: gardens in Liège); Mityaev, Matesova, Kulenova, Kazenas, and Zhdanko, 1980:117 (Russia: Siberia: Altayskiy Kray: basin of Aley River); Pagliano, 1980:122 (Italy: Piemonte); Richards, 1980:57 (in key to Sphecidae of British Isles); Schmidt, 1980:332 (Germany: Baden-Württemberg); Westrich, 1980:635 (Germany: Baden-Württemberg: Tübingen area); Dollfuss and Ressler, 1981:323 (Austria: Niederösterreich: Scheibbs District); Woydak, 1981:46 (Germany: Westfalen: Hamm); Donath, 1982:215 (Germany: Cottbus Bezirk); Finnamore, 1982:136 (in Sphecid Fauna of Southern Quebec); Leclercq, 1982a:125 (Belgium: Liège); Dollfuss, 1983b:14 (in catalog of Sphecidae of Austria); Kvamme and Axelsson, 1983:58 (Norway); Riemann, 1983:88 (Germany: Bremen-Daverden area); Chevin and Silvestre de Sacy, 1984:8 (France: Yvelines Department, as *coarctatum*); Haack, Tschardtke, and Vidal, 1984:132 (Germany: Hamburg area); Jacob-Remacle, 1984:260 (Belgium: urban center of Liège); Lefeber, 1984:29 (Netherlands: Maastricht); Nilsson, 1984:104 (Sweden: Västmanland Province); Schmidt and Westrich, 1984:241 (Germany: Rheinland-Pfalz: Bad Münster); Garland, Gibbs, Lee, and Whiteley, 1985:54 (Britain: Derbyshire); Haeseler, 1985:350 (Germany: Schleswig-Holstein); Józán, 1985b:59 (Hungary south of Lake Balaton), 69 (map of distribution in Hungary), 84 (ecological and zoogeographic characteristics); Lefeber, 1985:87 (Netherlands: southern Limburg); Brechtel, 1986:72 (Germany: Südpfalz); Nemkov, 1986:101 (Russia: Irkutsk Oblast: Irkutsk); Nilssen, 1986:87 (Sweden); Skibińska, 1986b:151, 154 (Poland: suburbs of Warszawa), 158 (rural and suburban parks), 160 (gardens), 163 (urban parks), 165 (streetside green), 174 (various green urban habitats); Vikberg, 1986:77 (Finland);

Dollfuss, 1988:15 (Austria: Bisamberg); Wolf, 1988b:141 (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); Skibińska, 1989a:206 (Poland: Warszawa area), 1989b:291 (Poland: moist meadow in Warszawa area); Weiffenbach, 1989:110 (Germany: Hessen: Gießen area); Barbier, Rasmont, and Wahis, 1990:32 (Belgium: Hainaut); Jacobs and Oehlke, 1990:181 (new records from Democratic Germany); Kowalczyk, 1990:292 (Poland: Góry Świętokrzyskie); Kuznetzova, 1990:22 (Russia: Voronezh Oblast': Galich'ya Gora Nature Reserve); Pádr, 1990:82 (Czech Republic: Praha area); Pagliano, 1990:94 (in catalogue of Italian Sphecidae); Yeo, 1990:101 (Britain: Cambridge); Schwammberger and Priesner, 1990:543 (Austria: Kärnten); Dollfuss, 1991:142 (in key to Sphecidae of North and Central Europe); Jacobs, 1991:46 (Germany: Mecklenburg-Vorpommern: Nature Reserve Elbtaldünen); Jakubzik, 1991:75 (Germany: Köln); Kowalczyk, 1991a:91, 105 (Poland: Łódź); Leclercq, 1991f:104 and 105 (in key to *Rhopalum beaumonti*, *coarctatum*, and *gracile*); Negrisolo, 1991:320 (Italy: Gorizia Province); Nilsson, 1991:83 (Sweden: Lake Mälaren); Pagliano, 1991b:357, 358 (in key to Italian Crabroninae); Sorg and Wolf, 1991:195 (Germany: Koppelstein Reserve SE Koblenz); Budrys, 1992:33 (in list of Sphecidae of Lithuania); Cölln and Jakubzik, 1992:87 (parasite: ichneumonid *Perithous divinator* Rossi, chrysidid *Trichrysis cyanea* (Linnaeus)), 89 (Germany: Rheinland; reared from twigs of *Rubus*); Gayubo, Borsato, and Osella, 1992:285 (France: Corse); Józán, 1992a:229 (Hungary: Béda-Karapanca Protected Area), 1992b:174 (Hungary: Boronka-melléki Protected Area); Nemkov, 1992b:246 (Russia: Far East: Khingan Nature Reserve); Nilsson, 1992:54 (Sweden); K. Weber, 1992:88 (Germany: Bayern: Bamberg District); Wolf, 1992c:23 (Germany: Nordrhein-Westfalen: Plettenberg: castle Schwarzenberg ruin); Bitsch and Leclercq, 1993:220 (in revision of western European Crabroninae); Gorobchishin, 1993:47 (Ukraine: Kanev Nature Reserve); Jakubzik and Cölln, 1993:136 (Germany: Rheinland-Pfalz: Bernkastel-Kues; nesting in stems of *Rubus*); Kuhlmann, 1993:76 (Germany: known from Westfalen); Leclercq, 1993c:42 (in annotated checklist of Crabronini and Oxybelini of Europe and Mediterranean Basin); Leclercq and Barbier, 1993:91 (map of distribution in France); Sorg and Wolf, 1993:60 (Germany: Rheinland-Westfalen: Nature Reserve Die Spey); Blades and Marshall, 1994:276 (Canada: southern Ontario); Junck, Schoos, and Schoos, 1994:96 (Luxemburg: Bettendorf); Kowalczyk, 1994:76 (Poland: Łagiewniki forest in Łódź); Theunert, 1994c:50 (summary of records from Niedersachsen and Bremen, Germany), 1994d:278 (Germany: Niedersachsen: Braunschweig); Archer and Burn, 1995:59 (Great Britain: Yorkshire: Crow Wood near Finningley); Gorobchishin, 1995:18 (Ukraine: Kanev Nature Reserve); Józán, 1995:105 (Hungary: projected Duna-Dráva National Park); Negrisolo *in* Minelli, Ruffo, and La Posta, 1995b:8 (in catalog of Italian fauna); Nemkov *in* Nemkov, Kazenas, Budrys, et Antropov, 1995:428 (in key to Sphecidae of Russian Far East); Pagliano and Pesarini, 1995:89 (Italy: Ferrara Province); Papp and Józán, 1995:146 (Hungary: Síkfökút oak forest); Riemann, 1995:52 (Germany: Bremen); Saure and Dürrenfeld, 1995:29 (Germany: Brandenburg: Gabower Hänge near Bad Freienwalde); Scharrer, 1995:28 (Germany: Bayern: Lohr, Mainfranken); Schmid-Egger, 1995:64 (Germany: northwestern Baden-Württemberg); Schmid-Egger, Risch, and Niehuis, 1995:207 (summary of records from Germany: Rheinland-Pfalz Province); Shlyakhtenok, 1995:194 (Belarus': Berezinsky Nature Reserve); Skibińska, 1995:423, 425, 426, 427 (Poland: pine forest in Białowieża Primeval Forest); Arens, 1996:441 (Germany: Bayern: Bayreuth area); Fowles, 1996:35 (Great Britain: in checklist of aculeates of Wales); Gorobchishin, 1996:53 (Ukraine: Kanev Nature Reserve); Harvey and Plant, 1996:74 (Great Britain: summary of records from Essex); Jakubzik, 1996:253 (Germany: Köln); Jakubzik and Cölln, 1996a:323 (Germany: nesting in stems of *Rubus*), 324 (parasitoid: *Perithous divinator* Rossi, an ichneumonid), 325 (parasitoid: undetermined Torymid and *Chrysis cyanea* (Linnaeus), a chrysidid), 335 (in keys to cocoons), 1996b:401 (Germany: Rheinland-Pfalz); Schmid-Egger, Schmidt, and Doczkal, 1996:378 (Germany: Baden-Württemberg: not endangered); Uffen, 1996b:108 (nesting in larval case of psychid *Taleporia tubulosa* Retz.); Voblenko, Gorobchishin, and Nesterov, 1996:14 (Ukraine: Polesye Region); Witt, 1996:106 (Germany: Brandenburg), 111 (locality records); Woydak, 1996:53 (Germany: Westfalen: summary of distribution and nesting habits); Archer, 1997a:48 (Great Britain: Yorkshire: Burton Leonard Lime Quarries); Celary, 1997:59 (in checklist of Animals of Poland); Finnamore, 1997:889 (Canada: Yukon); Gauss, 1997:27 (egg



of miltogrammatid flies deposited on adult specimens); Riemann, 1997:50 (Germany: Achim 14 km SE Bremen); Schmidt and Schmid-Egger, 1997:28 (in checklist of German Sphecidae); Shlyakhtenok, Blinov, and Belyavskaya, 1997:154 (Belarus: Pripyatskiy National Park); Dollfuss, Gusenleitner, and Bregant, 1998:521 (Austria: summary of collecting records from Burgenland); Drewes, 1998:49 (Germany: Niedersachsen: Goldbeck 26 km WSW Hamburg); Haeseler and Ritzau, 1998:51 (Germany: Bremen: Harriersand Island in Weser River and Steller Heide); Jakubzik, Schlüter, and Cölln, 1998:1182, 1184 (Germany: Rheinland-Pfalz); Józán, 1998:311 (Hungary: Duna-Dráva National Park); Lefeber, 1998:182 (Netherlands: Limburg: Sint-Pietersberg near Maastricht at 50°50'N 5°41'E); Salzman-Wandeler, 1998a:98 (Switzerland: Luzern Canton: Sempach); Sugar *et al.*, 1998:16 (Canada: southern Ontario); Tscharnatke, Gathmann, and Steffan-Deventer, 1998:719 (trap-nesting in Germany); van der Smissen, 1998:68 (Germany: Mecklenburg-Vorpommern, Niedersachsen: Laasche, Schleswig-Holstein); K. Weber, 1998:148 (Germany: Bayern: Bamberg area); Erhardt, 1999:75 (Germany: Niedersachsen: Ammerland area); Majzlan, Rychlík, and Deván, 1999:146 (Slovakia: Čenkovská Step Nature Reserve); Neumayer, Schwarz, and Bregant, 1999:225 (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); Jacobs, 2000:9 (Germany: Land Mecklenburg-Vorpommern: not endangered); Józán, 2000:110 (Hungary: Bakony Mountains); Ljubomirov, 2000:11 (Bulgaria, specimens in N. Nedelkov collection); Luig and Voolma, 2000:123 (first record from Estonia); Mokrousov, 2000b:31 (Russia: Nizhniy Novgorod Oblast); Schmid-Egger, 2000b:276 (Germany: Baden-Württemberg: shores of Rhine River); Blösch, 2000:288 (in Sphecid Fauna of Germany); Archer, 2001a:107 (Great Britain: Watsonian Yorkshire, as *coarctatus*); Deván, 2001:165 (Slovakia: Krasin Nature Reserve in Biele Karpaty Mountains); Dillier and Neumeyer, 2001:29, 33 (Switzerland: delta of Reuss River on Lake Uri); Haeseler, 2001:266 (Germany: Niedersachsen: Brookdeich near Oldenburg); Józán, 2001:280 (Hungary: Somogy County); Kazenas, 2001b:188 (review of known biology); Ohl *et al.*, 2001:141 (distribution in Germany by provinces); Skibińska, 2001:220 (Poland: Białowieża Primeval Forest); van der Smissen, 2001:63 (Germany: Schleswig-Holstein: not endangered); Zettel, Gross, and Mazzucco, 2001:75 (Austria: Wien); Archer, 2002b:120 (Great Britain: Watsonian Yorkshire: distribution map); Archer and Edwards, 2002:102 (Great Britain: West Sussex: Ambersham and Iping commons); Deván, 2002b:204 (Slovakia: Pekelná dolina and Prepadlisko); Gayubo, González, Tormos, and Asís, 2002:86 (Andorra: Santa Coloma); Herrmann and Zinnert, 2002:26 (Germany: Baden-Württemberg: Bettenberg near Konstanz); Kazenas, 2002a:97 (geographic distribution, collecting localities in Kazakhstan); Lukáš, 2002:191 (Slovakia: Hájnica hill near Trenčianske Bohuslavice); Reemer and van der Meer, 2002:Bijlage 5 (Netherlands: Gelderland: Zaltbommel area); C. Schlüter, 2002:141 (Germany: Niedersachsen: anthropogenic habitats in Ammerland District); Shlyakhtenok and Skibinska, 2002:34 (Belarus: no specific locality); Wiśniowski, 2002:71 (Poland: Ojców National Park); Bergsten, Ekerholm, Hellquist, Hilszczanski, Nilsson, Pettersson, and Werner, 2003:71 (Sweden: Västerbotten: Romelsön island); Blösch, 2003b:82 (Germany: Bayern: Erlangen area, nesting in rotten willow poles); Cölln, Esser, and Jakubzik, 2003:63 (Germany: northwestern Rheinland-Pfalz: excavation sites and quarries); Drewes, 2003:142 (Germany: Hessen: Gießen); Esser and Jakubzik, 2003:291 (Germany: Nordrhein-Westfalen: Niederrheinisches Tiefland); Haeseler, 2003:340 (Germany: Niedersachsen: Harriersand Island near Bremen); Kula and Tyrner, 2003a:150 (Czech Republic: Děčín Sandstone Uplands: forest district Snežník: birch stands in air-polluted area), 2003b:203 (Northern Czech Republic: spruce stands in air-pollution region); Mandery, Kraus, Voith, Wickl, Scheuchl, Schubert, and Warncke, 2003:70 (Germany: in catalog of wasps and bees of Bayern); Reemer, 2003:62 (Netherlands: Gelderland: Zaltbommel area); von der Heide and Metscher, 2003:103 (Germany: Niedersachsen: Emsland area); Wiśniowski *in* Dylewska and Wiśniowski, 2003:159 (Poland: Ojców National Park); Wiśniowski and Werstak, 2003:77 (Poland: Pieniny National Park); Buck, 2004:26 (in checklist of Crabronidae of Ontario, Canada); Deván, 2004:148 (western Slovakia); Dollfuss, 2004b:782 (Czech Republic: Budejovice: Srubec); Esser, Jakubzik, Sonnenburg, and Woydak, 2004:264 (in checklist of Sphecidae of Nordrhein-Westfalen State of Germany); Jakubzik and Cölln, 2004:271 (in key to nests of Hymenoptera nesting in stems of *Rubus*); Jakubzik, Niehuis, and Cölln,

2004:458 (Germany: Rheinland-Pfalz: Roßstein in Rhein valley at 50°06'42"N 7°43'87"E); Li and He, 2004:1090 (in hymenopterous fauna of Zhejiang Province, China); Salzmann-Wandeler and Rezbanyai-Reser, 2004:26 (central Switzerland); Schneider and Carrières, 2004:97 (Luxemburg: Bon-Pays Region); Skibińska in Bogdanowicz, Chudzicka, Pilipiuk, and Skibińska, 2004:357 (in catalog of Polish Crabronidae); van Achterberg and Peeters, 2004:31 (in checklist of Sphecidae of Netherlands); Wiśniowski, 2004:47 and 61 (in checklist of Polish Sphecidae); Gayubo and Özbek, 2005:28 (Turkey: Erzurum: University campus); Haeseler, 2005:629 (Germany: Niedersachsen: Steller Heide near Bremen); Haneda, Nozaka, Tano, Kurokawa, and Murota, 2005:53 (Japan: Gifu Prefecture, as *coarctatum coarctatum*); Kofler, 2005:175 (Austria: Tirol: Lienz District: Göriach in Dölsach Common); Pagliano and Negrisolò, 2005:296 (in Sphecidae Fauna of Italy); Riemann and Hohmann, 2005:565 (Germany: Niedersachsen: city of Bremen and adjacent area); Robinson, 2005:36 (Great Britain: Cumbria County); Saure, 2005:19 (Germany: Berlin); Theunert, 2005a:18 (Germany: in checklist of Sphecidae of Niedersachsen and Bremen); Venne and Bleidorn, 2005:44 (Germany: Nordrhein-Westfalen: Moosheide Nature Reserve); Edwards and Broad, 2006:52 (Great Britain: distribution, status, habitat, flight period, prey, nesting habits, flower visiting, parasites, and distribution map); Gayubo, González, de la Nuez, Asís, and Tormos, 2006:206 (Spain: Cantabria: Ruesga; Huesca: Ainsa; Salamanca: Villarino de los Aires); Gorobchishin, 2006:122 (Ukraine: several localities); Hua, 2006:282 (in list of Chinese insects, geographic distribution); Liška, 2006:89 (Slovakia: Váh river valley near Trenčín); Ljubomirov, 2006:543 (Bulgaria: Rhodope Mountains: Yurukovo Village, as *coarctatum coarctatum*); N. Schneider, 2006:133 (Luxemburg: anthropogenic habitats); Shlyakhtenok, 2006:112 (Belarus: Polesye Radiological Nature Reserve); Tomarchio and Turrisi, 2006:956 (Italy: first record from Sicilia: Mount Etna); Vepřek, 2006:511 (Czech Republic: Kokořínsko area); Baghirov, 2007:93 (Russia: southwestern Siberia); Beavis, 2007:94 (Great Britain: Tunbridge Wells and Central High Weald); Chevin, Livory, Lair, Sagot, and Baldock, 2007:40 (France: Département de la Manche); Herrmann, 2007b:96 (Germany: Baden-Württemberg: Fürstenberg in Konstanz); Jacobs, 2007:125, 126 (in key to Crabronidae of Germany); Jansen and Kaluza, 2007:26 (Germany: northwestern Sachsen); Saure, 2007:83 (in checklist of Aculeata of Land Brandenburg, Germany); N. Schneider, 2006:133 (Luxemburg: anthropogenic habitats); Sipos and Móczár, 2007:205 (Hungary: Bács-Kiskun megye: vicinity of Foktő); Vago, 2007:175 (France: départements d'Aisne, Nord, Pas-de-Calais, and Somme); Venne, Bleidorn, and Lauterbach, 2007:303 (Germany: Nordrhein-Westfalen: Bielefeld); Vepřek and Straka, 2007:207 (in catalog of Sphecidae of Czech Republic and Slovakia); Winkler, 2007:30 (Germany: Niedersachsen: eastern Friesland); Danilov, 2008:348 (Russia: Altayskiy Krai: Barnaul area); Haeseler, 2008:309 (Germany: Friesian Islands); Haneda, 2008:5, 6 (in key to Japanese Crabroninae); Ljubomirov and Yildirim, 2008:297 (in catalog of Crabronidae of Turkey); Nemkov, 2008b:21 (in catalog of Crabronidae of Asiatic Russia); Theunert, 2008:79 (Germany: map of distribution in Niedersachsen and Bremen); Archer, 2009:24 (Great Britain: Yorkshire: Sheffield); Bitsch and Leclercq, 2009:226 (in supplement to vol. I of Faune de France, 1993: reference to Uffen, 1996; recent records from Bulgaria, Estonia, Italy, and Spain reported: France: first records from Gard: Vauvert, and Haut-Rhin: Colmar); Donie, 2009:10 (Germany: Niedersachsen: Oldenburg); Flügel, 2009b:63 (Germany: Hessen: Borken, in inactive open brown coal mine); U. Frommer, 2009a:29 (Germany: in checklist of Sphecidae of Hessen); González, Gayubo, Asís, and Tormos, 2009:624 (Spain: Salamanca and Zamora provinces: Arribes del Duero Natural Park); Humala and Polevoi, 2009:63 (Russia: Republic of Karelia east of Lake Onega); Mokrousov, 2009:286 (Russia: Republic Mari El); Nemkov, 2009b:95 (in new catalog of Sphecidae and Crabronidae of Asiatic Russia); Ødegaard, Sverdrup-Thygeson, Hansen, Hanssen, and Öberg, 2009:72 (Norway: locality records); Pagliano, 2009:182 (Italy: recorded from Sicilia by Tomarchio and Turrisi, 2006); Straka, Dvořák, and Bogusch, 2009:265 (Czech Republic: Jizerské Mountains and Frýdlant region); S. Takahashi and Haneda, 2009:26 (Japan: Hokkaido: Sapporo); S. Takahashi, Haneda, and Tano, 2009:44, 50 (distribution in Japan); Archer, 2010a:52 (Great Britain: Watsonian Nottinghamshire: Spalford Warren); Ermilov and Mokrousov: 2010:90 (phoretic mite *Histiosoma gordius* in Middle Volga Region of Russia); Esser, Fuhrmann, and Venne, 2010:38 (Germany: in checklist of aculeates of Nordrhein-Westfalen); Falk, 2010:94 (Great Britain: heathland sites in West Midlands region); Ghazi-Soltani, Ebrahimi, Iranipour, and Pour Abad, 2010:800 (Iran: East

- Azarbaijan: Marand: Yam); Hable, Wickl, Krauss, and von der Dunk, 2010:28 (Germany: Bayern: Sulz- and Ottmaringer Tal); Mokrousov, 2010a:62 (Russia: Kostroma and Nizhniy Novgorod Oblast's, Mariy El Republic: no specific localities); J. Neumayer, 2010:335 (Austria: Niederösterreich: Thayatal National Park); Rudoiskatel', 2010:155 (Russia: central and southern Ural Mountains); Schmid-Egger, 2010a:18 (in red list of Aculeata of Germany: relatively common); van der Smissen, 2010a:352 (Germany: Schleswig-Holstein: locality records); Baghirov, 2011b:147 (Russia: Altay Republic: Artybash); Gogala, 2011:25 (Slovenia); Józán, 2011:182 (in checklist of Sphecidae s.l. of Hungary); Leclercq, 2011:9 (in list of Asian *Rhopalum*, as *coarctatum coarctatum*); Saure, 2011a:7 (Germany: Berlin: former airport Tempelhof); Shlyakhtenok, 2011:95 (Belarus': city of Minsk); Theunert, 2011a:21 (Germany: in checklist of aculeates of Niedersachsen including city of Bremen); Tischendorf, Frommer, Flügel et al., 2011:159 (Germany: Hessen: not endangered); Archer, 2012:183 (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, 2012:27 (Sweden: Skåne: Kullaberg Peninsula); Nemkov, 2012c:444 (in catalog of Crabronidae of Russian Far East); Flügel, 2013c:303 (Germany: Hessen: Kassel); Saure, 2013:21 (Berlin: Treptow-Köpenick: Gosener Wiesen); Shlyakhtenok, 2012a:172 (Belarus', and Russia: Kirov Oblast': Arkhangelskoye, and Krasnaya Polana near Sochi: collected in private plots); Strumia, Pagliano, and Gayubo, 2012:57 (Italy: Toscana: Riserva di San Rossore); Dyuzhaeva, 2013:117 (Russia: Samara Oblast': Zhiguli Nature Reserve); Shlyakhtenok, 2013:187 (in annotated catalog of aculeate wasps of Belarus'); Vieira, Oliveira, Brewster, and Gayubo, 2013:17 (Portugal: Paúl do Boquilobo Nature Reserve); Bitsch, 2014:402 (France: Ariège: Gabre; recorded from France by Burguet 2010 and Vago, 2007); U. Frommer, 2014:28 (Germany: Hessen: Lorch); U. Frommer, M. Niehuis, and O. Niehuis, 2014:1323 (Germany, Hessen: Roßstein); Hellqvist, Abenius, and Norén, 2014:92 (in catalog of Ampulicidae, Sphecidae, and Crabronidae of Sweden, by provinces); Mokrousov and Vafin, 2014:58 (Russia: Republic of Tatarstan); Yıldırım, Ljubomirov, and Lelej, 2014:15 (distribution in Turkey by biogeographic provinces); Koçak and Kemal, 2015:150 (in checklist of Hymenoptera of Turkey); Simon, Lorthiois, and Macé, 2015:55 (France: alluvial terraces in Eure Department: Courcelles-sur-Seine); Else, Bolton, and Broad, 2016:28 (in checklist of Aculeata of Great Britain and Ireland: England, Scotland, Wales, Ireland); Mokrousov and Popov, 2016:578 (Russia: Krasnodarskiy Krai); Ratzlaff, 2016:26 (Canada: British Columbia: from Leclercq, 2002); Stolle and Saure, 2016:925 (Germany: in list of Sphecidae s.l. of Sachsen-Anhalt); Wiśniowski, 2016:130 (Poland: Ojców National Park); Yıldırım, Ljubomirov, Özbek, and Yüksel, 2016:50 (Turkey: Erzurum: Atatürk University campus); Antropov, 2017b:235 (in catalog of Crabroninae of Russia); Di Giovanni, Mei, and Cerretti, 2017:73 (Italy: Lombardia: Riserva Naturale Bosco della Fontana 5 km from Mantova at 45°12'N 10°44'E, found in canopy and understory); Fresno, 2017:157 (Spain: Asturias and Zamora provinces); Jahantigh, Rakhshani, Mokhtari, and Ramroodi, 2017:51 (Iran: known from East Azerbaijan Province).
- Crabro crassipes* Fabricius, 1798:270, sex not indicated. Holotype: ♀, Germany: Halae Saxonum, now Sachsen-Anhalt: Halle (ZMUC). Synonymized with *Rhopalum clavipes* by Dahlbom, 1844:291 and 1845:XXV, and with *Rhopalum coarctatum* by van der Vecht, 1961a:67. – Fabricius, 1799:17 (in Index to his Supplementum, 1798); Vander Linden, 1829:75 (bibliographic references, Germany: Saxony). – **As *Pemphredon crassipes***: Fabricius, 1804:315 (new combination, redescription); Dahlbom, 1845:XXV (study of type material).
- Crabro tibialis* Fabricius, 1798:271, sex not indicated, junior primary homonym of *Crabro tibialis* Olivier, 1792. Syn-types: ♂, Germany: Halae Saxonum, now Sachsen-Anhalt: Halle (ZMUC). Synonymized with *Rhopalum clavipes* by Dahlbom, 1844:291 and with *Rhopalum coarctatum* by van der Vecht, 1961a:67. – Fabricius, 1799:17 (in Index to his Supplementum, 1798); Panzer, 1801, Heft 83:14 (in revision of German insects, illustration of habitus); Jurine, 1807:212 (in checklist of species of *Crabro*); Vander Linden, 1829:75 (bibliographic references, Belgium: Bruxelles, Germany); Curtis, 1837:pl. 656 (illustration); Shuckard, 1837a:177 (in revision of British Aculeata); Dahlbom, 1838:41 (in revision of Scandinavian Crabronini); von Siebold, 1839:51 (Germany: Danzig, now Poland: Gdańsk); Dahlbom, 1842a:14 (in review of Scandinavian aculeates); F. Smith, 1851c:25 (Great Britain: no specific locality), 1853:63 (in checklist of British Hymenoptera), 1856:391 (in catalog of Hymenoptera in British Museum),

1858c:80 (in review of British Aculeata, redescription); Bold, 1870:148 (Great Britain: Northumberland and Durham); F. Smith, 1871b:13 (in catalog of British Aculeata, as *tibiale*); Taschenberg, 1875:381 (Germany: Halle); Daly, 1878:45 (Great Britain: Dorset: Glanville's Wootton); Kohl, 1880:134 (Italy: Trentino–Alto Adige); E. Saunders, 1880:282 (in revision of British Aculeata); von Heyden, 1884:124 (Germany: Frankfurt am Main area); Kohl, 1888b:722 (Austria: Tirol, now Italy: Alto Adige); V. Perkins, 1892:204 (Great Britain: Gloucestershire: Wotton-under-Edge); Kohl, 1893a:21 (Austria: Niederösterreich); F. Morawitz, 1893a:113 (Russia: Karelian Isthmus); Krieger, 1894:3 (Germany: Kingdom of Saxony); Freke, 1896:41 (Ireland); Kohl, 1899:309 (in key to Palearctic *Rhopalum*); Dalglish, 1901:7 (Great Britain: Scotland: Dundonald); Kubes, 1905:84 (Czech Republic: Obora); E. Saunders, 1907a:67 (Great Britain: Porthcawl); Schmiedeknecht, 1907:200 (in key to Hymenoptera of Central Europe); Bequaert, 1909:73 (Belgium); Orr, 1909a:25 (Ireland: Down County); Dittrich, 1911b:20 (Germany: Niederschlesien Province, now Poland: Dolny Śląsk Region); Birula, 1912:536 (Ukraine: Zhytomyr Oblast': Radomyshl', as *tibiale*); Hallett, 1912:94 (Britain: Glamorgan County); Alfken, 1914:274 (northwestern Germany, as *tibiale*); Birula, 1914:379 (Belarus': Ambrosovich and Luskonopol' near Vitebsk); Haines, 1914:129 (Great Britain: Dorset); Kohl, 1915:339 (in revision of Palearctic *Crabronini*); Hallett, 1916:221 (Great Britain: South Wales: Porthcawl); O. Meyer, 1919:149 (Germany: Posen Province, now Poland: Poznań Region, as *Crabro tibiale*); Dubois, 1921a:19 (Belgium: Marche, Tilff), 1921b:162 (in key to Belgian Sphecidae), 166 (phenology, nesting habits); Berland, 1925d:181 (in Sphecid Fauna of France); Grönblom, 1925:7 (nesting habits); Schütze, 1925:111 (Germany: Lausitz Region, as *tibiale*); Shestakov, 1925:36 (Russia: Yaroslavl' area, as *tibiale*); Zavadil, 1926:37 (Czechoslovakia); Berland, 1928b:180 (nest parasite: *Diomorus armatus* (Boheman), a Torymid); Blüthgen, 1929:82 (Germany: Saale River valley: Naumburg); Micheli, 1929:34 (nesting habits, description of larva); Bouwman, 1930:106 (in revision of Sphecidae of Netherlands); Hedicke, 1930b:130 (...); Schmiedeknecht, 1930:658 (in keys to Hymenoptera of North and Central Europe); Pulkkinen, 1931:155 (in revision of Sphecidae of Finland); Bondroit, 1932:42 (Belgium: recorded from Bruxelles area by Wesmael); Crèvecoeur and Maréchal, 1932:68 (in catalog of Belgian Hymenoptera: Ramioul); Bondroit, 1933:33 (Belgium: Bruxelles); E. Nielsen, 1933:267 (summary of nesting habits); Routledge, 1933:88 (England: Cumberland); Balles, 1934:17 (Germany: Baden-Württemberg: Achern, as *tibiale*); Bondroit, 1934:62 (Belgium: Solbosch); Jansson, 1934:288 (Sweden); Forsius in Forsius and Hellén, 1935:11 (in checklist of Hymenoptera of Finland); Grandi, 1935a:109 (Italy, as *tibiale*); Richards, 1935:168 (type species of *Corynopus*); Steck, 1935:327 (Switzerland); Crèvecoeur and Maréchal, 1936:257 (in catalog of Belgian Hymenoptera); Drogoszewski, 1936:129 (Poland: Opatów, as *tibiale*); Zavadil, Šusterka, and Baťa, 1937:169 (in catalog of Sphecidae of Czechoslovakia, as *tibiale*); Paul, 1941:38 (Germany: Pommern: Stettin area, now Poland: Województwo Zachodniopomorskie: Szczecin area); Balthasar, 1943:41 (Czech Republic: Moravia: Zlin area, as *tibiale*); Benno, 1943:68 (Netherlands); Giner Marí, 1943a:252 (in key to Spanish species); Guiglia, 1944b:35 (Italy); Zavadil in Zavadil and Šnoflak, 1948:139 (in key to Sphecidae of Czechoslovakia); Cavro, 1950:38 (France: Département du Nord); de Beaumont, 1951h:35 (Switzerland: Neuchâtel area); Fæster, 1951:458 (distribution in Scandinavia); Vergne, 1955:5 (France: Auvergne); Vogrin, 1955:41 (Yugoslavia, as *tibiale*); Preuss, 1956:15 (Germany: Schleswig-Holstein: Mölln in Lauenburg, as *tibiale*); Noskiewicz and Puławski, 1960:158 (in key to Polish Sphecidae); Tolstova, 1962:287 (Russia: vicinity of St. Petersburg, nesting in raspberry stems); Fæster, 1965:193 (Denmark: Hansted Nature Reserve); Niedl and Deneš, 1967:75 (Czech Republic: Třeboň area); Scobiola-Palade, 1967b:50 (Romania); Tumš and Maršakovs, 1970:31 (Latvia); Skibińska, 1981:358 (Poland: Warszawa-Białołęka), 1982:121, 124 (Poland: Mazovian Voivodship: Hamernia, Łomna, Młochów, Ursynów, Warszawa, Wola Mrokowska); Kowalczyk, 1988a:46 (Poland: Rogów), 1988b:66 (Poland: environs of Łódź). – **As *Pemphredon tibialis***: Fabricius, 1804:315 (new combination, redescription); Panzer, 1806:185 (in critical review of his earlier work); Dahlbom, 1845:XXV (study of type material). – **As *Corynopus tibialis***: Lepeletier de Saint Fargeau and Brullé, 1835:803 (new combination, in revision of *Crabronini*); Herich-Schaeffer, 1840:294 (Germany: Bayern: Regensburg area); Lepeletier de Saint Fargeau, 1845:205 (in revision of world Hymenoptera); Acloque, 1897:91 (in Sphecid Fauna of France and Algeria); Schneid, 1941:1031 (Germa-

ny: Bayern: Bamberg area, as *tibiale*); Bradley, 1957:44 (Lepelletier's specimens in Turin); Casolari and Casolari Moreno, 1980:117 (specimens in M. Spinola collection, Torino); Srba, 1999: 181 (Czech Republic: Chomutov); Pagliano, 2011a:136 (specimens in M. Spinola collection, Torino, are *Rhopalum coarctatum*). – **As *Rhopalum tibiale***: Stephens, 1829a:366 (new combination, in catalog of British insects), 1829b:34 (in checklist of British insects); Haliday, 1833:516 (Ireland: eastern coast north of Dublin); Dahlbom, 1844:288 (267 (new combination, in revision of Sphecidae and Pompilidae), 1845:XXV (new combination), 510 (in key to *Rhopalum*); Eversmann, 1849:415 (Russia: Kazan' Province); von Kiesenwetter, 1849:90 (Germany: Kingdom of Saxony: Oberlausitz area); Tischbein, 1850:9 (Germany: Rheinland-Pfalz: Herrstein in Fürstenthum Birkenfeld); Wesmael, 1852:593 (Belgium: Bruxelles); Kawall, 1857:25 (Kurland, now Latvia); Ruthe and Stein, 1857:315 (Germany: Berlin area); Schenck, 1857:131 (in revision of fossorial wasps of Germany); Taschenberg, 1858:99 (in key to Sphecidae of Germany); Funk, 1859:58 (Germany: Bayern: Bamberg); Schenck, 1960:146 (Germany: Nassau Region); Brischke, 1862:105 (Germany: Preussen Province, now Poland: Pomorze Region); A. Costa, 1864b:104 (specimen from Torino, Italy, in Napoli Museum); Taschenberg, 1866:183 (in revision of Hymenoptera of Germany); A. Costa, 1867c:120 (in revision of Italian Sphecidae); Kirchner, 1867:223 (in catalog of European Hymenoptera); Schenck, 1867a:352 (Germany: Nassau Region); Wierzejski, 1868:117 (Poland: Kraków; Ukraine: Podole Region: Pieniaki); Thomson, 1870:158 (in revision of Swedish Crabroninae); A. Costa, 1871b:49 (in revision of Italian Sphecidae); Dours, 1874:152 (in catalog of Hymenoptera of France); Thomson, 1874:257 (in revision of Hymenoptera of Scandinavia); Wierzejski, 1874:261 (Poland: Kraków; Ukraine: Podole Region: Pieniaki, Sinkow); Schlechtendal, 1876:54 (Germany: Sachsen: Zwickau); Girard, 1879:938 (parasite on other Hymenoptera, in error); Siebke, 1880:67 (Norway); A. Costa, 1871b:49 (in revision of Italian Sphecidae); Wüstnei, 1886:37 (Germany: Schleswig-Holstein: Madskov near Sonderburg); Brischke, 1888b:100 (Germany: Preussen Province, now Poland: Pomorze Region), 1894:55 (Germany: Brösen W Danzig, now Poland: Gdańsk-Brzeźno); Borries, 1897:43 (nesting habits); Strand, 1898b:95 (Norway); J. Nielsen, 1901a:265 (nesting habits); Adlerz, 1904:136 (known prey: Nematocera); Graeffe, 1911:44 (Italy: Trieste area); Schirmer, 1912:164 (Germany: Berlin area); R. Perkins, 1913b:396 (in key to British Crabronini); W. Wagner, 1914:72 (nest structure); A. Wagner, 1920:47 (Germany: Lower Elbe region); R. Perkins, 1924:226 (Great Britain: Devon); Lauterborn, 1925:355 (Germany: Baden-Württemberg: Isteiner Klotz); R. Perkins, 1925:153 (Great Britain: Gloucestershire: Wotton); Friese, 1926:150 (in key to Sphecidae of Central Europe, short morphological and biological characteristics); Hamm and Richards, 1926:317 (summary of nesting habits); Stelfox, 1927:302 (Ireland: list of collecting localities); Gaunitz, 1929:199 (Sweden: Lapland); Maréchal, 1929a:111 (nesting habits), 1929b:239 (nesting habits); Baudot, 1931:255 (characteristics of cocoon); Butterfield and Fordham, 1931:158 (Great Britain: Yorkshire); Stelfox, 1933:51 (Ireland: Dublin, Leitrim, and Westmaeth counties); A. Wagner, 1938a:118 (northwestern Germany); Piet, 1947:508 (surviving inundation because of gall nesting); Graham, 1950:349 (eggs of unknown insect deposited on thorax); Fahlander, 1954:250 (Sweden: Gästrikland Region); Lundblad, 1958:49 (Sweden: Gotland; as *Phopalum*); Hamann, 1960:199 (Austria: Oberösterreich: Mönchgraben at 48°13'N 14°21'E); Torossian, 1971:147 (France: Toulouse area; nesting in oak galls); Balthasar, 1972:136 (in Sphecid Fauna of Czechoslovakia); Blagoveshchenskaya, 1994:90 (Russia: Ul'yanovsk Oblast').

*Rhopalum modestum* Rohwer, 1908b:257, ♂. Holotype or syntypes: ♂, USA: Colorado: Boulder (USNM). Synonymized with *Rhopalum coarctatum* by Pate, 1947a:7 and by R. Bohart in R. Bohart and Menke, 1976 (as new synonym). – Rohwer, 1908b:258, 259 (in key to *Crabro* of Colorado and New Mexico), 1909c:145 (Wisconsin, description of ♀). – **As *Rhopalum coarctatum modestum***: Tsuneki, 1955b:126 (new status, relationships to *Rhopalum coarctatum coarctatum* and *nipponicum*); Leclercq, 2002b:15, 26 (in key to New World *Rhopalum*), 53 (differences between American and European populations; native of North America, not introduced; locality records from Canada and USA). – **As *Euplilis coarctatus modestus***: Krombein, 1958a:53 (new combination, mating on oak foliage), 1958f:198 (in supplement to catalog of North American Hymenoptera: change of status by Tsuneki, 1955), 1963f:277 (Maryland: Plummers Island near Washington, D.C., as *modesta*); Evans, 1964b:292 (description of lar-

va); Krombein, 1964:90 (nest, prey, parasites), 1967b:259 (nesting habits observed in artificial nests). – *As Euplilis coarctata modesta*: Krombein, 1964:90 (nesting habits); Krombein in Krombein and Burks, 1967:420 (citation of Krombein, 1964 and Evans, 1964).

As *Rhopalum pedicellatum*: Harrington, 1902:220 (Canada: Ontario: Ottawa), corrected to *Rhopalum coarctatum* by Buck, 1902:76.

### **ssp. *chosenense* Tsuneki**

*Rhopalum nipponicum chosenense* Tsuneki, 1974a:382, ♀, ♂. Holotype: ♂, Korea: South Phenan Province: Sa-gam, 30 km north of Pyongyang (TMB). – R. Bohart and Menke, 1976:630 (in checklist of world Sphecidae); Tsuneki, 1982b:17 (known from Korea); Paik, 1985:202 (in list of Sphecidae of Korea). – *As Rhopalum coarctatum chosenense*: Leclercq, 2011:9 (new subspecific combination, in list of Asian *Rhopalum*); J.-K. Kim, 2014:433 (in catalog of Sphecidae s.l. of Korean Peninsula), 450 (subspecies status uncertain).

*Rhopalum nipponicum chosenense* Tsuneki, 1991:203, as new subspecies. Nomen nudum.

### **ssp. *koreense* Tsuneki**

*Rhopalum coarctatum koreense* Tsuneki, 1974a:382, ♀. Holotype: ♀, Korea: Prov. Ryang-gang, Plateau Chann-Pay, Sam-zi-yan (TMB). – R. Bohart and Menke, 1976:630 (in checklist of world Sphecidae); Tsuneki, 1982b:17 (known from Korea); Paik, 1985:202 (in list of Sphecidae of Korea); Leclercq, 2011:9 (in list of Asian *Rhopalum*); J.-K. Kim, 2014:433 (in catalog of Sphecidae s.l. of Korean Peninsula), 450 (subspecies status uncertain).

*Rhopalum coarctatum* [sic] *koreense* Tsuneki, 1991:203, as new subspecies. Nomen nudum.

### **58. *cockleum* Leclercq**

*Rhopalum cockleum* Leclercq, 1997:52, ♂. Holotype: ♂, Australia: Western Australia: 23 km east-southeast of Cocklebidy (ANIC).

### **59. *collectum* Leclercq**

*Rhopalum collectum* Leclercq, 1994b:259, ♀, ♂. Holotype: ♂, Chile: Santiago: Nature Reserve Río Clarillos in Cordillera (FSCA). Paratypes: Argentina. – Leclercq, 1994b:254 (in key to *Rhopalum* of Chile); Amarante, 2002:33 (in catalog of Neotropical Crabronidae); Leclercq, 2002b:18, 33 (in key to New World *Rhopalum*), 54 (bibliographic references, locality records from Argentina and Chile); Amarante, 2005a:8 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae).

### **60. *collessi* Leclercq**

*Rhopalum collessi* Leclercq, 1997:53, ♀. Holotype: ♀, Australia: New South Wales: Sydney: Oxford Falls (ANIC).

### **61. *coriolum* Leclercq**

*Rhopalum coriolum* Leclercq, 1957b:210, ♀. Holotype: Australia: New South Wales: Mount Victoria (Natl. Mus. Victoria). – Leclercq, 1957b:184 (in key to Australian *Rhopalum*); R. Bohart and Menke, 1976:389 (in checklist of world Sphecidae); Cardale, 1985:267 (in catalog of Australian Sphecidae); Leclercq, 1997a:54 (in revision of Australian *Rhopalum*).

### **62. *cornigerum* Tsuneki**

*Rhopalum cornigerum* Tsuneki, 1977d:3, ♂. Holotype: ♂, Australia: New South Wales: Sydney, Botany Bay (TMB). – Leclercq, 1997:54 (in revision of Australian *Rhopalum*, transferred back to *Rhopalum*). – *As Podagritys cornigerum* (termination incorrect): Leclercq, 1979b:362 (new combination; additional localities); Cardale, 1985:270 (in catalog of Australian Sphecidae); Leclercq, 1998c:294 (now in *Rhopalum*).

### **63. *cornilabiatum* Li and He**

*Rhopalum cornilabiatum* Li and He, 1999a:96, ♀, B. Holotype: ♀, China: Szechwan Province: Emeishan (Zhejiang Agricultural Univ.). – Leclercq, 2011:9 (in list of Asian *Rhopalum*)



**64. *crassinodum* (Spinola)**

*Physoscelus* ? *crassinodus* Spinola, 1851:362, ♀. Holotype or syntypes: ♀, Chile: no specific locality (lost). Neotype: ♀, Chile: Santiago: El Canelo (TORINO), designated by Leclercq, 1994b:261. – Casolari and Casolari Moreno, 1980:121 (specimens in M. Spinola collection, Torino); Pagliano, 2014:86 (specimen in M. Spinola collection, Torino is neotype of *Physoscelus crassinodus*). – **As *Crabro crassinodus***: F. Smith, 1856:394 (new combination, in catalog of Hymenoptera in British Museum); Reed, 1894:649 (in revision of Chilean aculeates); Dalla Torre, 1897:593 (in catalog of world Sphecidae); Jaffuel and Piri6n, 1926:375 (Chile: valle de Marga Marga); Janvier, 1928:81 (nesting habits); Piek and Spanjer, 1986:183 (in list of Sphecidae with known prey). – **As *Rhopalum crassinodum***: Leclercq, 1954c:186 (new combination, in catalog of world Crabronini), 298 (nest and prey records); R. Bohart and Menke, 1976:389 (in checklist of world Sphecidae); Sielfeld, 1980b:74 (in checklist of Chilean Sphecidae); Leclercq, 1994b:253 and 254 (in key to *Rhopalum* of Chile), 261 (bibliographic references, faunal records); Amarante, 2002:33 (in catalog of Neotropical Crabronidae); Leclercq, 2002b:16, 33 (in key to New World *Rhopalum*), 54 (bibliographic references, locality records from Argentina and Chile); Amarante, 2005a:8 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae); Chiappa, 2012:8 (Chile: Regi6n de Valpara6so: no specific locality).

*Crabro herbstii* Kohl, 1905:355, ♂ (as *Herbstii*, incorrect original capitalization). Holotype: ♂, Chile: Concepci6n (NHMW). Synonymized with *Rhopalum crassinodum* by Leclercq in R. Bohart and Menke, 1976:389, synonymy confirmed by Leclercq, 1994b:261. – Janvier, 1928:77 (nesting habits). – **As *Rhopalum herbstii***: Leclercq, 1954c:186 (new combination, in catalog of world Crabronini), 298 (nest and prey records), 1970a:92 and 96 (in key to Latin American *Rhopalum*), 99 (redescription); Dollfuss, 1989:12 (type material in NHMW).

**65. *creutzburgi* H.-J. Jacobs**

*Rhopalum creutzburgi* H.-J. Jacobs, 2016:140, ♀, B. Holotype: B, Nepal: Jumla: Maharigaon at 29°20'24"N 82°23'21"E (Deutsches Entomologisches Institut M6nchenberg).

**66. *cruentatum* (Arnold)**

*Crabro cruentatus* Arnold, 1944:29, ♀. Holotype: ♀, Zimbabwe: Vumbu Mountains(SAM). – **As *Rhopalum cruentatum***: Leclercq, 1954c:185 (new combination, listed); R. Bohart and Menke, 1976:389 (in checklist of world Sphecidae); Leclercq, 2012a:29 (in key to African *Rhopalum*), 31 (comparison with *Rhopalum hansonii*; Rwanda, South Africa, Zaire).

***ssp. bamendae* Leclercq**

*Podagritys bamendae* Leclercq, 1961g:171, ♀. Holotype: ♀, Nigeria (correctly: Cameroon): Bamenda Hospital (BMNH). – **As *Rhopalum bamendae***: R. Bohart and Menke, 1976:389 (new combination, in checklist of world Sphecidae). – **As *Rhopalum cruentatum bamendae***: Leclercq, 2012a:30 (in key to African *Rhopalum*), 32 (new status, Cameroon, variation).

***ssp. belgarum* Leclercq**

*Rhopalum cruentatum* var. *belgarum* Leclercq, 1955i:425, ♀. Holotype: ♀, Rwanda: Kisenyi Territory: Kayove (MRAC). – R. Bohart and Menke, 1976:389 (in checklist of world Sphecidae).

**67. *croisseti* Leclercq**

*Rhopalum croisseti* Leclercq, 2011:9, ♀, B. Holotype: ♀, Sri Lanka: Galle District: Sinharaja Jungle (USMN). – Leclercq, 2011:6 (in key to Asian species with bicolored tergum I).

**68. *cumbayae* Leclercq**

*Rhopalum cumbayae* Leclercq, 2002b:54, ♀, ♂. Holotype: ♂, Peru: Amazonas: Chachapoyas (BMNH). – Leclercq, 2002b:24, 39 (in key to New World *Rhopalum*); Amarante, 2005a:8 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae); Rasmussen and Asenjo, 2009:10 (in checklist of Crabronidae of Peru).

**69. curryi Leclercq**

*Rhopalum curryi* Leclercq, 1997a:54, ♀. Holotype: ♀, Australia: Western Australia: Crowen St. For. [probably State Forest] near Pemberton (ANIC).

**70. curtisi Leclercq**

*Rhopalum curtisi* Leclercq, 1997a:55, ♀. Holotype: ♀, Australia: Queensland: Upper Mulgrave River via Gordonvale (ANIC).

**71. cygnorum R. Turner**

*Rhopalum cygnorum* R. Turner, 1915a:88, ♀. Holotype: ♀, Australia: Western Australia: Perth (BMNH). – R. Turner, 1915a:86 (in key to Australian *Rhopalum*). – Leclercq, 1997a:55 (in revision of Australian *Rhopalum*, transferred back to *Rhopalum*). – **As *Podagritys cygnorum***: Leclercq, 1950b:8 (new combination), 1954c:191 (in catalog of world Crabronini), 1955f:310 (in key to Australian *Podagritys*), 320 (known only from holotype); R. Bohart and Menke, 1976:393 (in checklist of world Sphecidae); Cardale, 1985:270 (in catalog of Australian Sphecidae); Leclercq, 1998c:294 (now in *Rhopalum*).

**72. decavum Leclercq**

*Rhopalum decavum* Leclercq, 1963:67, ♀. Holotype: ♀, Philippines: Sibuyan: no specific locality (USNM). – Baltazar, 1966:351 (in catalog of Hymenoptera of Philippines); R. Bohart and Menke, 1976:389 (in checklist of world Sphecidae); Tsuneki, 1984f:6 (Philippines), 32 (in key to Crabronini of Philippines); Leclercq, 2011:11 (in list of Asian *Rhopalum*).

**73. dedarum Leclercq**

*Rhopalum dedarum* Leclercq, 1957b:189, ♀, ♂. Holotype: ♂, Australia: Western Australia: Dedari 40 mi west of Coolgardie (BMNH). – Leclercq, 1957b:189 (in key to Australian *Rhopalum*); R. Bohart and Menke, 1976:389 (in checklist of world Sphecidae); Leclercq, 1979b:357 (Australia: Queensland, Victoria); Cardale, 1985:267 (in catalog of Australian Sphecidae); Leclercq, 1997a:55 (in revision of Australian *Rhopalum*: additional faunal records).

**74. dellum Leclercq**

*Rhopalum dellum* Leclercq, 1997:56, ♀. Holotype: ♀, Australia: South Australia: Dingly Dell Camp at Oraparrina Creek at 31°21'S 138°42' (ANIC).

**75. dentiobliquum Li and He**

*Rhopalum dentiobliquum* Li and He, 1998c:303, ♀, ♂. Holotype: ♀, China: Zhejiang Province: Xitianmushan (Zhejiang Agricultural University). – Li and He, 2001:757 (China: Tianmushan Nature Reserve at 30°22'N 119°26'E), 2004:1092 (in hymenopterous fauna of Zhejiang Province, China); Leclercq, 2011:11 (in key to Asian species with bicolored tergum I).

**76. deroanni Leclercq**

*Rhopalum deroanni* Leclercq, 2002b:54, ♀, ♂. Holotype: ♂, Mexico: Chiapas: San Cristóbal de las Casas (CNC). Paratypes: Argentina, Costa Rica, Ecuador, Peru. – Leclercq, 2002b:10, 25 (in key to New World *Rhopalum*); Dollfuss, 2004b:782 (Ecuador: Tungurahua: Baños, Napo: Puerto Napo 8 km south of Tena); Amarante, 2005a:7 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae); Rasmussen and Asenjo, 2009:10 (in checklist of Crabronidae of Peru).

**77. dineurum Leclercq**

*Rhopalum dineurum* Leclercq, 1957b:223, ♂. Holotype: ♀, Australia: Tasmania: Eaglehawk Neck (BMNH). – Leclercq, 1957b:185 (in key to Australian *Rhopalum*); R. Bohart and Menke, 1976:389 (in checklist of world Sphecidae); Leclercq, 1979b:354 (Australia: New South Wales); Cardale, 1985:266 (in catalog of Australian Sphecidae);

K. Walker, Naumann, Austin, Taylor, and Cardale, 1992:48 (in catalog of insects of Tasmania); Leclercq, 1997:57 (in revision of Australian *Rhopalum*).

**78. *diopura* (Pate)**

*Euplilis diopura* Pate, 1947d:4, ♂. Holotype: ♂, Venezuela: Estado Carabobo: San Esteban (ANSP). – As *Rhopalum diopura*: Leclercq, 1954c:186 (new combination, in catalog of world Crabronini, incorrectly spelled *diopurum*: *diopura* is a noun, hence invariable); R. Bohart and Menke, 1976:389 (in checklist of world Sphecidae); Amarante, 2002:33 (in catalog of Neotropical Crabronidae); Leclercq, 2002b:39 (in key to New World *Rhopalum*), 57 (bibliographic references, locality records from Colombia and Venezuela, additional description); Amarante, 2005a:8 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae).

**79. *distractum* Leclercq**

*Rhopalum distractum* Leclercq, 1997:57, ♂. Holotype: ♂, Australia: Australian Capital Territory: Bull's Head (ANIC).

**80. *domesticum* Williams**

*Rhopalum domesticum* Williams, 1928b:101, ♀, ♂. Holotype: ♀, Philippines: Luzon: Los Baños (Bishop). – Leclercq, 1954c:189 (in catalog of world Crabronini), 298 (nest and prey records), 1963:63 (Philippines); Baltazar, 1966:351 (in catalog of Hymenoptera of Philippines); R. Bohart and Menke, 1976:389 (in checklist of world Sphecidae); Tsuneki, 1984b:13 (Philippines), 1984f:7 (Philippines), 33 (in key to Crabronini of Philippines); Leclercq, 2011:6, 7 (in key to Asian species with bicolored tergum I), 11 (in list of Asian *Rhopalum*).

**81. *downiense* Leclercq**

*Rhopalum downiense* Leclercq, 1997:58, ♀. Holotype: ♀, Australia: Queensland: Downie Creek at 14°47'S (ANIC).

**82. *drexum* Leclercq**

*Rhopalum drexum* Leclercq, 1997:58, ♀, ♂. Holotype: ♀, Australia: Queensland: Mossman Gorge (ANIC).

**83. *duclosi* Leclercq**

*Rhopalum duclosi* Leclercq, 2002b:57, ♀. Holotype: ♀, Guadeloupe: Domaine Duclos, Petit Bourg, Forêt Castarel (FSCA). – Leclercq, 2002b:12 (in key to New World *Rhopalum*); Amarante, 2005a:7 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae).

**84. *durangoense* Leclercq**

*Rhopalum durangoense* Leclercq, 2002b:58, ♀. Holotype: ♀, Mexico: Durango: El Salto (CNC). – Leclercq, 2002b:10 (in key to New World *Rhopalum*).

**85. *duratum* Leclercq**

*Rhopalum duratum* Leclercq, 1997:58, ♂. Holotype: ♂, Australia: Queensland: Ringrose National Park: The Crater (ANIC).

**86. *emolitum* Leclercq**

*Rhopalum emolitum* Leclercq, 1997:59, ♀. Holotype: ♀, Australia: Queensland: 24 km northeast of Eidsvold (ANIC).

**87. *encabbae* Leclercq**

*Rhopalum encabbae* Leclercq, 1997:60, ♀. Holotype: ♀, Australia: Western Australia: Arrowsmith River area 20 km north of Encabba (ANIC).

**88. *erraticum* Tsuneki**

As *Rhopalum shirozui*: Tsuneki, 1965j:169 (♀), corrected to *Rhopalum erraticum* by Tsuneki, 1968g:20.

*Rhopalum erraticum* Tsuneki, 1968g:20, ♀. Holotype: ♀, Taiwan: Nantou Prefecture: Sungkang (originally Kyushu Univ., now USNM). – Tsuneki, 1968g:29 (Taiwan; in key to Crabronini of Taiwan and Ryukyus), 1971a:24 (Taiwan; description of ♂); Haneda, 1972a:6 (Taiwan); Tsuneki, 1972c:7 (Taiwan), 1973f:48 (Taiwan; redescription);

R. Bohart and Menke, 1976:389 (in checklist of world Sphecidae); Nuhn and Menke, 1994:25 (holotype transferred to USNM); Porter, Stange, and Wang, 1999:10 (in checklist of Sphecidae of Taiwan); Hua, 2006:282 (in list of Chinese insects, geographic distribution); Leclercq, 2011:11 (in list of Asian *Rhopalum*).

**89. *etiratum* Leclercq**

*Rhopalum etiratum* Leclercq, 1997:60, ♀, ♂. Holotype: ♀, Australia: Victoria: 15 km south of Yarrara at 34°33'S 141°25'E (ANIC).

**90. *eucalypti* R. Turner**

*Rhopalum eucalypti* R. Turner, 1915a:90, ♀. Holotype or syntypes: ♀, Australia: Tasmania: Eaglehawk Neck (BMNH). – R. Turner, 1915a:86 (in key to Australian *Rhopalum*), 1915b:552 (in key to *Rhopalum* of Tasmania), 553 (Tasmania); Leclercq, 1950b:5 (is a member of *Rhopalum*), 1954c:184 (in catalog of world Crabronini), 1957b:189 (in key to Australian *Rhopalum*), 208 (identity of species); R. Bohart and Menke, 1976:389 (in checklist of world Sphecidae); Leclercq, 1979b:354 (additional description); Cardale, 1985:266 (in catalog of Australian Sphecidae); K. Walker, Naumann, Austin, Taylor, and Cardale, 1992:48 (in catalog of insects of Tasmania); Leclercq, 1997:61 (in revision of Australian *Rhopalum*).

**91. *euclanum* Leclercq**

*Rhopalum euclanum* Leclercq, 1997:61, ♀, ♂. Holotype: ♂, Australia: Western Australia: 39 km southwest of Eucla (ANIC).

**92. *eurytibiale* Li and Xue**

*Rhopalum eurytibiale* Li and Xue, 1998a:78, ♀, ♂. Holotype: ♀, China: Zhejiang: Zhejiang, Xitianmushan (Zhejiang Agricult. Univ.). – Li and He, 2001:757 (China: Tianmushan Nature Reserve at 30°22'N 119°26'E), 2004:1089 (in hymenopterous fauna of Zhejiang Province, China); Leclercq, 2011:11 (in list of Asian *Rhopalum*).

**93. *eustonense* Leclercq**

*Rhopalum eustonense* Leclercq, 1997:63, ♂. Holotype: ♂, Australia: New South Wales: Euston (ANIC).

**94. *evansianum* Leclercq**

*Rhopalum evansianum* Leclercq, 1979b:357, ♀. Holotype: ♀, Australia: New South Wales: Packsaddle 111 mi north of Broken Hill (MCZ). – Cardale, 1985:267 (in catalog of Australian Sphecidae); Leclercq, 1997:63 (in revision of Australian *Rhopalum*).

**95. *evictum* Leclercq**

*Rhopalum evictum* Leclercq, 1979b:358, ♂. Holotype: ♂, Australia: Victoria: Wyperfield National Park 25 mi north of Rainbow (MCZ). – Cardale, 1985:267 (in catalog of Australian Sphecidae); Leclercq, 1997:63 (in revision of Australian *Rhopalum*).

**96. *evocatum* Leclercq**

*Rhopalum evocatum* Leclercq, 1997:64, ♂. Holotype: ♂, Australia: Northern Territory: 53 km northeast of Alice Springs at 23°35'S 134°22'E (ANIC).

**97. *ewartense* Leclercq**

*Rhopalum ewartense* Leclercq, 1997:64, ♀. Holotype: ♀, Australia: Tasmania: Ewart Creek at 41°58'S 145°28'E (ANIC).

**98. *expeditionis* Leclercq**

*Rhopalum expeditionis* Leclercq, 1955c:196, ♂. Holotype: ♂, Tibet: Tasam in Rongshar Valley (BMNH). – R. Bohart and Menke, 1976:389 (in checklist of world Sphecidae); Leclercq, 2011:11 (in list of Asian *Rhopalum*); H.-J. Jacobs, 2016:140 (in review of subgenus *Latrorhopalum* of continental Asia).

**99. *exleyae* Leclercq**

*Rhopalum exleyae* Leclercq, 1997:65, ♂ (as *exleyi*, incorrect original spelling because dedicated to L.M. Exley, who was a woman). Holotype: ♂, Australia: Western Australia: Newman (ANIC).

**100. *extranum* Leclercq**

*Rhopalum extranum* Leclercq, 2002b:58, ♀, ♂. Holotype: ♂, Ecuador: Napo: Pastanza, Sebundo (BMNH). – Leclercq, 2002b:19, 36 (in key to New World *Rhopalum*); Amarante, 2005a:8 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae).

**101. *exultatum* Leclercq**

*Rhopalum exultatum* Leclercq, 1970a:101, ♀, ♂. Holotype: ♀, Ecuador: Puenbo (MNHN). – Leclercq, 1970a:94 and 97 (in key to Latin American *Rhopalum*); R. Bohart and Menke, 1976:389 (in checklist of world Sphecidae); Dollfuss, 1989:12 (paratype in NHMW); Amarante, 2002:33 (in catalog of Neotropical Crabronidae); Leclercq, 2002b:19, 36 (in key to New World *Rhopalum*), 58 (bibliographic reference, locality records from Bolivia and Ecuador, additional description); Amarante, 2005a:8 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae); Rasmussen and Asenjo, 2009:10 (in checklist of Crabronidae of Peru).

**102. *eyrense* Leclercq**

*Rhopalum eyrense* Leclercq, 1997:66, ♀, ♂. Holotype: ♀, Australia: South Australia: south of Lake Eyre at 29°29'S 137°11'E (ANIC).

**103. *facetum* Leclercq**

*Rhopalum facetum* Leclercq, 2002b:59, ♀, ♂. Holotype: ♀, Costa Rica: Puntarenas: Estación Biologica Las Alturas in San Vito (Universidad de Costa Rica). – Leclercq, 2002b:23, 36 (in key to New World *Rhopalum*); Amarante, 2005a:8 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae).

**104. *famicum* Leclercq**

*Rhopalum famicum* Leclercq, 1979b:359, ♀. Holotype: ♀, Australia: Western Australia: 10 mi north of Mount Magnet (MCZ). – Cardale, 1985:267 (in catalog of Australian Sphecidae); Leclercq, 1997:67 (in revision of Australian *Rhopalum*).

**105. *fannum* Leclercq**

*Rhopalum fannum* Leclercq, 1997:67, ♀, ♂. Holotype: ♀, Australia: Queensland: 13 km SE Weiepa at 12°40'S 143°00'E ((ANIC).

**106. *farri* Leclercq**

*Rhopalum farri* Leclercq, 2002b:60, ♀. Holotype: ♀, Jamaica: Portland: Hardwar Gap (BMNH). – Leclercq, 2002b:12 (in key to New World *Rhopalum*); Amarante, 2005a:7 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae).

**107. *faustum* Leclercq**

*Rhopalum faustum* Leclercq, 2002b:60, ♀, ♂. Holotype: ♂, Peru: Amazonas: Rodriguez de Mendoza (BMNH). – Leclercq, 2002b:19, 38 (in key to New World *Rhopalum*); Amarante, 2005a:8 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae); Rasmussen and Asenjo, 2009:10 (in checklist of Crabronidae of Peru).

**108. *federale* Leclercq**

*Rhopalum federale* Leclercq, 2002b:61, ♂. Holotype: ♂, Brazil: Distrito Federal: Estação Florestal Cabeça do Veado (CNC). – Leclercq, 2002b:38 (in key to New World *Rhopalum*); Amarante, 2005a:8 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae).

**109. formosanum Tsuneki**

*Rhopalum formosanum* Tsuneki, 1966d:13, ♀, ♂. Holotype: ♂, Taiwan: Nantou Prefecture: Sungkang (Kyushu Univ.). – Tsuneki, 1968d:57 (Taiwan), 1968g:23 (Taiwan), 30 (in key to Crabronini of Taiwan and Ryukyus); Murota, 1973b:119 (Taiwan); R. Bohart and Menke, 1976:389 (in checklist of world Sphecidae); Porter, Stange, and Wang, 1999:10 (in checklist of Sphecidae of Taiwan); Hua, 2006:282 (in list of Chinese insects, geographic distribution); ; Leclercq, 2011:11 (in list of Asian *Rhopalum*).

**110. fraxinum Leclercq**

*Rhopalum fraxinum* Leclercq, 1997:67, ♀, ♂. Holotype: Northern Territory: 12-17 mi. east of Alice Springs (ANIC).

**111. frenchii (R. Turner)**

*Crabro frenchii* R. Turner, 1908:526, ♀. Holotype or syntypes: ♀, Australia: Victoria: no specific locality (BMNH). – **As *Rhopalum frenchi***: R. Turner, 1915a:86 (new combination, in key to Australian *Rhopalum*), 87 (nesting in roadside bank; Tasmania, Victoria), 1915b:552 (in key to *Rhopalum* of Tasmania), 553 (Tasmania); Leclercq, 1950b:5 (is a member of *Rhopalum*), 1954c:184 (in catalog of world Crabronini), 298 (nest and prey records), 1957b:188 (in key to Australian *Rhopalum*), 220 (redescription); R. Bohart and Menke, 1976:389 (in checklist of world Sphecidae); Tsuneki, 1977d:2 (Australia; description); Leclercq, 1979b:360 (variation, additional localities); Cardale, 1985:268 (in catalog of Australian Sphecidae); K. Walker, Naumann, Austin, Taylor, and Cardale, 1992:48 (in catalog of insects of Tasmania); Leclercq, 1997:68 (in revision of Australian *Rhopalum*).

**112. freturum Leclercq**

*Rhopalum freturum* Leclercq, 1997:70, ♀, ♂. Holotype: ♂, Australia: Tasmania: Barrow Creek 8 km northeast of Nunamara (ANIC).

**113. frogatum Leclercq**

*Rhopalum frogatum* Leclercq, 1997:72, ♀, ♂. Holotype: ♂, Australia: Tasmania: 4 km southwest of Marrawah (ANIC).

**114. futilum Leclercq**

*Rhopalum futilum* Leclercq, 1997:72, ♀, ♂. Holotype: ♀, Australia: South Australia: Dingly Dell Camp at Oraparinna Creek at 31°21'S 138°42'E (ANIC).

**115. gansuense Li and He**

*Rhopalum gansuense* Li and He, 1999a:97, ♀, B. Holotype: ♀, China: Gansu Province: no specific locality (Institute of Zoology, Academia Sinica). – Leclercq, 2011:11 (in list of Asian *Rhopalum*).

**116. gauldi Leclercq**

*Rhopalum gauldi* Leclercq, 1997:72, ♀. Holotype: ♀, Australia: Tasmania: Mount Field National Park (BMNH).

**117. gloriosum Leclercq**

*Rhopalum gloriosum* Leclercq, 1997:73, ♀, ♂. Holotype: ♀, Australia: Queensland: Mount Glorious near Brisbane (BMNH).

**118. gonopleurale Li and Xue**

*Rhopalum gonopleurale* Li and Xue, 1998c:263, ♀, B. Holotype: ♀, China: Zhejiang Province: Hangzhou (Zhejiang Agric. Univ.). – Li and He, 2004:1091 (in hymenopterous fauna of Zhejiang Province, China); Leclercq, 2011:11 (in list of Asian *Rhopalum*).

**119. gorongozae (Arnold)**

*Crabro gorongozae* Arnold, 1960b:474, ♀. Holotype: ♀, Mozambique: Mount Gorongoza (SAM). – **As *Rhopalum gorongozae***: R. Bohart and Menke, 1976:389 (new combination, in checklist of world Sphecidae); Leclercq, 2012a:29 (in key to African *Rhopalum*), 32 (unusual combination of characters).



**120. *gracile* Wesmael**

*Rhopalum nigrinum* von Kiesenwetter, 1849:91, ♀, ♂, junior secondary homonym in *Crabro* of *Crabro nigrinus* Herich-Schaeffer, 1841. Syntypes: Germany: Sachsen-Anstalt: Eisleben (depository?). – Taschenberg, 1858:99 (in key to Sphecidae of Germany), 1866:184 (in revision of Hymenoptera of Germany); Kirchner, 1867:223 (in catalog of European Hymenoptera); Schenck, 1861:159 (redescription, Germany: Halle), 1867a:352 (known from Germany: Halle); Schlechtendal, 1872:36 (Germany: Sachsen: Zwickau); Mocsáry, 1897:83 (Hungary except Kopács is today's Slovakia); de Gaulle, 1908:122 (in catalog of French Hymenoptera); A. Wagner, 1920:47 (Germany: Lower Elbe region); Coulon, 1925:123 (France: Evreux; Germany); A. Wagner, 1938a:118 (northwestern Germany); Ryckaert, 1950:228 (first record from Belgium: Berg); Leclercq, 1951e:4 (reported from Belgium by Ryckaert, 1950); Tsuneki, 1952b:112, 114 (in key to *Rhopalum* of northeastern Asia), 122 (in revision of *Rhopalum* of Japan, Korea, Sakhalin, and Kuril Islands); Leininger, 1953:20 (Germany: Baden-Württemberg: Konstanz-Staad); Leclercq, 1954c:188 (in catalog of world Crabronini), 299 (nest and prey records); Tsuneki, 1955d:218 (Russia: Kuril Islands); Tsuneki and Tanaka, 1955b:25 (Japan: near Nikko, 120 km NW Tokyo); de Beaumont, 1956c:186 (Switzerland); Móczár, 1958a:261 (in annotated catalog of Hungarian Crabronini), 1958b:191 (Hungary: locality records); Tsuneki, 1958e:54 (Japan: city of Toyama); Grandi, 1959b:287 (Italy: Firenze: Empoli); Wolf, 1959b:32 (known from Germany, but not from Nassau); Tsuneki, 1960e:58, 60 (in key to *Rhopalum* of Japan and Korea), 1960g:49 (nesting habits); Valkeila, 1962b:68 (southwestern Finland); de Beaumont, 1964c:156 (in Sphecid Fauna of Switzerland); Gauss, 1967:560 (Germany: Baden-Württemberg: Bodensee); J. Heinrich, 1967:83 (Germany: Bayern: Obernau); Benedek, 1968:78 (Hungary, visiting flowers of *Angelica silvestris* L.); Haneda, 1968b:56 (Japan: Nagano Prefecture: Ina District, as *nigrinum* Kohl); Merisuo, 1968:46 (nest and prey); Nishino, 1968:25 (Japan); Okuno, 1968:31 (Japan); Benedek, 1969a:85 (Hungary; marshy meadow), 1969b:421 (Hungary: Csopak, collected in vicinity of aphid *Hyalopteritena pruni* (Geoffroy)); Itami, 1969:51 (Japan: Niigata Prefecture); Schmidt, 1969:166 (Germany: Rhein-Main area: Worms); Stritt, 1969:131 (Germany: Baden-Württemberg: Karlsruhe); Tsuneki, 1969i:61 (Japan: Fukui Prefecture: Taichōdzi temple); Zangheri, 1969:1706 (Italy: in catalog of flora and fauna of Romagna Region); Benedek, 1970:104 (Hungary: Tapolca); Haneda, 1970:13 (Japan: Akita Prefecture); Oehlke, 1970:791 (Democratic Germany); Scobiola-Palade, 1970:152 (first record from Romania: Constanța District: Comarova forest); Leclercq, 1971:228 (Spain); Lefeber, 1971b:223 (Netherlands: Beesd); Schmidt, 1971c:76 (Germany: Schleswig-Holstein); Stritt, 1971a:105 (Germany: Baden-Württemberg: Karlsruhe); Haeseler, 1973:55 (Denmark: Ringkøbing, Germany: Schleswig-Holstein: Brenner Moor W Bad Oldesloe); Lomholdt, 1973a:108 (Denmark: West Jutland: Ringkøbing); Nambu, 1973a:153 (Japan: Saitama Prefecture); Scobiola-Palade, 1974:145 (Romania: Sărăturile sandbank in Danube delta); Tsuneki, 1974a:382 (Korea); Leclercq, 1975b:2 (France); Lefeber, 1975a:37 (Netherlands: Asperen, Naardemeer, Oudega, Warga), 1975b:156 (Netherlands: Schiepersberg); Nambu, 1975b:77 (Japan: Saitama Prefecture); Lefeber, 1976:152 (Netherlands: Biesbos, Hoidammen, Nijetrijne); Lomholdt, 1976:357 (in Sphecid Fauna of Fennoscandia and Denmark); Marshakov, 1976d:110 (in revision of *Rhopalum* of USSR: north to Kamchatka); Lefeber, 1978:138 (Netherlands: Elburg); Benedek, 1979:236 (Hungary: Bakony Hills); Preuss, 1979b:41 (Germany: first record from Rheinland-Pfalz: between Hornbach and Zweibrücken), 1980a:21 (nesting in stems of *Phragmites*); Haeseler, 1981:52 (Germany: Friesian Island: Amrum Island); Haack, Tschardtke, and Vidal, 1984:132 (Germany: Hamburg area); Riemann, 1985:21 (Germany: Niedersachsen); Pádr in Šedivý, 1989a:169 (in checklist of Czechoslovakian Sphecidae); Weiffenbach, 1989:110 (Germany: Hessen: Gießen area); Gayubo, Borsato, and Osella, 1991:406 (Italy: Piemonte: Settimo); Jakubzik, 1991:75 (Germany: Köln); Leclercq, 1991f:104 and 105 (in key to *Rhopalum beaumonti*, *coarctatum*, and *gracile*), 105 (Austria: Neusiedl); Nilsson, 1991:83 (Sweden: Lake Mälaren), 89 (general information about species); Pagliano, 1991b:357, 358 (in key to Italian Crabroninae); Tsuneki, 1991:203 (Korea); Delarze, 1992:68 (Switzerland: Valais: Les Follatères); Gusenleitner, 1992:686 (Austria: Oberösterreich); Józán, 1992b:174 (Hungary: Boronka-melléki Protected Area); Bitsch and Leclercq, 1993:222 (in revision of western European Crabroninae); Leclercq, 1993c:42 (Austria: Neusiedl; Italy: Trieste); Leclercq and Barbier, 1993:92 (map of distribution in France); Torregrosa,

Gayubo, Tormos, and Asís, 1993:20 (Spain: Alicante Province); Menke, 1994d:15 (California: Monterey County: Parkfield area); Salzmann-Wandeler, 1998a:98 (Switzerland: Luzern Canton: Sempach); Gayubo, García, Torres, and González, 1999:91 (Spain: Soria Province); Vepřek, 2000:236 (Czech Republic: Moravia: Moravský Písek). – **As *Crabro nigrinus***: Dalla Torre, 1897:612 (new combination, in catalog of world Sphecidae); Józán, 1981:305 (Hungary: Hortobágy National Park). – **As *Corynopus nigrinus***: Richards, 1935:168 (new combination, is not a valid name), 1937b:107 (in checklist of British aculeates). – **As *Euplilis nigrinus***: Hellén, 1955a:127 (new combination, Finland: eight localities).

*Rhopalum gracile* Wesmael, 1852:592, ♀ (as *Gracile*, incorrect original capitalization). Holotype: ♀, Switzerland: Genève area (Bruxelles). Synonymized with *Rhopalum nigrinum* von Kiesenwetter by Leclercq, 1954c:189. – Kirchner, 1867:223 (in catalog of European Hymenoptera); A. Costa, 1884b:33 (Italy: Sardegna: Porto Torres), 54 and 1884b:244 (description of ♂); R. Bohart and Menke, 1976:389 (in checklist of world Sphecidae); Pulawski, 1978:254 (in key to Sphecidae of European part of former USSR); Leclercq, Gaspar, and Verstraeten, 1979:map 1437 (Belgium); Richards, 1980:57 (in key to Sphecidae of British Isles); Schmidt, 1980:332 (Germany: Baden-Württemberg); Silvestre de Sacy, 1982:4 (France: Côtes-du-Nord: Paimpol area); Tsuneki, 1982b:17 (known from Korea); Dollfuss, 1983b:14 (in catalog of Sphecidae of Austria); Chevin and Silvestre de Sacy, 1984:8 (France: Yvelines Department); Lefeber, 1984:29 (Netherlands: Maastricht); Haeseler, 1985c:571 (Germany: Friesian Islands); Józán, 1985b:59 (Hungary south of Lake Balaton), 84 (ecological and zoogeographic characteristics); Paik, 1985:202 (in list of Sphecidae of Korea); Westrich and Schmidt, 1985b:112 (Germany: endangered in Baden-Württemberg); Jozán, 1986:372 (Hungary: Kiskunság National Park); Vikberg, 1986:77 (Finland); Dollfuss, 1987:22 (Austria); Józán, 1989:101 (Hungary: Tihany Nature Reserve); Jacobs and Oehlke, 1990:182 (no new records from Democratic Germany); Pagliano, 1990:94 (in catalogue of Italian Sphecidae); Schwammberger and Priesner, 1990:543 (Austria: Kärnten); Day, 1991:xviii (summary of European Endangered Hymenoptera Lists); Dollfuss, 1991:142 (in key to Sphecidae of North and Central Europe); Grove, 1991:117 (Great Britain: Norfolk); van der Smissen, 1991:97 (nw. Germany); Haeseler, 1992:355 (nesting in stems of *Phragmites*); Sorg and Wolf, 1993:60 (Germany: Rheinland-Westfalen: Nature Reserve Die Spey); Dollfuss, 1994:102 (endangered in Austria); Theunert, 1994c:50 (summary of records from Niedersachsen and Bremen, Germany); Negrisolo *in* Minelli, Ruffo, and La Posta, 1995b:8 (in catalog of Italian fauna); Nemkov *in* Nemkov, Kazenas, Budrys, et Antropov, 1995:428 (in key to Sphecidae of Russian Far East); Schmid-Egger, Risch, and Niehuis, 1995:207 (summary of records from Germany: Rheinland-Pfalz Province); Jakubzik, 1996:253 (Germany: Köln); Schmid-Egger, Schmidt, and Doczkal, 1996:378 (Germany: Baden-Württemberg: endangered); Shlyakhtenok, 1996:304 (Belarus': Berezinsky Nature Reserve); Celary, 1997:59 (in checklist of Animals of Poland); Schmidt and Schmid-Egger, 1997:28 (in checklist of German Sphecidae); Schnee, 1997:100 (Germany: Sachsen); Dollfuss, Gusenleitner, and Bregant, 1998:521 (Austria: summary of collecting records from Burgenland); Józán, 1998:311 (Hungary: Duna-Dráva National Park); Shkuratov, 1998:98 (Russia: Rostov Oblast'); van der Smissen, 1998:68 (Germany: Schleswig-Holstein: Am Stau); Neumayer, Schwarz, and Bregant, 1999:225 (Austria: in checklist of Sphecidae of Land Kärnten); Pauly, 1999:110 (in catalog of Belgian aculeates); Zehnder and Zettel, 1999:131 (Switzerland: recolonization of flooded area in Valais Canton); Blösch, 2000:289 (in Sphecid Fauna of Germany); Esenbekova and Kazenas, 2000:48 (southeast Kazakhstan: no specific locality); Jacobs, 2000:9, 17 (Germany: Land Mecklenburg-Vorpommern: probably endangered); Józán, 2000:110 (Hungary: Bakony Mountains); Luig and Voolma, 2000:123 (first record from Estonia); Mokrousov, 2000b:31 (Russia: Nizhniy Novgorod Oblast'); Zettel, 2000:29 (Austria: Burgenland: Seewinkel); Józán, 2001:280 (Hungary: Somogy County); Kazenas, 2001b:188 (review of known biology); Ohl et al., 2001:141 (distribution in Germany by provinces); van der Smissen, 2001:63 (Germany: Schleswig-Holstein: not endangered); Bieri, 2002:79 (Liechtenstein); Deván, 2002b:204 (Slovakia: Pekelná dolina); Kazenas, 2002a:97 (geographic distribution, collecting localities in Kazakhstan); Reemer and van der Meer, 2002:Bijlage 5 (Netherlands: Gelderland: Zaltbommel area); Shlyakhtenok and Skibinska, 2002:34 (Belarus': no specific locality); Bergsten, Ekerholm, Hellquist, Hilszczanski, Nilsson, Pettersson, and Werner, 2003:71 (Sweden: Västerbotten: Romelsön island); Gus-



enleitner, 2003:864 (Austria: Oberösterreich: Saulehen southwest of Schlögen at 48°25'N 13°51'E); Haeseler, 2003:340, 346 (Germany: Niedersachsen: Harriersand Island near Bremen); Mandery, Kraus, Voith, Wickl, Scheuchl, Schubert, and Warncke, 2003:70 (Germany: in catalog of wasps and bees of Bayern); Reemer, 2003:62 (Netherlands: Gelderland: Zaltbommel area); Wickl, Voith, Mandery, Weber, Kraus, Bausenwein, and Blösch, 2003:194, 196 (Germany: Bayern: endangered); Dollfuss, 2004b:783 (Czech Republic, Kazakhstan, Turkey, Uzbekistan); Esser, Jakubzik, Sonnenburg, and Woydak, 2004:264 (in checklist of Sphecidae of Nordrhein-Westfalen State of Germany); Kazenas, 2004b:107 (Kazakhstan: western Tien Shan); Salzmänn-Wandeler and Rezbanyai-Reser, 2004:26 (central Switzerland); Shkuratov, 2004a:79 (Russia: Rostov Oblast'); Skibińska in Bogdanowicz, Chudzicka, Pilipiuk, and Skibińska, 2004:357 (in catalog of Polish Crabronidae); Stolle et al., 2004:373 (Germany: Sachsen-Anhalt: in red list of Sphecidae); Suda, 2004:42 (Japan: Yamanashi Prefecture); van Achterberg and Peeters, 2004:31 (in checklist of Sphecidae of Netherlands); Wiśniowski, 2004:47 and 61 (in checklist of Polish Sphecidae); Negoro, Haneda, and Tano, 2005:49 (Japan: Toyama Prefecture); Nemkov, 2005a:149 (Russia: Sakhalin Island); Pagliano and Negrisola, 2005:297 (in Sphecid Fauna of Italy); Riemann and Hohmann, 2005:565 (Germany: Niedersachsen: city of Bremen and adjacent area); Theunert, 2005a:18 (Germany: in checklist of Sphecidae of Niedersachsen and Bremen); Budrys, 2006:80 (Lithuania: Klaipėda District at 55°36'00"N 21°10'35"E); Edwards and Broad, 2006:54 (Great Britain: distribution, status, habitat, flight period, prey, nesting habits, flower visiting, parasites, and distribution map); Gorobchishin, 2006:123 (Ukraine: Khmelnytsky Oblast': Medzhybozh; Kyiv Oblast': Volodarka); Haneda, Nozaka, Tano, Kurokawa, and Murota, 2006a:28 (Japan: Toyama Prefecture); Liška, 2006:89 (Slovakia: Váh river valley near Trenčín); Magdalou, 2006b:109 (France: Pyrénées-Orientales: Mas Larrieu Nature Reserve near Argelès-sur-Mer); Vepřek, 2006:511 (Czech Republic: Kokořínsko area); Burger, 2007:59, 60 (Germany: Thüringen: Auleben); Jacobs, 2007:125, 126 (in key to Crabronidae of Germany); Jansen and Kaluza, 2007:26 (Germany: northwestern Sachsen); Nemkov, 2007b:71 (Russia: Kuril Islands: Kunashir Island), 2007c:997 (in Appendix to Key to identification of Sphecidae of Far East of Russia); Saure, 2007:83 (in checklist of Aculeata of Land Brandenburg, Germany); Shlyakhtenok, 2007:299 (Belarus': Berezinsky Nature Reserve); Vago, 2007:175 (France: département du Nord); Vepřek and Straka, 2007:207 (in catalog of Sphecidae of Czech Republic and Slovakia), 231 (first recorded from Moravia by Vepřek, 2006; Bohemia: Vlčkov on Lužnic, Žehuňská Obora; Moravia: Dolní Věstonice); Haeseler, 2008:309 (Germany: Friesian Islands); Haneda, 2008:5, 7 (in key to Japanese Crabroninae); Ljubomirov and Yildirim, 2008:298 (in catalog of Crabronidae of Turkey); Nemkov, 2008b:21 (in catalog of Crabronidae of Asiatic Russia); Okusa and Tajima, 2008:75 (Japan: central Honshu: Aichi Prefecture); S. Takahashi and Haneda, 2008a:59 (Japan: Hokkaido: Sapporo); Theunert, 2008:79 (Germany: map of distribution in Niedersachsen and Bremen); Bitsch and Leclercq, 2009:226 (in supplement to vol. I of Faune de France, 1993: recent records from Estonia, Italy, and Spain reported; France: first records from Aisne: Chivres-en-Laonnais, and Loiret: Ardon); U. Frommer, 2009a:29 (Germany: in checklist of Sphecidae of Hessen), 40 (Hessen: Frankfurt, Gießen); Gayubo, González, Tormos, and Asís, 2009:364 (Spain: Valladolid: Reserva Natural Riberras de Castronuño – Vega del Duero); Nemkov, 2009b:96 (in new catalog of Sphecidae and Crabronidae of Asiatic Russia); S. Takahashi, Haneda, and Tano, 2009:50 (distribution in Japan); Esser, Fuhrmann, and Venne, 2010:38 (Germany: in checklist of aculeates of Nordrhein-Westfalen); Hable, Wickl, Krauss, and von der Dunk, 2010:28 (Germany: Bayern: Sulz- and Ottmaringer Tal); Mokrousov, 2010a:62 (Russia: Nizhniy Novgorod Oblast': no specific localities), 2010b:100 (Russia: Nizhniy Novgorod Oblast': no specific localities); Rudoiskatel', 2010:155 (Russia: central and southern Ural Mountains); Saure, 2010b:175 (Germany: Berlin-Reinickendorf: airport Tempel and Flughafensee Protected Area); Schmid-Egger, 2010a:18 (in red list of Aculeata of Germany: rare); Schmidt, 2010:139 (Germany: Bayern: collected along Main-Donau canal); Shorenko and Konovalov, 2010:22 (Ukraine: Donetsk); van der Smitsen, 2010a:352 (Germany: Schleswig-Holstein: locality records); Baghirov, 2011b:147 (Russia: recorded from Altay by Nemkov in Nemkov, Kazenas, Budrys, and Antropov, 1995); Józán, 2011:182 (in checklist of Sphecidae s.l. of Hungary); Leclercq, 2011:11 (in list of Asian *Rhopalum*); Shlyakhtenok, 2011:95 (Belarus': city of Minsk); Theunert, 2011a:21 (Germany: in checklist of aculeates of Niedersachsen including city

of Bremen); Tischendorf, Frommer, Flügel et al., 2011:170 (Germany: Hessen: not endangered); Nemkov, 2012c:444 (in catalog of Crabronidae of Russian Far East); Strumia, Pagliano, and Gayubo, 2012:57 (Italy: Toscana: Riserva di San Rossore); Yildirim, 2012:82 (Turkey: Bayburt: Aydıntepe); Shlyakhtenok, 2013:187 (in annotated catalog of aculeate wasps of Belarus); Bitsch, 2014:402 (recorded from France by Vago, 2007); Baldock, 2014:358 (Spain: Island of Mallorca); Hellqvist, Abenius, and Norén, 2014:92 (in catalog of Ampulicidae, Sphecidae, and Crabronidae of Sweden, by provinces); J.-K. Kim, 2014:433 (in catalog of Sphecidae s.l. of Korean Peninsula); Yıldırım, Ljubomirov, and Lelej, 2014:15 (distribution in Turkey by biogeographic provinces); Bogusch, Astapenková, and Heneberg, 2015:6 (Czech Republic: reared from galls of *Lipara* sp., Chloropidae); Koçak and Kemal, 2015:150 (in checklist of Hymenoptera of Turkey); Simon, Lorthiois, and Macé, 2015:55 (France: alluvial terraces in Eure Department: Courcelles-sur-Seine); Else, Bolton, and Broad, 2016:28 (in checklist of Aculeata of Great Britain and Ireland: England); Ratzlaff, Needham, and Scudder, 2016:83 (first record from North America: Canada: British Columbia: Richmond: Iona Beach Regional Park); Stolle and Saure, 2016:925 (Germany: in list of Sphecidae s.l. of Sachsen-Anhalt); Antropov, 2017b:235 (in catalog of Crabroninae of Russia); Astapenková, Heneberg, and Bogusch, 2017:7 (reared from galls of *Lipara* sp., Chloropidae); Magdalou, 2017:16 (France: Pyrénées-Orientales: Réserves Naturelles Catalanes: Mas Larrieu). – **As *Crabro gracilis*** F. Smith, 1856:391 (new combination, in catalog of Hymenoptera in British Museum).

*Crabro kiesenwetteri* A. Morawitz, 1866:267 (as *Kiesenwetteri*, incorrect original capitalization). Substitute name for *Crabro nigrinus* (von Kiesenwetter, 1849) A. Morawitz, 1866. Synonymized with *Rhopalum nigrinum* by Leclercq, 1954c:188. – Kohl, 1883e:657 (Switzerland), 1893a:21 (Austria: Niederösterreich); Krieger, 1894:3 (Germany: Kingdom of Saxony); Kohl, 1899:309 and 310 (in key to Palearctic *Rhopalum*); de Cobelli, 1903:119 (Italy: Trentino: Palude di Volano); Schmiedeknecht, 1907:200 (in key to Hymenoptera of Central Europe); Nurse, 1913:83 (first record from Great Britain: Suffolk County: Ampton, West Stow); Kohl, 1915:342 (in revision of Palearctic Crabronini); R. Perkins, 1919a:9 (addition to E. Saunders, 1902, catalog); Dubois, 1921b:162 (in key to Belgian Sphecidae); Berland, 1925d:181 (in Sphecid Fauna of France); Schütze, 1925:1111 (Germany: Lausitz Region); Bouwman, 1930:107 (in revision of Sphecidae of Netherlands); Hedicke, 1930b:139 (...); Schmiedeknecht, 1930:658 (in keys to Hymenoptera of North and Central Europe); Hellén, 1931b:65 (recorded from Finland); Pulkkinen, 1931:155 (in revision of Sphecidae of Finland); Bernard, 1934a:62 (France: Var: Fréjus); Forsius in Forsius and Hellén, 1935:11 (in checklist of Hymenoptera of Finland); Grandi, 1935a:109 (Italy); Richards, 1935:168 (*kiesenwetteri* is the valid name, a statement contrary to Article 59.3 of the Code); Steck, 1935:327 (Switzerland); Bernard, 1936c:288 (France: Aude: Ile Sainte-Lucie; Hérault: Valras; Var: Fréjus); Paul, 1941:38 (Germany: Pommern: Stettin area, now Poland: Województwo Zachodniopomorskie: Szczecin area); de Beaumont, 1945:481 (Switzerland); Piet, 1947:508 (surviving inundation because of gall nesting); Tsuneki, 1947e:428 (Japan: Hokkaido), 1948c:8 (Japan: Hokkaido); Balthasar, 1948:140 (Slovakia: Kovačov, Parkan); Murota, 1948:56 (nesting habits); Zavadil in Zavadil and Šnoflak, 1948:139 (in key to Sphecidae of Czechoslovakia); Leth, 1950:408 (first record from Denmark); Abrahamsen, 1951:116 (recorded from Denmark after J.C. Nielsen, 1907); Fæster, 1951:457 (distribution in Scandinavia); Fahlander, 1951b:47 (first record from Sweden: Norrköping: Svärtinge); de Beaumont, 1954e:98 (Italy); Kjellander, 1954b:246 (Sweden); Vogrin, 1955:41 (Yugoslavia); Benno, 1958b:20 (in review of Dutch Sphecidae); Noskiewicz and Puławski, 1960:158, 159 (in key to Polish Sphecidae); Niedl and Deneš, 1967:75 (Czech Republic: Třeboň area); Tumšs and Maršakovs, 1970:31 (Latvia); Balthasar, 1972:137 (in Sphecid Fauna of Czechoslovakia). – **As *Rhopalum kiesenwetteri***: R. Perkins, 1913b:396 (new combination, in key to British Crabronini); Haines, 1922:14 (Great Britain: not found in Dorset); Hedicke, 1930a:99 (Germany: Bellinchen an der Oder, now Poland: Bielinek); Spooner, 1931:15 (Great Britain: Cambridgeshire); Bernard, 1935:67 (France: Var: Fréjus area); Hallett, 1939:16 (Great Britain: Suffolk: no specific locality); A. Wagner, 1939b:74 (an eastern species in northwestern Germany); Bat'a, 1952:166 (Czech Republic); Morel, Nouvel, and Ribaut, 1956:339 (France: Département des Pyrénées-Orientales); Harz, 1965:223 (Germany: Friesian Islands: Wangerooog); Lefeber, 1966:210 (Netherlands: St. Pietersberg); Benno, 1967:39 (in checklist of Sphecidae of

Netherlands, as *kiesenwetteri*); Lefeber, 1968a:5 (Netherlands: Botshol, Maastricht), 1969a:79 (Netherlands: Arkel).

*Corynopus simplicipes* F. Morawitz, 1888:291, ♂. Lectotype: ♂, Uzbekistan: Zeravshan (ZIL), designated by Marshakov, 1976d:110. Synonymized with *Crabro kiesenwetteri* by Kohl, 1915:342. – As *Crabro simplicipes*: Dalla Torre, 1897:629 (new combination, in catalog of world Sphecidae).

### 121. *grahami* Leclercq

*Rhopalum grahami* Leclercq, 1957b:227, ♀, ♂. Holotype: ♀, Australia: Australian Capital Territory: Black Mountain (ANIC). – Leclercq, 1957b:185 (in key to Australian *Rhopalum*); R. Bohart and Menke, 1976:389 (in checklist of world Sphecidae); Leclercq, 1979b:354 (member of subgenus *Rhopalum* s.s.); Cardale, 1985:266 (in catalog of Australian Sphecidae); Leclercq, 1997:74 (in revision of Australian *Rhopalum*).

### 122. *gratorineum* Leclercq

*Rhopalum gratorineum* Leclercq, 1997:74, ♀. Holotype: ♀, Australia: Queensland: Shiptons Flat at 15°47'S 145°14'E (ANIC).

### 123. *gratuitum* Leclercq

*Rhopalum gratuitum* Leclercq, 2002b:62, ♀. Holotype: ♀, Costa Rica: Guanacaste: NW Volcán Orosi in Cerro el Hacha (Universidad de Costa Rica). Paratypes: Guatemala. – Leclercq, 2002b:14 (in key to New World *Rhopalum*); Amarante, 2005a:7 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae).

### 124. *grenadinum* (Pate)

As *Physoscelis claviventris*: Ashmead, 1900:222 (Lesser Antilles: Grenada Island), 305 (in checklist of Caribbean Hymenoptera), corrected to *Euplilis grenadinus* by Pate, 1947:9.

*Euplilis grenadinus* Pate, 1947f:8, ♂. Holotype: ♂, Lesser Antilles: Grenada: Windward side: Chantilly Estate (USNM). – As *Rhopalum grenadinum*: Leclercq, 1954c:187 (new combination, in catalog of world Crabronini); R. Bohart and Menke, 1976:389 (in checklist of world Sphecidae); Amarante, 2002:33 (in catalog of Neotropical Crabronidae); Leclercq, 2002b:15, 30, 31 (in key to New World *Rhopalum*), 62 (locality records from 14 countries, variation); Amarante, 2005a:7 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae); Rasmussen and Asenjo, 2009:10 (in checklist of Crabronidae of Peru).

*Rhopalum prisonium* Leclercq, 1970:103, ♀. Holotype: ♀, Paraguay: San Bernardino (NHMW). Synonymized with *Rhopalum grenadinum* by Leclercq, 2002:62. – Leclercq, 1970a:99 (in key to Latin American *Rhopalum*); R. Bohart and Menke, 1976:390 (in checklist of world Sphecidae); Dollfuss, 1989:12 (holotype in NHMW); Amarante, 2002:33 (in catalog of Neotropical Crabronidae); Alves-dos-Santos, 2003:330 (Brazil: University of São Paulo campus).

### 125. *guttatum* Tsuneki

*Rhopalum guttatum* Tsuneki, 1955a:105, ♀. Holotype: ♀, Japan: Fukui Prefecture: Koike (originally K. Tsuneki coll., now Hyogo Mus.). – Tsuneki, 1960e:58, 61 (in key to *Rhopalum* of Japan and Korea), 1960f:52 (description of ♂), 1960g:50 (nesting habits); Nambu, 1968:22 (Japan); Tsuneki and Tano, 1969:31 (distribution in Japan); Nambu, 1973a:153 (Japan: Saitama Prefecture), 1975b:77 (Japan: Saitama Prefecture); R. Bohart and Menke, 1976:389 (in checklist of world Sphecidae); Tano, 1994a:7 (holotype in K. Tsuneki collection); Hashimoto and Nakanishi, 1997:19 (holotype transferred to Hyogo Mus.); Haneda and Inoue, 2003:50 (Japan: Fukui Prefecture: Katsumi in City of Obama); Suda, 2004:42 (Japan: Yamanashi Prefecture); Haneda, Inoue, Nozaka, Tano, Kurokawa, H. Murota, and T. Murota, 2005:67 (Japan: Fukui Prefecture: Mount Monju); Haneda, 2008:5, 7 (in key to Japanese Crabroninae); S. Takahashi and Haneda, 2009:26 (Japan: Hokkaido: Sapporo); S. Takahashi, Haneda, and Tano, 2009:43, 50 (distribution in Japan); Leclercq, 2011:12 (in list of Asian *Rhopalum*).

**126. *hakodatense* Tsuneki**

*Rhopalum hakodatense* Tsuneki, 1960f:51, ♀. Holotype: ♀, Japan: Hokkaido: Hakodate (originally K. Tsuneki coll., now Hyogo Mus.). – Tsuneki, 1970b:11 (central Japan); Tsuneki and Tano, 1969:31 (distribution in Japan); R. Bohart and Menke, 1976:389 (in checklist of world Sphecidae); Tano, 1994a:7 (holotype in K. Tsuneki collection, as *hakodatense hakodatense*); Hashimoto and Nakanishi, 1997:19 (holotype transferred to Hyogo Mus.); Kurokawa, 2003:61 (Japan: city of Fukui: Egamichou, as *hakodatense hakodatense*); Haneda, 2008:9 (in key to Japanese Crabroninae, as *hakodatense hakodatense*); S. Takahashi, Haneda, and Tano, 2009:43, 50 (distribution in Japan, as *hakodatense hakodatense*); Leclercq, 2011:12 (in list of Asian *Rhopalum*).

**ssp. *taichodzi* Tsuneki**

*Rhopalum hakodatense taichodzi* Tsuneki, 1969i:58, ♀. Holotype: ♀, Japan: Fukui Prefecture: Taichôdzi temple (K. Tsuneki coll.). – Tsuneki, 1969i:61 (Japan: Fukui: Prefecture: Taichôdzi temple); Haneda, 2008:9 (in key to Japanese Crabroninae).

**127. *hanedai* Tsuneki**

*Rhopalum hanedai* Tsuneki, 1973a:21, ♀. Holotype: ♀, Japan: Fukui Prefecture: Taniyama (originally K. Tsuneki coll., now Hyogo Mus.). – R. Bohart and Menke, 1976:389 (in checklist of world Sphecidae); Tano, 1994a:7 (holotype in K. Tsuneki collection, as *henedai*); Hashimoto and Nakanishi, 1997:19 (holotype and paratype transferred to Hyogo Mus.); Haneda, 2008:7 (in key to Japanese Crabroninae); S. Takahashi and Haneda, 2009:26 (Japan: Hokkaido: Sapporo); S. Takahashi, Haneda, and Tano, 2009:45, 50 (distribution in Japan); Leclercq, 2011:6 (in key to Asian species with bicolored tergum I), 11 (in list of Asian *Rhopalum*).

**128. *hannense* Leclercq**

*Rhopalum hannense* Leclercq, 1997:74, ♀. Holotype: ♀, Australia: Hann River at 15°11'S 143°52'E (ANIC).

**129. *hansoni* Leclercq**

*Rhopalum hansoni* Leclercq, 2002b:64, ♀. Holotype: ♀, Costa Rica: Puntarenas: Estación Biologica Las Alturas in San Vito (Universidad de Costa Rica). – Leclercq, 2002b:8 (in key to New World *Rhopalum*); Amarante, 2005a:7 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae); Leclercq, 2012:31 (comparison with *Rhopalum cruentatum*).

**130. *harpax* Leclercq**

*Rhopalum harpax* Leclercq, 1957b:202, ♂. Holotype: ♂, Australia: Victoria: Melbourne (Nat. Mus. Victoria). – Leclercq, 1957b:189 (in key to Australian *Rhopalum*); R. Bohart and Menke, 1976:389 (in checklist of world Sphecidae); Cardale, 1985:268 (in catalog of Australian Sphecidae); Leclercq, 1997:74 (in revision in Australian *Rhopalum*).

**131. *hawkerense* Leclercq**

*Rhopalum hawkerense* Leclercq, 1997:74, ♀. Holotype: ♀, Australia: South Australia: Mernmerna 35 km north of Hawker (ANIC).

**132. *hillorum* Leclercq**

*Rhopalum hillorum* Leclercq, 1963:72, ♀, ♂. Holotype: ♀, India: Tamil Nadu: Kodaikanal in Pulney Hills (originally G.R. Ferguson coll., now CAS). – R. Bohart and Menke, 1976:389 (in checklist of world Sphecidae); Leclercq, 2011:12 (in list of Asian *Rhopalum*).

**133. *hobartense* Leclercq**

*Rhopalum hobartense* Leclercq, 1997:74, ♂. Holotype: ♂, Australia: Tasmania: Fairy Glen east of Hobart (BMNH).

**134. *hombceanum* Tsuneki**

*Rhopalum hombceanum* Tsuneki, 1973f:47, ♀. Holotype: ♀, Taiwan: Nantou Prefecture: Pempuchi (originally K. Tsuneki coll., now USNM). – R. Bohart and Menke, 1976:389 (in checklist of world Sphecidae); Nuhn and Menke, 1994:25 (holotype transferred to USNM); Porter, Stange, and Wang, 1999:11 (in checklist of Sphecidae of Taiwan); Hua, 2006:282 (in list of Chinese insects, geographic distribution); Leclercq, 2011:12 (in list of Asian *Rhopalum*).

**135. *huberi* Leclercq**

*Rhopalum huberi* Leclercq, 2002b:65, ♀, ♂. Holotype: ♂, Jamaica: Harwar Gap (CNC). – Leclercq, 2002b:23, 38 (in key to New World *Rhopalum*); Amarante, 2005a:8 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae).

**136. *huilae* Leclercq**

*Rhopalum huilae* Leclercq, 2002b:65, ♀, ♂. Holotype: ♂, Colombia: Huila: Las Cuevas de los Guacheros (BMNH). – Leclercq, 2002b:14, 31 (in key to New World *Rhopalum*); Amarante, 2005a:7 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae).

**137. *ichneumoniforme* (Arnold)**

*Thyreopus ichneumoniformis* Arnold, 1927:130, ♀, ♂. Syntypes: South Africa: Cape Province: Mossel Bay (BMNH). – Arnold, 1930:13 (in checklist of Afrotropical Sphecidae). – **As *Crabro ichneumoniformis***: Arnold, 1945:169 (new combination, Madagascar). – **As *Rhopalum ichneumoniforme***: Leclercq, 1954c:185 (new combination, in catalog of world Crabronini); R. Bohart and Menke, 1976:389 (in checklist of world Sphecidae); Pulawski, 2003b:797 (in checklist of Malagasy Sphecidae); Leclercq, 2012a:30 (in key to African *Rhopalum*), 33 (South Africa, variation); Madl, 2014a:960 (in catalog of Ampulicidae, Crabronidae, and Sphecidae of Madagascar, with synonymy and locality records).

**ssp. *stramineipes* (Arnold)**

*Thyreopus stramineipes* Arnold, 1932:21, ♂. Holotype: ♂, Zimbabwe: Chirinda Forest (SAM). – **As *Crabro stramineipes***: Arnold, 1943:83 (new combination, Zaire: Albert National Park, description of ♀), 1944:38 (Zaire, description of ♀). – **As *Rhopalum stramineipes***: Leclercq, 1954c:185 (new combination, in catalog of world Crabronini). – **As *Rhopalum ichneumoniforme stramineipes***: R. Bohart and Menke, 1976:389 (new status, in checklist of world Sphecidae); Rodgers and Homewood, 1982:233 (Tanzania: Usambara Mountains).

**138. *inopinum* Leclercq**

*Rhopalum inopinum* Leclercq, 1997:75, ♀. Holotype: ♀, Australia: Western Australia: Quillergup (ANIC).

**139. *iridescens* R. Turner**

*Rhopalum iridescens* R. Turner, 1917e:187, ♂. Holotype: ♂, India: Kashmir: Gulmarg (BMNH). – Leclercq, 1950b:2 (is a member of *Rhopalum*), 1954c:190 (in catalog of world Crabronini); R. Bohart and Menke, 1976:389 (in checklist of world Sphecidae); Leclercq, 2011:12 (in list of Asian *Rhopalum*); H.-J. Jacobs, 2016:141 (in review of subgenus *Latrorhopalum* of continental Asia).

**140. *jamesoni* Leclercq**

*Rhopalum jamesoni* Leclercq, 2002b:65, ♀. Holotype: ♀, Costa Rica: Embalse El Llano (Kansas Univ.). – Leclercq, 2002b:14 (in key to New World *Rhopalum*); Amarante, 2005a:7 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae).

**141. *jessonicum* (Bischoff)**

*Crabro jessonicus* Bischoff, 1921b:7, ♀. Holotype: ♀, Japan: Hokkaido: Akke shi (ZMHU). – Tsuneki, 1947e:429 (Japan: Hokkaido). – **As *Rhopalum jessonicum***: Tsuneki, 1952b:112 and 115 (new combination, in key to *Rhopa-*

lum of northeastern Asia), 119 (in revision of *Rhopalum* of Japan, Korea, Sakhalin, and Kuril Islands, description of ♂); Leclercq, 1954c:188 (in catalog of world Crabronini); Tsuneki, 1955d:218 (Kuril Islands, Island of Etorofu, now Iturup); Tsuneki and Tanaka, 1955b:25 (Japan: Nikko, 120 km NW Tokyo); Marshakov, 1976d:108 (in revision of *Rhopalum* of USSR: Russian Far East, as full species); Nemkov in Nemkov et al., 1995:428 (in key to Sphecidae of Russian Far East); Nagase, 2006a:54 (Japan: Kanagawa Prefecture: Mount Komagatake near Hakone); Nemkov, 2007b:71 (Russia: Kuril Islands: Kunashir Island); J.-K. Kim, 2014:433 (in catalog of Sphecidae s.l. of Korean Peninsula). – **As *Rhopalum clavipes jessonicum***: Tsuneki, 1956a:68 (new status; description), 1960e:60 and 61 (in key to *Rhopalum* of Japan and Korea), 1960g:50 (nesting habits unknown); Tsuneki and Shimoyama, 1963:50 (Japan: Towada Prefecture); Haneda, 1968b:56 (Japan: Nagano Prefecture: Ina District), 1969:70 (Japan: Yamanashi Prefecture); Nambu, 1972b:14 (Japan: Saitama Prefecture), 1973a:153 (Japan: Saitama Prefecture); Tsuneki, 1973b:18 (nesting habits); Nambu, 1975b:77 (Japan: Saitama Prefecture); R. Bohart and Menke, 1976:389 (in checklist of world Sphecidae); Haneda, Nosaka, Tano, Kurokawa, and Murota, 2004:37 (Japan: Gifu Prefecture); Suda, 2004:42 (Japan: Yamanashi Prefecture); Haneda, Nozaka, Tano, Kurokawa, and Murota, 2005:53 (Japan: Gifu Prefecture); Negoro, Haneda, and Tano, 2005:49 (Japan: Toyama Prefecture); Haneda, Nozaka, Tano, Kurokawa, and Murota, 2006a:28 (Japan: Toyama Prefecture); Haneda, 2008:6, 7 (in key to Japanese Crabroninae); Nemkov, 2008b:21 (in catalog of Crabronidae of Asiatic Russia); S. Takahashi and Haneda, 2008a:60 (Japan: Hokkaido: Sapporo); Nemkov, 2009b:97 (in new catalog of Sphecidae and Crabronidae of Asiatic Russia), 2009c:237 (Russia: Primorskiy Krai: Lazovsky Nature Reserve); Leclercq, 2011:9 (in list of Asian *Rhopalum*); Nemkov, 2012c:445 (in catalog of Crabronidae of Russian Far East); Antropov, 2017b:236 (in catalog of Crabroninae of Russia).

*Rhopalum ebetsuense* Tsuneki, 1952b:120, ♂. Holotype: ♂, Japan: Ebetsu near Sapporo (originally K. Tsuneki coll., now Hyogo Mus.). Synonymized with *Rhopalum clavipes jessonicum* by Haneda, 2006, cited after Takahashi, Haneda, and Tano, 2009:41.– Tsuneki, 1952b:112 (in key to *Rhopalum* of northeastern Asia); Leclercq, 1954c:188 (in catalog of world Crabronini); Tsuneki, 1960e:61 (in key to *Rhopalum* of Japan and Korea), 1960g:50 (nesting habits); Tsuneki and Tano, 1969:31 (distribution in Japan); R. Bohart and Menke, 1976:389 (in checklist of world Sphecidae); Tano, 1994a:7 (holotype in K. Tsuneki collection); Hashimoto and Nakanishi, 1997:19 (holotype transferred to Hyogo Mus.); S. Takahashi, Haneda, and Tano, 2009:41 (distribution in Japan).

As *Crabro clavipes*: Iwata, 1938d:88 (Russia: Kuril Islands), corrected to *Rhopalum jessonicum* by Tsuneki, 1952b:119; Tsuneki, 1947e:429 (Japan: Hokkaido), corrected to *Rhopalum jessonicum* by Tsuneki, 1952b:119.

#### 142. *juventum* Leclercq

*Rhopalum juvenum* Leclercq, 1997:76, ♀. Holotype: ♀, Australia: Northern Territory: Plenty Highway 260 km east-northeast of Alice Springs (ANIC).

#### 143. *juxtatum* Leclercq

*Rhopalum juxtatum* Leclercq, 1997:76, ♀, ♂. Holotype: ♂, Australia: South Australia: 25 km south-southwest of Pinnaroo at 35°28'S 140°47'E (ANIC).

#### 144. *kawabatai* Marshakov

*Rhopalum kawabatai* Marshakov, 1976c:940, ♂, ♀. Holotype: ♂, Russia: Amur Oblast': 75 km W Svobodnoye (ZIN). – Marshakov, 1976d:110 (in revision of *Rhopalum* of USSR: Russian Far East); Nemkov, 1992b:246 (Russia: Far East: Khingan Nature Reserve); Nemkov in Nemkov, Kazenas, Budrys, et Antropov, 1995:428 (in key to Sphecidae of Russian Far East); Nemkov, 2005a:150 (Russia: Sakhalin Island), 2008b:21 (in catalog of Crabronidae of Asiatic Russia), 2009a:65 (is an endemic of Russian Far East), 2009b:96 (in new catalog of Sphecidae and Crabronidae of Asiatic Russia); Leclercq, 2011:12 (in list of Asian *Rhopalum*); Nemkov, 2012c:444 (in catalog of Crabronidae of Russian Far East); Antropov, 2017b:235 (in catalog of Crabroninae of Russia).

**145. *kawense* Leclercq**

*Rhopalum kawense* Leclercq, 2002b:66, ♀. Holotype: ♀, French Guiana: Montagne de Kaw, relais Patawa (FSAG). – Leclercq, 2002b:10 (in key to New World *Rhopalum*); Amarante, 2005a:7 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae); Leclercq, 2007g:195 (holotype in FSAG).

**146. *kedahense* Leclercq**

*Rhopalum kedahense* Leclercq, 1957d:349, ♀. Holotype: ♀, Malaysia: Kedah Peak (BMNH). – R. Bohart and Menke, 1976:389 (in checklist of world Sphecidae); Leclercq, 2011:5 (in key to Asian species with bicolored tergum I), 12 (in list of Asian *Rhopalum*).

**147. *kerangi* Leclercq**

*Rhopalum kerangi* Leclercq, 1957b:213, ♀. Holotype: ♀, Australia: Victoria: Kerang (Nat. Mus. Victoria). – Leclercq, 1957b:184 (in key to Australian *Rhopalum*); R. Bohart and Menke, 1976:389 (in checklist of world Sphecidae); Cardale, 1985:268 (in catalog of Australian Sphecidae); Leclercq, 1997:77 (in revision of Australian *Rhopalum*).

**148. *kovacsi* Leclercq**

*Rhopalum kovacsi* Leclercq, 1994b:262, ♀, ♂. Holotype: ♀, Argentina: Chubut: Epuyén (BMNH). – Leclercq, 1994b:254 and 255 (in key to *Rhopalum* of Chile); Amarante, 2002:33 (in catalog of Neotropical Crabronidae); Leclercq, 2002b:18, 33 (in key to New World *Rhopalum*), 66 (bibliographic reference); Amarante, 2005a:8 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae).

**149. *kuehlhorni* Leclercq**

*Rhopalum kuehlhorni* Leclercq, 1957b:203, ♀, ♂ (as *kühlhorni*, incorrect original diacritic mark. Holotype: ♀, Australia: South Australia: no specific locality (ZSBS). – Leclercq, 1957b:188 (in key to Australian *Rhopalum*); R. Bohart and Menke, 1976:389 (in checklist of world Sphecidae); Cardale, 1985:268 (in catalog of Australian Sphecidae); Leclercq, 1997:78 (in revision of Australian *Rhopalum*).

**150. *kuwayamai* Tsuneki**

*Rhopalum kuwayamai* Tsuneki, 1952b:121, ♀. Holotype: ♀, Russia: Kuril Islands: Island of Etorofu, now Iturup (Hokkaido Univ.). – Tsuneki, 1952b:115 (in key to *Rhopalum* of northeastern Asia); Leclercq, 1954c:188 (in catalog of world Crabronini); Tsuneki, 1955d:218 (Kuril Islands); nec Tsuneki and Tanaka, 1955b:25 (= *Rhopalum kuwayamai nikkoense*); Tsuneki, 1960e:60 (in key to *Rhopalum* of Japan and Korea), 1960g:50 (nesting in pith hollow of *Diervilla japonica*); Tsuneki and Shimoyama, 1963:50 (Japan: Towada Prefecture); Nambu, 1968:22 (Japan); Tsuneki and Tano, 1969:31 (distribution in Japan); Nambu, 1973a:153 (Japan: Saitama Prefecture); R. Bohart and Menke, 1976:389 (in checklist of world Sphecidae); Marshakov, 1976d:106 (in revision of *Rhopalum* of USSR: Russian Far East); Nemkov in Nemkov, Kazenas, Budrys, et Antropov, 1995:428 (in key to Sphecidae of Russian Far East); Dollfuss, 2004b:783 (China: Shaanxi: Qinling Mts: 6 km east of Xunyangba); Nemkov, 2005a:149 (Russia: Sakhalin Island), 2006c:247 (Russia: Island of Moneron south of Sakhalin), 2007b:71 (Russia: Kuril Islands: Kunashir and Iturup islands), 2008b:21 (in catalog of Crabronidae of Asiatic Russia), 2009b:98 (in new catalog of Sphecidae and Crabronidae of Asiatic Russia); Leclercq, 2011:6 (in key to Asian species with bicolored tergum I), 12 (in list of Asian *Rhopalum*, as *kuwayamai kuwayamai*); Nemkov, 2012c:445 (in catalog of Crabronidae of Russian Far East); J.-K. Kim, 2014:433 (in catalog of Sphecidae s.l. of Korean Peninsula); Antropov, 2017b:236 (in catalog of Crabroninae of Russia).

***ssp. nikkoense* Tsuneki**

*Rhopalum kuwayamai nikkoense* Tsuneki, 1956a:67, ♀. Holotype: ♀, Japan: Nikko (originally K. Tsuneki coll., now Hyogo Mus.). – Tsuneki, 1956a:68 (description), 1960e:58, 60 (in key to *Rhopalum* of Japan and Korea); Haneda, 1968a:46 (Japan); Tsuneki, 1973b:19 (nesting habits); Nambu, 1975b:78 (Japan: Saitama Prefecture); R. Bohart



and Menke, 1976:389 (in checklist of world Sphecidae); Tano, 1994a:7 (holotype in K. Tsuneki collection); Hashimoto and Nakanishi, 1997:19 (holotype transferred to Hyogo Mus.); Haneda, Nosaka, Tano, Kurokawa, and Murota, 2004:36 (Japan: Gifu Prefecture); Haneda, Nozaka, Tano, Kurokawa, and Murota, 2005:52 (Japan: Gifu Prefecture), 2006a:28 (Japan: Toyama Prefecture); Nagase, 2006a:55 (Japan: Kanagawa Prefecture: Mount Komagatake near Hakone); Haneda, 2008:5, 7 (in key to Japanese Crabroninae); S. Takahashi and Haneda, 2008a:59 (Japan: Hokkaido: Sapporo), 2009:26 (Japan: Hokkaido: Sapporo); S. Takahashi, Haneda, and Tano, 2009:41, 50 (distribution in Japan); Okhusa and Tajima, 2010:13 (Japan: Honshu Island: Shiga Prefecture); Leclercq, 2011:6 (in key to Asian species with bicolored tergum I), 12 (in list of Asian *Rhopalum*).

As *Rhopalum kuwayamai*: Tsuneki and Tanaka, 1955b:25 (Japan: Nikko, 120 km northwest of Tokyo), corrected to *Rhopalum kuwayamai nikkoense* by Tsuneki, 1956a:67.

### 151. *kystum* Leclercq

*Rhopalum kystum* Leclercq, 1997:78, ♀, ♂. Holotype: ♀, Australia: South Australia: 25 km south-southeast of Pinnaroo at 35°28'S 140°47'E (ANIC).

### 152. *laticorne* (Tsuneki)

As *Crabro latronum*: Gussakovskij, 1932:27 (Russia: Primorskiy Kray; description of ♂), corrected to *Crabro laticornis* by Tsuneki, 1947d:292.

*Crabro laticornis* Tsuneki, 1947d:292, ♂, ♀. Holotype: ♂, Korea: Nanetsurei (originally K. Tsuneki coll., now Hyogo Mus.). – As *Rhopalum laticorne*: Tsuneki, 1952b:111 and 114 (new combination, in key to *Rhopalum* of northeastern Asia), 119 (in revision of *Rhopalum* of Japan, Korea, Sakhalin, and Kuril Islands); Leclercq, 1954c:189 (in catalog of world Crabronini); Tsuneki, 1957d:78 (Korea), 1957f:62 (Korea), 1960e:57, 60 (in key to *Rhopalum* of Japan and Korea), 1967e:17 (China: Heilongjiang: Harbin); R. Bohart and Menke, 1976:389 (in checklist of world Sphecidae); Marshakov, 1976d:108 (in revision of *Rhopalum* of USSR: Russian Far East); Tsuneki, 1982b:17 (known from Korea); Paik, 1985:202 (in list of Sphecidae of Korea); Nemkov, 1986:101 (Russia: Irkutsk Oblast'), 1992b:246 (Russia: Far East: Khingan Nature Reserve); Nemkov in Nemkov, Kazenas, Budrys, et Antropov, 1995:426 (in key to Sphecidae of Russian Far East); Hashimoto and Nakanishi, 1997:15 (holotype and paratype in Hyogo Mus.); Nemkov, 2005a:149 (Russia: Sakhalin Island), 2008b:21 (in catalog of Crabronidae of Asiatic Russia); Nemkov, 2009b:96 (in new catalog of Sphecidae and Crabronidae of Asiatic Russia), 2009c:237 (Russia: Primorskiy Kray: Lazovsky Nature Reserve); Leclercq, 2011:13 (in list of Asian *Rhopalum*); Nemkov, 2012c:444 (in catalog of Crabronidae of Russian Far East); J.-K. Kim, 2014:434 (in catalog of Sphecidae s.l. of Korean Peninsula); H.-J. Jacobs, 2016:140 (in review of subgenus *Latrorhopalum* of continental Asia); Antropov, 2017b:235 (in catalog of Crabroninae of Russia).

### 153. *latronum* (Kohl)

*Crabro latronum* Kohl, 1915:344, ♀. Syntypes: ♀, Japan: Kofou (NHMW). – nec Gussakovskij, 1932:27 (= *Rhopalum laticorne*); Iwata, 1938d:88 (Japan: Hokkaido, Honshu; Russia: Sakhalin); Tsuneki, 1947e:428 (Japan: Hokkaido). – As *Rhopalum latronum*: Iwata, 1933b:14 (new combination, description of ♂, collecting localities from Japan); Tsuneki, 1948c:8 (Japan: Hokkaido), 1952b:112 and 113 (in key to *Rhopalum* of northeastern Asia), 115 (in revision of *Rhopalum* of Japan, Korea, Sakhalin, and Kuril Islands), 1952c:70 (Japan: Shikoku); Leclercq, 1954c:189 (in catalog of world Crabronini), 299 (nest and prey records); Tsuneki and Tanaka, 1955b:24 (Japan: Nikko, 120 km NW Tokyo); Tsuneki, 1960e:57 and 60 (in key to *Rhopalum* of Japan and Korea), 1960g:48 (nesting habits); Tsuneki and Shimoyama, 1963:50 (Japan: Towada Prefecture); Tsuneki, 1964c:10 (Japan: Kyushu), 1967g:44 (western Japan: Mount Hyonosen); Haneda, 1968b:56 (Japan: Nagano Prefecture: Ina District); Itami, 1968a:16 (Japan: Yamagata Prefecture: foot of Mount Iide); Matsuura, 1968:29 (Japan); Okuno, 1968:31 (Japan); Tano, 1968:34 (Japan); Haneda, 1969:70 (Japan: Yamanashi Prefecture); Itami, 1969:51 (Japan: Niigata Prefecture); Tsuneki, 1969e:28 (Japan: specimens in Osaka Museum of Natural History), 1970b:11 (Central Japan); Yamada,



1970:14 (Japan: Nagano Prefecture: Shimajima Valley); Suda, 1971:84 (Japan: Kanagawa Prefecture); Yamada, 1971:36 (Japan: Aichi Prefecture); Nambu, 1973a:153 (Japan: Saitama Prefecture); Suda, 1973:124 (Japan: Yamana-shi Prefecture); Nambu, 1975b:77 (Japan: Saitama Prefecture); R. Bohart and Menke, 1976:389 (in checklist of world Sphecidae); Marshakov, 1976d:108 (in revision of *Rhopalum* of USSR: Russian Far East); Tsuneki, 1979d:12 (Japan); Paik, 1985:202 (in list of Sphecidae of Korea); Steiner, 1986:106 (references to publications on nesting habits); Dollfuss, 1989:12 (type material in NHMW); Nemkov *in* Nemkov, Kazenas, Budrys, et Antropov, 1995:426 (in key to Sphecidae of Russian Far East); Miyatake, 1996:102 (specimens in Hiroshi Aoki collection); Haneda and Tano, 2003:12 (Japan: Nagasaki Prefecture: Tsushima); Tano, Kurokawa, Murota, and Nozaka, 2003:32 (Japan: Nagasaki Prefecture: Tsushima); Ohl and Linde, 2003:151 (number of ovarioles); Haneda, Nosa-ka, Tano, Kurokawa, and Murota, 2004:36 (Japan: Gifu Prefecture); Suda, 2004:42 (Japan: Yamanashi Prefecture); Haneda, Nozaka, Tano, Kurokawa, and Murota, 2005:53 (Japan: Gifu Prefecture); Kinota, Haneda, and Tano, 2005:31 (Japan: Hokkaido); Negoro, Haneda, and Tano, 2005:48 (Japan: Toyama Prefecture); Nemkov, 2005a:149 (Russia: Island of Sakhalin); Haneda, Nozaka, Tano, Kurokawa, and Murota, 2006a:28 (Japan: Toyama Prefec-ture), 2006b:49 (Japan: Nagasaki Prefecture: Tsushima); Hua, 2006:282 (in list of Chinese insects, geographic dis-tribution); Nagase, 2006a:55 (Japan: Kanagawa Prefecture: Mount Komagatake near Hakone); Nemkov, 2007b:71 (Russia: Kuril Islands: Kunashir Island); Haneda, 2008:4, 6 (in key to Japanese Crabroninae); Nemkov, 2008b:21 (in catalog of Crabronidae of Asiatic Russia); S. Takahashi and Haneda, 2008a:59 (Japan: Hokkaido: Sapporo); Nemkov, 2009b:96 (in new catalog of Sphecidae and Crabronidae of Asiatic Russia); S. Takahashi and Haneda, 2009:26 (Japan: Hokkaido: Sapporo); S. Takahashi, Haneda, and Tano, 2009:50 (distribution in Japan); Okhusa and Tajima, 2010:13 (Japan: Honshu Island: Shiga Prefecture); Leclercq, 2011:13 (in list of Asian *Rhopalum*); N. Yamamoto, 2011:13 (Japan: Kyūshyū: mainland Nagasaki Prefecture); Nemkov, 2012c:444 (in catalog of Crabron-idae of Russian Far East); H.-J. Jacobs, 2016:141 (in review of subgenus *Latrorhopalum* of continental Asia); An-tropov, 2017b:236 (in catalog of Crabroninae of Russia).

#### 154. *littorale* R. Turner

*Rhopalum littorale* R. Turner, 1915a:91, ♀. Holotype: ♀, Australia: Western Australia: Yallingup (BMNH). – R. Turner, 1915a:86 (in key to Australian *Rhopalum*). – Leclercq, 1950b:5 (is a member of *Rhopalum*), 1954c:184 (in catalog of world Crabronini), 1957b:189 (in key to Australian *Rhopalum*), 205 (redescription); R. Bohart and Menke, 1976:389 (in checklist of world Sphecidae); Leclercq, 1979b:361 (variation, additional localities); Cardale, 1985:268 (in catalog of Australian Sphecidae); K. Walker, Naumann, Austin, Taylor, and Cardale, 1992:48 (in cat-alog of insects of Tasmania); Leclercq, 1997:78 (in revision of Australian *Rhopalum*).

#### 155. *livanum* Leclercq

*Rhopalum livanum* Leclercq, 1997:79, ♀, ♂. Holotype: ♂, Australia: Tasmania: Lake St. Clair (ANIC).

#### 156. *lomae* Leclercq

*Rhopalum lomae* Leclercq, 2002b:66, ♀. Holotype: ♀, Dominican Republic: Loma El Peñon, La Cumbre (CNC). – Leclercq, 2002b:21 (in key to New World *Rhopalum*); Amarante, 2005a:8 (in addendum to his 2002 catalog of Ne-otropical Crabronidae and Sphecidae); Perez-Gelabert, 2008:240 (in list of arthropods of island of Hispaniola).

#### 157. *macasae* Leclercq

*Rhopalum macasae* Leclercq, 2002b:67, ♂. Holotype: ♂, Ecuador: Morona Santiago: Macas (BMNH). – Leclercq, 2002b:26 (in key to New World *Rhopalum*); Amarante, 2005a:7 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae).

#### 158. *macrocephalum* R. Turner

*Rhopalum macrocephalum* R. Turner, 1915a:86, ♀ (as *macrocephalus*, incorrect original termination). Holotype or syntypes: ♀, Australia: Queensland: Caloundra near Brisbane (Brisbane). – R. Turner, 1915a:85 (in key to Austral-ian *Rhopalum*); Leclercq, 1950b:4 (is a member of *Rhopalum*), 1954c:184 (in catalog of world Crabronini),

1957b:187 (in key to Australian *Rhopalum*), 229 (redescription); R. Bohart and Menke, 1976:389 (in checklist of world Sphecidae); Leclercq, 1979b:354 (member of subgenus *Rhopalum* s.s.); Cardale, 1985:266 (in catalog of Australian Sphecidae); Leclercq, 1997:79 (in revision of Australian *Rhopalum*).

**159. *masticatum* Leclercq**

*Rhopalum masticatum* Leclercq, 1997:79, ♂. Holotype: ♂, Australia: South Australia: Parachilna Creek at 31°08'S 138°33'E (ANIC).

**160. *matthewsi* Leclercq**

*Rhopalum matthewsi* Leclercq, 1997:80, ♀, ♂. Holotype: ♀, Australia: Australian Capital Territory: Canberra (ANIC).

**161. *minusculum* Leclercq**

*Rhopalum minusculum* Leclercq, 1963:64, ♂. Holotype: ♂, Philippines: Basilan Island: no specific locality (USNM). – Baltazar, 1966:352 (in catalog of Hymenoptera of Philippines, as *minusculum*); R. Bohart and Menke, 1976:389 (in checklist of world Sphecidae); Tsuneki, 1984f:6 (Philippines), 32 (in key to Crabronini of Philippines); Leclercq, 2011:13 (in list of Asian *Rhopalum*).

**162. *montanum* (Alayo Dalmau)**

*Euplilis montanus* Alayo Dalmau, 1968b:6, ♀, ♂. Holotype: ♀, Cuba: Oriente: Gran Piedra (IZAC). – Alayo Dalmau, 1973:192 (in catalog of Cuban Hymenoptera); not listed by Bohart and Menke, 1976; Reyes and Hernández, 1995:3 (holotype in Inst. Ecol. Sist., La Havana, Cuba); Hidalgo-Gato González, Reyes Sánchez, Mestre Novoa, Fernández García, Rodríguez-León Merino, Rodríguez Velázquez, Genaro Artola, and Fontenla Rizo, 2002:30 (holotype deposited at IZAC). – **As *Rhopalum montanum***: Alayo Dalmau, 1976:17 (new combination, in key to Cuban *Rhopalum*), 32 (in checklist of Cuban Sphecidae); Amarante, 2002:34 (in catalog of Neotropical Crabronidae); Leclercq, 2002b:10, 29 (in key to New World *Rhopalum*), 68 (bibliographic references); Portuondo and Fernández, 2004:135 (Cuba: Sierra Maestra, as *montanus*); Amarante, 2005a:7 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae); Genaro, 2006:54 (in checklist of Cuban Sphecidae and Crabronidae).

**163. *mornense* Leclercq**

*Rhopalum mornense* Leclercq, 2002b:68, ♀, ♂. Holotype: ♂, Trinidad: Morne Bleu (BMNH). – Leclercq, 2002b:13, 29 (in key to New World *Rhopalum*); Amarante, 2005a:7 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae).

**164. *moronae* Leclercq**

*Rhopalum moronae* Leclercq, 2002b:68, ♀, ♂. Holotype: ♀, Ecuador: Morona Santiago: Macas. – Leclercq, 2002b:9, 34 (in key to New World *Rhopalum*).

**165. *mouranum* Leclercq**

*Rhopalum mouranum* Leclercq, 1997:81, ♀, ♂. Holotype: ♀, Australia: Queensland: circa 35 km southwest of Moura (ANIC).

**166. *murotai* Tsuneki**

*Rhopalum murotai* Tsuneki, 1973f:45, ♂. Holotype: ♂, Taiwan: Nantou Prefecture: Wushe (originally K. Tsuneki coll., now USNM). – Murota, 1973b:119 (Taiwan); R. Bohart and Menke, 1976:389 (listed); Nuhn and Menke, 1994:26 (holotype transferred to USNM); Porter, Stange, and Wang, 1999:11 (in checklist of Sphecidae of Taiwan); Hua, 2006:282 (in list of Chinese insects, geographic distribution); Leclercq, 2011:13 (in list of Asian *Rhopalum*).

**167. *musallae* Leclercq**

*Rhopalum musallae* Leclercq, 2002b:69, ♀, ♂. Holotype: ♀, Honduras: Olancho, La Musalla National Park (AMNH). – Leclercq, 2002b:20, 37, 40 (in key to New World *Rhopalum*); Amarante, 2005a:8 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae).

**168. *mushaense* Tsuneki**

*Rhopalum mushaense* Tsuneki, 1971a:27, ♀. Holotype: ♀, Taiwan: Nantou Prefecture: Musha, correctly Wushe (originally K. Tsuneki coll., now USNM). – Tsuneki, 1977c:20 (Taiwan: Nantou Prefecture: Wushe-Pihu; description of ♂); R. Bohart and Menke, 1976:389 (in checklist of world Sphecidae); Marshakov, 1976d:111 (in revision of *Rhopalum* of USSR: Russian Far East: Vladivostok); Nuhn and Menke, 1994:26 (holotype transferred to USNM); Porter, Stange, and Wang, 1999:11 (in checklist of Sphecidae of Taiwan); Nemkov *in* Nemkov, Kazenas, Budrys, et Antropov, 1995:428 (in key to Sphecidae of Russian Far East); Hua, 2006:282 (in list of Chinese insects, geographic distribution); Nemkov, 2008b:21 (in catalog of Crabronidae of Asiatic Russia), 2009b:98 (in new catalog of Sphecidae and Crabronidae of Asiatic Russia); Leclercq, 2011:13 (in list of Asian *Rhopalum*); Nemkov, 2012c:445 (in catalog of Crabronidae of Russian Far East); Antropov, 2017b:236 (in catalog of Crabroninae of Russia).

**169. *mycenum* Leclercq**

*Rhopalum mycenum* Leclercq, 2002b:70, ♀, ♂. Holotype: ♂, Peru: Amazonas: Rodriguez de Mendoza (BMNH). Paratypes: Brazil, Ecuador, Panama. – Leclercq, 2002b:20, 37, 40 (in key to New World *Rhopalum*); Amarante, 2005a:8 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae); Rasmussen and Asenjo, 2009:10 (in checklist of Crabronidae of Peru).

**170. *nactor* Leclercq**

*Rhopalum nactor* Leclercq, 2002b:71, ♀, ♂. Holotype: ♀, Ecuador: Pichincha: Tinalandia 16 km southeast of Santo Domingo (CNC). – Leclercq, 2002b:21, 35 (in key to New World *Rhopalum*); Amarante, 2005a:8 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae).

**171. *nahuelbutae* Leclercq**

*Rhopalum nahuelbutae* Leclercq, 1994b:263, ♂. Holotype: ♂, Chile: Parque Nacional Nahuelbuta (BMNH). Paratype: Argentina. – Leclercq, 1994b:255 (in key to *Rhopalum* of Chile); Amarante, 2002:33 (in catalog of Neotropical Crabronidae), Leclercq, 2002b:34 (in key to New World *Rhopalum*), 72 (bibliographic references); Amarante, 2005a:8 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae).

**172. *nasale* Pulawski**

*Rhopalum nasale* Pulawski, 2010a:139, ♀. Holotype: ♀, Australia: South Australia: 32 km north of Renmark at 33°53'S 140°44'E (ANIC).

**173. *naumanni* Leclercq**

*Rhopalum naumanni* Leclercq, 1997:81, ♀. Holotype: ♀, Australia: Queensland: Cania Gorge National Park at 24°43'S 150°59'E (ANIC).

**174. *navatum* Leclercq**

*Rhopalum navatum* Leclercq, 2002b:72, ♀. Holotype: ♀, Brazil: São Paulo: Estação Biologica de Boracéia (CAS). – Leclercq, 2002b:20 (in key to New World *Rhopalum*); Amarante, 2005a:8 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae).

**175. *neboissi* Leclercq**

*Rhopalum neboissi* Leclercq, 1957b:214, ♀. Holotype: ♀, Australia: Victoria: Nunawading (Nat. Mus. Victoria). – Leclercq, 1957b:184 (in key to Australian *Rhopalum*); R. Bohart and Menke, 1976:389 (in checklist of world Sphe-

cidae); Leclercq, 1979b:361 (Australia: Australian Capital Territory and Victoria); Cardale, 1985:268 (in catalog of Australian Sphecidae); Leclercq, 1997:82 (in revision of Australian *Rhopalum*).

### 176. *negligens* Leclercq

*Rhopalum negligens* Leclercq, 2002b:72, ♀. Holotype: ♀, Costa Rica: San José: Zurqui de Moravia (Universidad de Costa Rica). – Leclercq, 2002b:20 (in key to New World *Rhopalum*); Amarante, 2005a:8 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae).

### 177. *nemesis* Leclercq

*Rhopalum nemesis* Leclercq, 2002b:73, ♀, ♂. Holotype: Mexico: Morelos: Cuernavaca (Cornell Univ.). – Leclercq, 2002b:23, 36 (in key to New World *Rhopalum*); Amarante, 2005a:8 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae, as *nemesis*).

### 178. *nicaraguaense* Cameron

*Rhopalum nicaraguaense* Cameron, 1904h:66, ♀, actually ♂, see Leclercq, 2002b:73 (as *Nicaraguaense*, incorrect original capitalization). Holotype or syntypes: ♀, Nicaragua: San Marcos (BMNH). – Leclercq, 1950b:7 (is a member of *Rhopalum*), 1954c:187 (in catalog of world Crabronini), 1970a:94, 99 (in key to Latin American *Rhopalum*), 103 (in revision of Latin American *Rhopalum*); R. Bohart and Menke, 1976:389 (in checklist of world Sphecidae); Maes, 1989:99 (in catalog of Nicaraguan Sphecidae); Hanson and Menke, 1995:644 (known from Costa Rica); Amarante, 2002:33 (in catalog of Neotropical Crabronidae), 2002b:21, 24, 39 (in key to New World *Rhopalum*), 73 (bibliographic references, locality records from 14 countries, variation); Amarante, 2005a:8 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae); Rasmussen and Asenjo, 2009:10 (in checklist of Crabronidae of Peru). – **As *Euplilis nicaraguaënsis***: Pate, 1947a:7 (new combination, synonymy).

*Rhopalum opacum* Rohwer, 1914:521, ♂. Holotype: ♂, Guatemala: Quirigua (USNM). Synonymized with *Euplilis nicaraguaense* by Pate, 1947a:7.

### 179. *nifargum* Leclercq

*Rhopalum nifargum* Leclercq, 2002b:76, ♀, ♂. Holotype: ♂, Mexico: Chiapas: San Cristóbal de las Casas (CNC). – Leclercq, 2002b:23, 27 (in key to New World *Rhopalum*); Amarante, 2005a:8 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae).

### 180. *nipponicum* (Kohl)

*Crabro nipponicus* Kohl, 1915:342, ♀ (as *Nipponicus*, incorrect original capitalization). Holotype or syntypes: ♀, Japan: Tokyo (NHMW). – Tsuneki, 1947e:429 (Japan: Hokkaido), 1948c:8 (Japan: Hokkaido). – **As *Rhopalum nipponicum***: Iwata, 1933b:13 (new combination, description of B, collecting localities from Japan, as *nipponicus*); Iwata, 1938b:37 (nesting habits; as *nipponicus*); Tsuneki, 1952b:113 and 114 (in key to *Rhopalum* of north-eastern Asia), 123 (in revision of *Rhopalum* of Japan, Korea, Sakhalin, and Kuril Islands); Leclercq, 1954c:189 (in catalog of world Crabronini), 299 (nest and prey records); Tsuneki, 1955b:126 (relationships to *Rhopalum coarctatum coarctatum* and *coarctatum modestum*); Tsuneki and Tanaka, 1955b:25 (Japan: Nikko, 120 km northwest of Tokyo); Tsuneki, 1960e:58 and 61 (in key to *Rhopalum* of Japan and Korea, as *nipponicum nipponicum*), 1960g:49 (nesting habits); Tsuneki and Shimoyama, 1963:50 (Japan: Towada Prefecture); Nishino, 1968:25 (Japan); Itami, 1969:51 (Japan: Niigata Prefecture, as *nipponicum nipponicum*); Tsuneki, 1969i:61 (Japan: Fukui Prefecture: Taichôdzi temple); Haneda, 1970:13 (Japan: Akita Prefecture); Suda, 1971:84 (Japan: Chiba Prefecture); Yamada, 1971:36 (Japan: Aichi Prefecture); Nambu, 1975b:77 (Japan: Saitama Prefecture); R. Bohart and Menke, 1976:389 (in checklist of world Sphecidae); Steiner, 1986:107 (references to publications on nesting habits); Dollfuss, 1989:12 (type material in NHMW); Suda, 2004:42 (Japan: Yamanashi Prefecture, as *nipponicum nipponicum*); Nagase, 2006a:55 (Japan: Kanagawa Prefecture: Mount Komagatake near Hakone, as *nipponicum nipponicum*); Leclercq, 2011:13 (in list of Asian *Rhopalum*).

**ssp. *hokkaidense* Tsuneki**

*Rhopalum nipponicum hokkaidense* Tsuneki, 1952b:123, ♀, ♂. Lectotype: ♀, Japan: Hokkaido: Sapporo (originally K. Tsuneki coll., now Hyogo Mus.), designated by Hashimoto and Nakanishi, 1997:19 (as holotype, Article 74a). – Tsuneki, 1952b:113 and 114 (in key to *Rhopalum* of northeastern Asia), 1960e:58 and 61 (in key to *Rhopalum* of Japan and Korea); Okuno, 1968:31 (Japan, as *hokkaidoense*); Nambu, 1975b:77 (Japan: Saitama Prefecture); R. Bohart and Menke, 1976:389 (in checklist of world Sphecidae); Tano, 1994a:7 (holotype in K. Tsuneki collection); Hashimoto and Nakanishi, 1997:19 (holotype transferred to Hyogo Mus.); S. Takahashi and Haneda, 2008a:59 (Japan: Hokkaido: Sapporo).

**181. *nordicum* Leclercq**

*Rhopalum nordicum* Leclercq, 1997:82, ♀, ♂. Holotype: ♀, Australia: Northern Territory: 39 km east of Alice Springs at 23°41'S 134°15'E (ANIC).

**182. *notogeum* Leclercq**

*Rhopalum notogeum* Leclercq, 1957b:216, ♀, ♂. Holotype: ♂, Australia: Western Australia: Dongarra (BMNH). – Leclercq, 1957b:188 (in key to Australian *Rhopalum*); R. Bohart and Menke, 1976:389 (in checklist of world Sphecidae); Leclercq, 1979b:361 (Western Australia: 2 mi north of Maya); Cardale, 1985:268 (in catalog of Australian Sphecidae); Leclercq, 1997:82 (in revision of Australian *Rhopalum*).

**183. *nuphar* Leclercq**

*Rhopalum nuphar* Leclercq, 2002b:77, ♂. Holotype: ♂, Ecuador: Morona Santiago: Macas (BMNH). – Leclercq, 2002b:39 (in key to New World *Rhopalum*); Amarante, 2005a:8 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae).

**184. *nursei* H.-J. Jacobs**

*Crabro petiolatus* Nurse, 1902:88, ♀, ♂, junior primary homonym of *Crabro petiolatus* Panzer, 1797, now *Mellinus crabroneus* (Thunberg, 1791), and junior secondary homonym of *Crabro petiolatus* (Lepeletier de Saint Fargeau and Brullé, 1835:726) Dahlbom, 1845:388. Lectotype: ♀, India: Himachal Pradesh: Simla (BMNH), designated by Leclercq, 2011:15. – Ramakrishna Aiyar, 1916:559 (in catalog of Indian aculeates described after Bingham, 1897). – **As *Rhopalum petiolatum***: Leclercq, 1950b:2 (new combination), 1954c:190 (in catalog of world Crabronini); R. Bohart and Menke, 1976:390 (in checklist of world Sphecidae); Leclercq, 2011:15 (in list of Asian *Rhopalum*, redescription).

*Rhopalum nursei* H.-J. Jacobs, 2016:141, substitute name for *Rhopalum petiolatum* (Nurse, 1902). – H.-J. Jacobs, 2016:141 (in review of subgenus *Latrorhopalum* of continental Asia).

**185. *nyngnum* Leclercq**

*Rhopalum nyngnum* Leclercq, 1997:83, ♂. Holotype: ♂, Australia: New South Wales: 25 mi. west of Nyngan (MCZ)

**186. *obrieni* Leclercq**

*Rhopalum obrieni* Leclercq, 2011:13, ♀. Holotype: ♀, Malaysia: Negri Sembilan: Pasch Forest Reserve (Mus. Zoology, Univ. Michigan, Ann Arbor, Michigan). – Leclercq, 2011:6 (in key to Asian species with bicolored tergum I).

**187. *occidentale* (W. Fox)**

*Crabro occidentalis* W. Fox, 1895a:200, ♀, ♂. Lectotype: ♀, USA: Nevada: no specific locality (ANSP), designated by Cresson, 1928:54. – Dalla Torre, 1897:613 (in catalog of world Sphecidae); J. Smith, 1910:682 (in new list of insects of New Jersey: Riverton). – **As *Allognathus occidentalis***: Ashmead, 1899d:220 (new combination, in checklist of North American Crabronidae). – **As *Euplilis occidentalis***: Krombein in Muesebeck et al., 1951:1019 (new combination, in catalog on North American Hymenoptera). – **As *Rhopalum occidentale***: Leclercq, 1954c:187 (new combination, in catalog of world Crabronini); R. Bohart, 1974:254, 256 (in key to North American *Rhopalum*), 257 (in revision of North American *Rhopalum*); R. Bohart and Menke, 1976:389 (in checklist of world Sphe-

cidae); Krombein, 1979b:1663 (in catalog of North American Hymenoptera); Finnamore, 1982:137 (in Sphecidae Fauna of Southern Quebec); Ahlstrom, 1995:111 (in checklist of insects of North Carolina); Leclercq, 2002b:15, 33 (in key to New World *Rhopalum*), 78 (bibliographic references, locality records from Canada and USA); Buck, 2004:26 (in checklist of Crabronidae of Ontario, Canada), 30 (distribution within Ontario), 57 (first record from Ontario: list of localities); Ratzlaff, 2016:26 (Canada: British Columbia: from Krombein, 1979 and Buck, 2004).

*Rhopalum carolina* Banks, 1921:17, ♀. Holotype: ♀, USA: North Carolina: n. fork of Swannanoa River in Black Mountains (MCZ). Synonymized with *Rhopalum occidentale* by R. Bohart, 1974:257. – **As *Euplilis occidentalis carolina***: Krombein in Muesebeck et al., 1951:1019 (new combination, new status; New York, North Carolina). – **As *Crabro carolina***: Brimley, 1938:450 (new combination, North Carolina: Black Mountain).

### 188. *odontodorsale* Li and He

*Rhopalum odontodorsale* Li and He, 2000b:15, ♀, ♂. Holotype: ♀, China: Sichuan: Emeishan: Jiulaodong (Chinese Acad. Sci.). – Leclercq, 2011:14 (in list of Asian *Rhopalum*).

### 189. *okinawanum* Tsuneki

*Rhopalum okinawanum* Tsuneki, 1990a:97, ♀. Holotype: ♀ Japan: Okinawa: Mount Kuenchizi (originally K. Tsuneki coll., now Hyogo Mus.). – Tano, 1994a:7 (holotype in K. Tsuneki collection); Hashimoto and Nakanishi, 1997:19 (holotype transferred to Hyogo Mus.); Haneda, 2008:6 (in key to Japanese Crabroninae); S. Takahashi, Haneda, and Tano, 2009:45, 50 (distribution in Japan); Leclercq, 2011:14 (in list of Asian *Rhopalum*).

### 190. *oriolum* Leclercq

*Rhopalum oriolum* Leclercq, 1957d:350, ♀. Holotype: ♀, Malaysia: Pahang: Cameron Highlands: no specific locality (BMNH). – R. Bohart and Menke, 1976:389 (in checklist of world Sphecidae); Leclercq, 2011:5 (in key to Asian species with bicolored tergum I); Leclercq, 2011:14 (in list of Asian *Rhopalum*).

### 191. *ovale* Tsuneki

*Rhopalum ovale* Tsuneki, 1984f:8, ♂. Holotype: ♂, Philippines: Mindanao Island: Bukidnon: Sungeo (originally K. Tsuneki coll., now?). – Tsuneki, 1984f:33 (in key to Crabronini of Philippines); Nuhn and Menke, 1994:27 (holotype not transferred to USNM, possibly returned to T. Murota, the collector); Menke, 1995:14 (type still in K. Tsuneki collection); Tano, 1995:46 (holotype in K. Tsuneki collection); Leclercq, 2011:7 (in key to Asian species with bicolored tergum I, 14 (in list of Asian *Rhopalum*)).

### 192. *pacificum* R. Bohart

As *Euplilis arapaho*: F. Parker and R. Bohart, 1966:94 (California: Davis, Nevada: Verdi; parasite: *Diomorus zabriskiei* Cresson, Torymidae), corrected to *Rhopalum pacificum* by R. Bohart, 1974:258.

*Rhopalum pacificum* R. Bohart, 1974:258, ♂, ♀. Holotype: ♂, USA: California: Yolo County: Putah Creek near Davis (UCD). – R. Bohart, 1974:254 (in key to North American *Rhopalum*); R. Bohart and Menke, 1976:630 (in checklist of world Sphecidae); Krombein, 1979b:1663 (in catalog of North American Hymenoptera); Leclercq, 2002b:16, 33 (in key to New World *Rhopalum*), 78 (bibliographic reference).

### 193. *pallipes* (Lepeletier de Saint Fargeau and Brullé)

*Physoscelus pallipes* Lepeletier de Saint Fargeau and Brullé, 1835:806, ♀. Holotype or syntypes: ♀, Uruguay: Montevideo (lost: Leclercq, 2002b:78). – Lepeletier de Saint Fargeau, 1845:209 (in revision of world Hymenoptera). – **As *Crabro pallipes***: F. Smith, 1856:393 (new combination, in catalog of Hymenoptera in British Museum); Taschenberg, 1875:381 (Brazil); Dalla Torre, 1897:614 (in catalog of world Sphecidae, as *pallidipes*). – **As *Rhopalum pallipes***: Dahlbom, 1844:291 (new combination, (in revision of Sphecidae and Pompilidae), 1845:510 (in key to *Rhopalum*); Holmberg, 1903:470 (Argentina, Uruguay); Schrottky, 1913a:233 (Argentina, Uruguay; as *pallidipes*); Leclercq, 1954c:186 (in catalog of world Crabronini), 299 (nest and prey records); R. Bohart and Menke, 1976:389 (in checklist of world Sphecidae); Amarante, 2002:34 (in catalog of Neotropical Crabronidae); Leclercq, 2002b:11



(in key to New World *Rhopalum*), 78 (bibliographic reference); Amarante, 2005a:7 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae).

#### 194. *palmarae* Leclercq

*Rhopalum palmarae* Leclercq, 2002b:79, ♀, ♂. Holotype: ♂, Bolivia: Cochabamba: Palmar 30 km NNE Tiraque (BMNH). Paratype: Peru. – Leclercq, 2002b:12, 37 (in key to New World *Rhopalum*); Amarante, 2005a:7 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae); Rasmussen and Asenjo, 2009:10 (in checklist of Crabronidae of Peru).

#### 195. *panicum* Leclercq

*Rhopalum panicum* Leclercq, 1997:84, ♂. Holotype: ♂, Australia: New South Wales: 100 km SE Broken Hill (ANIC).

#### 196. *parcimonium* Leclercq

*Rhopalum parcimonium* Leclercq, 1963:68, ♂. Holotype: ♂, Philippines: Luzon: Mount San Tomas near Baguio (AEI). – Baltazar, 1966:352 (in catalog of Hymenoptera of Philippines); R. Bohart and Menke, 1976:389 (in checklist of world Sphecidae); Tsuneki, 1984f:9 (Philippines), 33 (in key to Crabronini of Philippines); Leclercq, 2011:5 (in key to Asian species with bicolored tergum I), 14 (in list of Asian *Rhopalum*, recognition characters).

#### 197. *pedicellatum* Packard

*Rhopalum pedicellatum* Packard, 1867:380, ♂, ♀. Lectotype: ♀, USA: New York: West Farms (ANSP), designated by Pate, 1943d:15. – Provancher, 1882:134 and 1883b:668 (in revision of Canadian Hymenoptera); Cresson, 1887:284 (in catalog of North American Hymenoptera); Ashmead, 1890:32 (in checklist of Hymenoptera of Colorado); G. Peckham and E. Peckham, 1898:43 (nesting habits); Ashmead, 1899d:220 (in checklist of North American Crabronidae); J. Smith, 1900:516 (in list of insects of New Jersey); nec Harrington, 1902:220 (= *Rhopalum coarctatum*); Adlerz, 1904:136 (known prey: *Chironomus*); G. Peckham and E. Peckham, 1905:73 (nest and prey); Rohwer, 1908b:258 (in key to *Crabro* of Colorado and New Mexico), 1916b:664 (in catalog of Hymenoptera of Connecticut); Rohwer in Viereck, 1925:664 (in key to Sphecidae of Connecticut; New Haven); Leclercq, 1954c:187 (in catalog of world Crabronini), 299 (nest and prey records); R. Bohart and Menke, 1976:389 (in checklist of world Sphecidae); R. Bohart, 1974:254 (in key to North American *Rhopalum*), 259 (in revision of North American *Rhopalum*); Krombein, 1979b:1663 (in catalog of North American Hymenoptera); Ahlstrom, 1995:111 (in checklist of insects of North Carolina); Leclercq, 2002b:16, 33 (in key to New World *Rhopalum*), 80 (bibliographic reference, locality records from New York and Ohio); Buck, 2004:26 (in checklist of Crabronidae of Ontario, Canada), 30 (distribution within Ontario); 57 (first record from Canada: Ontario and Quebec: list of collecting localities). – **As *Crabro pedicellatus***: W. Fox, 1895a:201 (new combination, in revision of North American Crabronini); Dalla Torre, 1897:616 (in catalog of world Sphecidae); Kincaid, 1900a:359 (USA: Washington: Olympia); J. Smith, 1910:682 (in new list of insects of New Jersey); Brimley, 1938:450 (North Carolina: Raleigh). – **As *Solenius pedicellatus***: J.Ch. Bradley, 1928:1021 (new combination, in catalog of New York Sphecidae). – **As *Euplilis pedicellatus***: Pate, 1947a:8 (new combination, synonymy); Krombein in Muesebeck et al., 1951:1019 (in catalog of North American Hymenoptera); Evans, 1957b:105 (description of larva); Krombein in Krombein and Burks, 1967:420 (citation of Evans, 1957).

*Rhopalum rubrocinctum* G. Peckham and E. Peckham, 1898:43, ♀ (authorship attributed to Ashmead). Syntypes: ♀, USA: Wisconsin: Waukesha County: Hartland (USNM). Synonymized with *Euplilis pedicellatus* by Pate, 1947a:8. – G. Peckham and E. Peckham, 1898:43 (nesting habits), 1905:74 (nest and prey).

*Euplilis arapaho* Pate, 1947a:8, ♂. Holotype: ♂, USA: Colorado: Larimer County: Cache Le Poudre River Canyon 20 mi W Fort Collins (ANSP). Synonymized with *Rhopalum pedicellatum* by R. Bohart, 1974:259. – Krombein in Muesebeck et al., 1951:1019 (in catalog of North American Hymenoptera); Evans, 1957b:104 (description of larva); Krombein, 1958f:198 (in supplement to catalog of North American Hymenoptera: Utah); nec F. Parker and

R. Bohart, 1966:94 (= *Rhopalum pacificum*); Krombein in Krombein and Burks, 1967:420 (citation of Evans, 1957). – As ***Rhopalum arapaho***: Leclercq, 1954c:188 (new combination, in catalog of world Crabronini).  
As *Rhopalum rufigaster*: Harrington, 1902:220 (Canada: Ontario: Ottawa), corrected to *Rhopalum pedicellatum* by Buck, 2004:76

### 198. *penongum* Leclercq

*Rhopalum penongum* Leclercq, 1997:84, ♂. Holotype: ♂, Australia: South Australia: 10 km west-northwest of Penong at 31°53'S 132°54'E (ANIC).

### 199. *pepitem* Leclercq

*Rhopalum pepitem* Leclercq, 1997:84, ♂. Holotype: ♂, Australia: New South Wales: 100 km southeast of Broken Hill at 32°51'S 141°37'E (ANIC).

### 200. *perforator* F. Smith

*Rhopalum perforator* F. Smith, 1876b:483, ♂. Syntypes: New Zealand: Canterbury area (BMNH). – Hutton, 1881:105 (in catalog of New Zealand Hymenoptera); W.F. Kirby, 1881a:41 (in checklist of Hymenoptera of New Zealand), 1884b:69 (in checklist of Hymenoptera of New Zealand); Cameron, 1901:120 (known from New Zealand, as *perforatum*); Hutton, 1904:98 (in list of New Zealand fauna); Leclercq, 1950b:6 (is a member of *Rhopalum*), 1954c:184 (in catalog of world Crabronini), 1955k:6 (in key to *Rhopalum* of New Zealand), 16 (re-description); R. Bohart and Menke, 1976:390 (in checklist of world Sphecidae); Callan, 1979:36 (New Zealand; available information reviewed); Davies, 1986 (New Zealand: Hawkes Bay); Valentine and Walker, 1991:40 (in catalog of New Zealand Hymenoptera); Harris, 1994:51 (in Fauna of New Zealand, description of mature larva, cocoon, nest). – As ***Crabro perforator***: Hutton, 1881:105 (new combination, listed); Dalla Torre, 1897:618 (in catalog of world Sphecidae).

### 201. *peterseni* Tsuneki

*Rhopalum peterseni* Tsuneki, 1976b:117, ♀. Holotype: ♀, Philippines: Tawi Tawi: Tarawakan (ZMUC). – Tsuneki, 1984f:7 (Philippines), 33 (in key to Crabronini of Philippines); Leclercq, 2011:6 (in key to Asian species with bi-colored tergum I); Leclercq, 2011:15 (in list of Asian *Rhopalum*; Sri Lanka: Ratnapura District: Gilimale Iuruwa Jungle).

### 202. *pichincha* Leclercq

*Rhopalum pichincha* Leclercq, 2002b:89, ♀. Holotype: ♀, Ecuador: Pichincha, Santo Domingo, 16 km southeast of Tinalandia. – Leclercq, 2002b:13 (in key to New World *Rhopalum*); Amarante, 2005a:7 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae).

### 203. *piosense* Leclercq

*Rhopalum piosense* Leclercq, 1997:84, ♂. Holotype: ♂, Australia: Northern Territory: Caranbirini Waterhole 33 km southwest of Boorooloa at 16°16'S 136°05'E (ANIC).

### 204. *pitillae* Leclercq

*Rhopalum pitillae* Leclercq, 2002b:80, ♀. Holotype: ♀, Costa Rica: Guanacaste: Estación Pitilla 1 km south of Santa Cecilia (Universidad de Costa Rica). – Leclercq, 2002b:22 (in key to New World *Rhopalum*); Amarante, 2005a:8 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae, Ecuador incorrectly given as country of origin).

### 205. *plaumanni* Leclercq

*Rhopalum plaumanni* Leclercq, 1970a:103, ♀. Holotype: ♀, Brazil: Santa Catarina: Nova Teutonia, 27°11'S, 52°11'W (FSAG). – Leclercq, 1970a:96 (in key to Latin American *Rhopalum*); R. Bohart and Menke, 1976:390 (in checklist of world Sphecidae); Amarante, 2002:33 (in catalog of Neotropical Crabronidae); Leclercq, 2002b:12, 25 (in key to



New World *Rhopalum*), 81 (bibliographic reference, color variation, locality records from Argentina and Brazil); Amarante, 2005a:7 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae); Leclercq, 2007g:195 (holotype in FSAG).

#### 206. *poecilofemorale* Li and Xue

*Rhopalum poecilofemorale* Li and Xue, 1998a:79, ♀, ♂. Holotype: ♀, China: Zhejiang: Qingyuan, Baishanzhu (Zhejiang Agricult. Univ.) – Li and He, 2004:1090 (in hymenopterous fauna of Zhejiang Province, China); Leclercq, 2011:15 (in list of Asian *Rhopalum*).

#### 207. *popayans* Leclercq

*Rhopalum popayans* Leclercq, 2002b:81, ♀, ♂. Holotype: ♂, Colombia: Cauca: Popayan (BMNH). Paratypes: Ecuador. – Leclercq, 2002b:22, 37 (in key to New World *Rhopalum*); Amarante, 2005a:8 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae).

#### 208. *potosium* Leclercq

*Rhopalum potosium* Leclercq, 1970a:102, ♀. Holotype: ♀, Bolivia: Potosí (FSAG). – Leclercq, 1970a:96 (in key to Latin American *Rhopalum*); R. Bohart and Menke, 1976:390 (in checklist of world Sphecidae); Amarante, 2002:33 (in catalog of Neotropical Crabronidae); Leclercq, 2002b:11, 15, 25 (in key to New World *Rhopalum*), 82 (locality records from 10 South American countries, variation); Amarante, 2005a:7 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae); Leclercq, 2007g:195 (holotype in FSAG); Rasmussen and Asenjo, 2009:10 (in checklist of Crabronidae of Peru).

#### 209. *praenatum* Leclercq

*Rhopalum praenatum* Leclercq, 2002b:83, ♂. Holotype: ♂, Ecuador: Tungurahua (BMNH). – Leclercq, 2002b:38 (in key to New World *Rhopalum*); Amarante, 2005a:8 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae).

#### 210. *probolognathum* Leclercq and Menke

*Rhopalum probolognathum* Leclercq and Menke, 2000:216, ♂. Holotype: ♂, Papua New Guinea: Morobe District: northeast of Wau (Bishop Mus.).

#### 211. *pygidiale* R. Bohart

*Crabro calceatus* Tsuneki, 1947e:430, ♀, ♂, junior primary homonym of *Crabro calceatus* Rossi, 1794. Holotype: ♂, Japan: Hokkaido: Jozankei (originally K. Tsuneki coll., now in Hyogo Mus.). – Tsuneki, 1948c:8 (Japan: Hokkaido); Hashimoto and Nakanishi, 1997:14 (holotype and allotype in Hyogo Mus.). – **As *Rhopalum calceatum***: Tsuneki, 1952b:113, 114 (new combination, in key to *Rhopalum* of northeastern Asia), 123 (in revision of *Rhopalum* of Japan, Korea, Sakhalin, and Kuril Islands); Leclercq, 1954c:189 (in catalog of world Crabronini), 299 (nest and prey records); Tsuneki and Tanaka, 1955b:25 (Japan: Nikko, 120 km NW Tokyo); Tsuneki, 1958e:54 (Japan: city of Toyama), 1960e:57 (in key to *Rhopalum* of Japan and Korea), 1960g:50 (nesting in pith hollow of *Diervilla japonica*); Tsuneki, Iida, Hirai, and Sabi, 1964:60 (Japan: Aomori Prefecture: Towada); Tsuneki, 1967g:44 (western Japan: Mount Hyonoson); Itami, 1968a:16 (Japan: Yamagata Prefecture: foot of Mount Iide); Haneda, 1969:70 (Japan: Yamanashi Prefecture); Itami, 1969:51 (Japan: Niigata Prefecture); Tsuneki, 1969i:62 (Japan: Fukui: Prefecture: Taichôdzi temple); Haneda, 1970:13 (Japan: Akita Prefecture); Tsuneki, 1970f:3 (peculiar variety), 1960e:57, 61 (in key to *Rhopalum* of Japan and Korea), 1960g:50 (nesting habits), 1974a:383 (Korea); Suda, 1971:84 (Japan: Chiba Prefecture); Nambu, 1975b:78 (Japan: Saitama Prefecture); Marshakov, 1976d:109 (in revision of *Rhopalum* of USSR: Russian Far East); Tsuneki, 1982b:17 (known from Korea); Paik, 1985:202 (in list of Sphecidae of Korea); Tsuneki, 1991:203 (Korea).

*Rhopalum pygidiale* R. Bohart in R. Bohart and Menke, 1976:390. Substitute name for *Crabro calceatus* Tsuneki. – Hoshiba and Imai, 1993:467 (chromosome number n = 13); Nemkov in Nemkov, Kazenas, Budrys, et Antropov,

1995:426 (in key to Sphecidae of Russian Far East, as *pigidiale*); Haneda and Tano, 2003:12 (Japan: Nagasaki Prefecture: Tsushima); Nozaka and Kurokawa, 2003:56 (Japan: town of Awara: lake side of Kitagata); Tano, Kurokawa, Murota, and Nozaka, 2003:32 (Japan: Nagasaki Prefecture: Tsushima); Haneda, Nosaka, Tano, Kurokawa, and Murota, 2004:36 (Japan: Gifu Prefecture); Suda, 2004:42 (Japan: Yamanashi Prefecture); Haneda, Inoue, Nozaka, Tano, Kurokawa, and H. and T. Murota, 2005:67 (Japan: Fukui Prefecture: Mount Monju); Haneda, Nozaka, Tano, Kurokawa, and Murota, 2005:52 (Japan: Gifu Prefecture); Nemkov, 2005a:150 (Russia: Island of Sakhalin); Haneda, Nozaka, Tano, Kurokawa, and Murota, 2006a:28 (Japan: Toyama Prefecture); Nagase, 2006a:55 (Japan: Kanagawa Prefecture: Mount Komagatake near Hakone); Ohkusa, 2006a:25 (Japan: Honshu: Gifu Prefecture); Haneda, 2008:5, 6 (in key to Japanese Crabroninae); Nemkov, 2008b:21 (in catalog of Crabronidae of Asiatic Russia); S. Takahashi and Haneda, 2008a:59 (Japan: Hokkaido: Sapporo); S. Tanaka, 2008:39 (Japan: Yamaguchi Prefecture); Nemkov, 2009b:95 (in new catalog of Sphecidae and Crabronidae of Asiatic Russia), 2009c:237 (Russia: Primorskiy Krai: Lazovsky Nature Reserve); S. Takahashi and Haneda, 2009:26 (Japan: Hokkaido: Sapporo); S. Takahashi, Haneda, and Tano, 2009:50 (distribution in Japan); Okhusa and Tajima, 2010:13 (Japan: Honshu Island: Shiga Prefecture); Leclercq, 2011:15 (in list of Asian *Rhopalum*); Nemkov, 2012c:444 (in catalog of Crabronidae of Russian Far East); J.-K. Kim, 2014:434 (in catalog of Sphecidae s.l. of Korean Peninsula); Antropov, 2017b:235 (in catalog of Crabroninae of Russia).

### 212. *quitense* (Benoist)

*Crabro quitensis* Benoist, 1942:82, ♀, ♂. Syntypes: Ecuador: Rumipamba near Quito (MNHN). – *As Rhopalum quitense*: Leclercq, 1950b:7 (new combination), 1954c:186 (in catalog of world Crabronini), 298 (nest and prey records), 1970a:94 and 99 (in key to Latin American *Rhopalum*), 102 (in revision of Latin American *Rhopalum*); R. Bohart and Menke, 1976:390 (in checklist of world Sphecidae); Amarante, 2002:33 (in catalog of Neotropical Crabronidae); Leclercq, 2002b:10, 34 (in key to New World *Rhopalum*), 83 (bibliographic references, locality record from Ecuador); Amarante, 2005a:7 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae).

### 213. *rejectum* Leclercq

*Rhopalum rejectum* Leclercq, 2012a:34, ♀. Holotype: ♀, Zaire: Parc National Albert: Kibati (Tervuren). – Leclercq, 2012a:30 (in key to African *Rhopalum*).

### 214. *rockyense* Leclercq

*Rhopalum rockyense* Leclercq, 1997:84, ♀, ♂. Holotype: ♀, Australia: Queensland: 11 km east-northeast of Mount Tozer at 12°43'S 143°18'E (ANIC).

### 215. *rolotum* Leclercq

*Rhopalum rolotum* Leclercq, 1970a:102, ♀. Holotype: ♀, Mexico: Veracruz: Orizaba (FSAG). – Leclercq, 1970a:96 (in key to Latin American *Rhopalum*); R. Bohart and Menke, 1976:390 (in checklist of world Sphecidae, as *rolotum*); Amarante, 2002:33 (in catalog of Neotropical Crabronidae); Leclercq, 2002b:11 (in key to New World *Rhopalum*), 83 (bibliographic references, locality records from Costa Rica); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:665 (in checklist of Mexican Sphecidae, as *rolotum*); Amarante, 2005a:7 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae); Leclercq, 2007g:195 (holotype in FSAG).

### 216. *rondeuxi* Leclercq

*Rhopalum rondeuxi* Leclercq, 2002b:84, ♀, ♂. Holotype: ♂, Brazil: Santa Catarina: Nova Teutonia (FSAG). – Leclercq, 2002b:16, 27 (in key to New World *Rhopalum*); Amarante, 2005a:8 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae); Leclercq, 2007g:195 (holotype in FSAG).

**217. rorator Leclercq**

*Rhopalum rorator* Leclercq, 2002b:86, ♀. Holotype: ♀, Colombia: Putumayo: Villa Garzón (BMNH). Paratypes: Ecuador, Peru. – Leclercq, 2002b:16 (in key to New World *Rhopalum*); Amarante, 2005a:8 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae); Rasmussen and Asenjo, 2009:10 (in checklist of Crabronidae of Peru).

**218. rossi Leclercq**

*Rhopalum rossi* Leclercq, 2002b:86, ♂. Holotype: ♂, Peru: 40 mi. south of Tingo Maria (CAS). – Leclercq, 2002b:29 (in key to New World *Rhopalum*); Amarante, 2005a:7 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae); Rasmussen and Asenjo, 2009:10 (in checklist of Crabronidae of Peru).

**219. rubigabdominale Li and He**

*Rhopalum rubigabdominale* Li and He, 2000b:16, ♀, ♂. Holotype: ♀, China: Sichuan: Emeishan: Xixiangchi (Chinese Acad. Sci.). – Leclercq, 2011:15 (in list of Asian *Rhopalum*).

**220. rufigaster Packard**

*Rhopalum rufigaster* Packard, 1867:382, ♀, ♂. Lectotype: ♀, USA: Illinois: no specific locality (ANSP), designated by Cresson, 1928:55. – Provancher, 1882:134 and 1883b:669 (in revision of Canadian Hymenoptera); Cresson, 1887:284 (in catalog of North American Hymenoptera); Ashmead, 1899d:220 (new combination, in checklist of North American Crabronidae); J. Smith, 1900:516 (in list of insects of New Jersey); nec Harrington, 1902:220 (= *Rhopalum pedicellatum*); Rohwer, 1908b:258 (in key to *Crabro* of Colorado and New Mexico); Leclercq, 1954c:187 (in catalog of world Crabronini); R. Bohart, 1974:254, 256 (in key to North American *Rhopalum*), 259 (in revision of North American *Rhopalum*); R. Bohart and Menke, 1976:390 (in checklist of world Sphecidae); Krombein, 1979b:1664 (in catalog of North American Hymenoptera, list of prey); Finnamore, 1982:138 (in Sphecidae Fauna of Southern Quebec); Radović, 1985:65 (sting apparatus analyzed); Ahlstrom, 1995:111 (in checklist of insects of North Carolina); Spofford, Kurczewski, and Downes, 1989:258 (summary of previous records for nest parasite *Ptychoneura aristalis* (Coquillett), a miltogrammine fly); Leclercq, 2002b:15, 27 (in key to New World *Rhopalum*), 87 (bibliographic references, locality records from Canada and USA); Buck, 2004:26 (in checklist of Crabronidae of Ontario, Canada), 30 (distribution within Ontario), 58 ((first record from Ontario: list of collecting localities). – **As *Crabro rufigaster***: W. Fox, 1895:202 (new combination, revision); Dalla Torre, 1897:624 (in catalog of world Sphecidae); J. Smith, 1910:682 (in new list of insects of New Jersey: Riverton); Brimley, 1938:450 (North Carolina: Raleigh). – **As *Euplilis rufigaster***: Pate, 1947a:10 (new combination, synonymy); Krombein *in* Muesebeck et al., 1951:1019 (in catalog of North American Hymenoptera); Krombein, 1953a: 297 (visiting foliage of *Liquidambar styraciflua*), 337 (North Carolina), 1958b:26 (prey), 1963f:278 (Maryland: Plummers Island near Washington, D.C.); Kurczewski and Kurczewski, 1963:148 (Pennsylvania: Presque Isle State Park); Evans, 1964b:291 (description of larva); Krombein, 1964a:92 (nest, prey, cocoon, life cycle); Krombein *in* Krombein and Burks, 1967:450 (cited papers by Krombein, 1958, 1964, and by Evans, 1964); L. Davis, 1978:216 (North Carolina: Kill Devil Hills, data from Krombein, 1953a).

*Rhopalum lucidum* Rohwer, 1909e:324, ♀. Holotype: ♀, USA: Pennsylvania: Harrisburg (USNM). Synonymized with *Euplilis rufigaster* by Pate, 1947a:10. – **As *Crabro lucidum***: Brimley, 1942:36 (new combination, North Carolina: Wake County); Wray, 1967:125 (North Carolina: Wake County).

**221. rumipambae Leclercq**

*Rhopalum rumipambae* Leclercq, 1970a:101, ♀, ♂. Holotype: ♀, Ecuador: Rumipamba (MNHN). – Leclercq, 1970a:93–97 (in key to Latin American *Rhopalum*); R. Bohart and Menke, 1976:390 (in checklist of world Sphecidae); Amarante, 2002:33 (in catalog of Neotropical Crabronidae); Leclercq, 2002b:17, 32 (in key to New World *Rhopalum*), 87 (bibliographic references, locality records from Ecuador and Peru, additional description); Ama-

rante, 2005a:8 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae); Rasmussen and Asenjo, 2009:10 (in checklist of Crabronidae of Peru).

**222. *runcator* Leclercq**

*Rhopalum runcator* Leclercq, 2002b:88, ♀, ♂. Holotype: ♀, Costa Rica: Puntarenas: Finca Las Cruces 6 km south of San Vito de Java (Universidad de Costa Rica). – Leclercq, 2002b:18, 32, 39 (in key to New World *Rhopalum*); Amarante, 2005a:8 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae).

**223. *ruppiatum* Leclercq**

*Rhopalum ruppiatum* Leclercq, 2002b:88, ♀, ♂. Holotype: ♀, Costa Rica: Puntarenas: San Vito, Las Alturas (Universidad de Costa Rica). – Leclercq, 2002b:17, 23, 28 (in key to New World *Rhopalum*); Amarante, 2005a:8 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae).

**224. *ruptor* Leclercq**

*Rhopalum ruptor* Leclercq, 2012a:34, ♂. Holotype: ♂, Cameroon: Messabendongo (H. and M. Tussac collection, Auwillar, France) – Leclercq, 2012a:30 (in key to African *Rhopalum*).

**225. *rustulum* Leclercq**

*Rhopalum rustulum* Leclercq, 2002b:90, ♀. Holotype: ♀, Costa Rica: Heredia: Vara Blanca, Finca Georgina (Universidad de Costa Rica). – Leclercq, 2002b:17 (in key to New World *Rhopalum*); Amarante, 2005a:8 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae).

**226. *rutans* Leclercq**

*Rhopalum rutans* Leclercq, 2002b:90, ♀. Holotype: ♀, Costa Rica: Puntarenas: Golfo Dulce 3 km south of Rincón (Universidad de Costa Rica). – Leclercq, 2002b:17 (in key to New World *Rhopalum*); Amarante, 2005a:8 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae).

**227. *rutrax* Leclercq**

*Rhopalum rutrax* Leclercq, 2002b:90, ♀, ♂. Holotype: ♀, Santa Catarina: Nova Teutonia (BMNH). Paratype: Peru. – Leclercq, 2002b:18, 31 (in key to New World *Rhopalum*); Amarante, 2005a:8 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae); Rasmussen and Asenjo, 2009:10 (in checklist of Crabronidae of Peru).

**228. *rutshuru* Leclercq**

*Rhopalum rutshuru* Leclercq, 2012a:35, ♂. Holotype: ♂, Zaire: Nord-Kivu: Rutshuru (Tervuren). – Leclercq, 2012a:30 (in key to African *Rhopalum*).

**229. *rwankwi* Leclercq**

*Rhopalum rwankwi* Leclercq, 2012a:36, ♂. Holotype: ♂, Zaire: Nord Kivu: Rwankwi (Tervuren). – Leclercq, 2012a:30 (in key to African *Rhopalum*).

**230. *sacatum* Leclercq**

*Rhopalum sacatum* Leclercq, 2002b:91, ♂. Holotype: ♂, Costa Rica: Puntarenas: San Vito, Estación Biologica Las Alturas (Universidad de Costa Rica). Paratype: Mexico. – Leclercq, 2002b:28 (in key to New World *Rhopalum*); Amarante, 2005a:8 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae).

**231. *sandakanum* Leclercq**

*Rhopalum sandakanum* Leclercq, 2011:15, ♂. Holotype: ♂, East Malaysia: Sabah, Sandakan (USNM). – Leclercq, 2011:6 (in key to Asian species with bicolored tergum I).

**232. *sanluisi* Leclercq**

*Rhopalum sanluisi* Leclercq, 2002b:91, ♀. Holotype: ♀, Costa Rica: Puntarenas, Alta San Luis (LACM). – Leclercq, 2002b:22 (in key to New World *Rhopalum*); Amarante, 2005a:8 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae).

**233. *sauteri* Tsuneki**

*Rhopalum sauteri* Tsuneki, 1977j:290, ♂. Holotype: ♂, Taiwan: Chipchip (TMB). – Hua, 2006:282 (in list of Chinese insects, geographic distribution); Leclercq, 2011:16 (in list of Asian *Rhopalum*).

**234. *schaffneri* Leclercq**

*Rhopalum schaffneri* Leclercq, 2002b:92, ♂. Holotype: ♂, Mexico: Michoacán: 5 mi southwest of Paracho (Texas A and M University). – Leclercq, 2002b:26 (in key to New World *Rhopalum*); Amarante, 2005a:8 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae).

**235. *schlingeri* Leclercq**

*Rhopalum schlingeri* Leclercq, 2002b:93, ♀. Holotype: ♀, Colombia: Valle: 6 mi. W Calí (CAS). – Leclercq, 2002b:22 (in key to New World *Rhopalum*); Amarante, 2005a:8 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae).

**236. *seychellense* R. Turner**

*Crabro oceanicus* R. Turner, 1911b:373, ♀, ♂, junior primary homonym of *Crabro oceanicus* Schulz, 1906. Syntypes: Seychelles: Mahé and Silhouette Islands (BMNH). – **As *Rhopalum oceanicum***: Leclercq, 1950b:4 (new combination, as valid name).

*Rhopalum seychellense* R. Turner, 1912g:375. Substitute name for *Crabro oceanicus* R. Turner. – Leclercq, 1954c:185 (in catalog of world Crabronini); R. Bohart and Menke, 1976:390 (in checklist of world Sphecidae); Leclercq, 2012a:37 (mandible, pronotal lobe, and base of hindtibia probably are not yellow according to original description, pygidial plate broadly triangular suggests *Rhopalum* s.s.); Madl, 2014a:960 (in catalog of Ampulicidae, Crabronidae, and Sphecidae of Madagascar, with synonymy and locality records).

**237. *shirozui* Tsuneki**

*Rhopalum shirozui* Tsuneki, 1965j:169, ♂. Holotype: ♂, Taiwan: Keito (originally K. Tsuneki coll., now USNM). – nec Tsuneki, 1965j:169, ♀ (= *Rhopalum erraticum*); Tsuneki, 1966d:2 (Taiwan; listed), 12 (Taiwan, description of ♀), 1968d:58 (Taiwan), 1968g:20 (Taiwan, description of ♀), 29 (in key to Crabronini of Taiwan and Ryukyus); R. Bohart and Menke, 1976:390 (in checklist of world Sphecidae); Nuhn and Menke, 1994:26 (holotype transferred to USNM); Porter, Stange, and Wang, 1999:11 (in checklist of Sphecidae of Taiwan); Hua, 2006:282 (in list of Chinese insects, geographic distribution).

**238. *simalurensis* (Maidl)**

*Crabro simalurensis* Maidl, 1925b:391, ♀. Holotype: ♀, Indonesia: Sumatra: Simalur Island W Sumatra (NHMW). – **As *Rhopalum simalurensis***: Leclercq, 1954c:190 (new combination, in catalog of world Crabronini), 1963:70 (Philippines); Baltazar, 1966:352 (in catalog of Hymenoptera of Philippines); R. Bohart and Menke, 1976:76:390 (in checklist of world Sphecidae); Tsuneki, 1984f:6 (Philippines), 31 (in key to Crabronini of Philippines); Dollfuss, 1989:12 (type in NHMW); Leclercq, 2011:16 (in list of Asian *Rhopalum*; *bohartum* and *poecilofemorale* may be synonyms; descriptions of populations from Simalur, Philippines, and Java).

**239. *sinaloae* Leclercq**

*Rhopalum sinaloae* Leclercq, 2002b:93, ♀, ♂. Holotype: ♀, Mexico: Sinaloa: 15 mi. west of El Palmito (CNC). – Leclercq, 2002b:22, 35 (in key to New World *Rhopalum*); Amarante, 2005a:8 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae).

**240. *sinus* Leclercq**

*Rhopalum sinus* Leclercq, 2002b:94, ♀. Holotype: ♀, Costa Rica: Puntarenas: Golfo Dulce 3 km southwest of Rincón (Universidad de Costa Rica). – Leclercq, 2002b:9 (in key to New World *Rhopalum*); Amarante, 2005a:7 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae).

**241. *smilax* Leclercq**

*Rhopalum smilax* Leclercq, 2002b:95, ♀. Holotype: ♀, Bolivia: Alto Beni at Río Inicua (FSAG). – Leclercq, 2002b:9 (in key to New World *Rhopalum*); Amarante, 2005a:7 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae); Leclercq, 2007g:195 (holotype in FSAG).

**242. *sobrina* Leclercq**

*Rhopalum sobrina* Leclercq, 2002b:95, ♀. Holotype: ♀, Costa Rica: Puntarenas: San Vito, Las Alturas (Universidad de Costa Rica). – Leclercq, 2002b:8 (in key to New World *Rhopalum*); Amarante, 2005a:7 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae).

**243. *sonani* Tsuneki**

*Rhopalum sonani* Tsuneki, 1986:31, ♀. Holotype: ♀, Japan: Tokyo: Kodaira City (Ent. Lab. Min. Agr. For. Japan at Tsukuba, Ibaragi Prefecture). – Haneda, 2008:9 (in key to Japanese Crabroninae); S. Takahashi, Haneda, and Tano, 2009:45, 50 (distribution in Japan); Leclercq, 2011:17 (in list of Asian *Rhopalum*).

**244. *soroanum* (Alayo Dalmau)**

*Euplilis soroanus* Alayo Dalmau, 1968b:5, ♀, ♂. Holotype: ♀, Cuba: Pinar del Río: Soroa (IZAC). – Alayo Dalmau, 1973:192 (in catalog of Cuban Hymenoptera); not listed by Bohart and Menke, 1976; Reyes and Hernández, 1995:3 (holotype in Inst. Ecol. Sist., La Havana, Cuba); Hidalgo-Gato González, Reyes Sánchez, Mestre Novoa, Fernández García, Rodríguez-León Merino, Rodríguez Velázquez, Genaro Artola, and Fontenla Rizo, 2002:30 (holotype deposited at IZAC). – **As *Rhopalum soroanum***: Alayo Dalmau, 1976:17 (new combination, in key to Cuban *Rhopalum*), 32 (in checklist of Cuban Sphecidae); Amarante, 2002:34 (in catalog of Neotropical Crabronidae); Leclercq, 2002b:10, 29 (in key to New World *Rhopalum*), 96 (bibliographic references); Amarante, 2005a:7 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae); Genaro, 2006:54 (in checklist of Cuban Sphecidae and Crabronidae).

**245. *spinicollum* Tsuneki**

*Rhopalum spinicollum* Tsuneki, 1968g:24, ♀, ♂. Holotype: ♂, Taiwan: Chiai Prefecture: Fenchihu (originally K. Tsuneki coll., now USNM). – Tsuneki, 1968g:29 (Taiwan; in key to Crabronini of Taiwan and Ryukyus); Haneda, 1971b:33 (Taiwan); Tsuneki, 1971a:27 (Taiwan); Haneda, 1972a:6 (Taiwan); Leclercq, 1973c:301 (Taiwan); R. Bohart and Menke, 1976:390 (in checklist of world Sphecidae); Nuhn and Menke, 1994:26 (holotype transferred to USNM); Porter, Stange, and Wang, 1999:11 (in checklist of Sphecidae of Taiwan); Hua, 2006:282 (in list of Chinese insects, geographic distribution); Leclercq, 2011:17 (in list of Asian *Rhopalum*).

**246. *stationis* Leclercq**

*Rhopalum stationis* Leclercq, 2002b:96, ♀. Holotype: ♀, Trinidad: Simla Research Station (FSCA). – Leclercq, 2002b:14 (in key to New World *Rhopalum*); Amarante, 2005a:7 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae).

**247. *stelmanni* Leclercq**

*Rhopalum stelmanni* Leclercq, 1997:85, ♂. Holotype: ♂, Australia: South Australia: Brookfield Conservation Park at 34°21'S 139°31'E (ANIC).



**248. subtaeniatum Leclercq**

*Rhopalum subtaeniatum* Leclercq, 1997:85, ♀. Holotype: ♀, Australia: Northern Territory: Jabaluka Lagoon 14 km north of Mudjingarry Homestead at 12°28'S 132°52'E (ANIC).

**249. succineicollare Tsuneki**

*Rhopalum succineicollare* Tsuneki, 1952b:120, ♀ (as *succineicollarum*, incorrect original termination. Holotype: ♀, Japan: Sapporo (originally K. Tsuneki coll., now Hyogo Mus.). – Tsuneki, 1952b:115 (in key to *Rhopalum* of northeastern Asia); R. Bohart and Menke, 1976:390 (in checklist of world Sphecidae); Tano, 1994a:7 (holotype in K. Tsuneki collection). – **As *Rhopalum succineicollare***: Tsuneki, 1956a:68 (new combination, comparison with *Rhopalum kuwayamai nikkkoense*), 1960e:58, 61 (key to *Rhopalum* of Japan and Korea), 1960g:50 (nesting habits); Okuno, 1968:31 (Japan); Tsuneki and Tano, 1969:31 (distribution in Japan); Haneda, 1972c:59 (Japan: Fukui Prefecture); Tsuneki, 1972b:14 (description of ♂), 1973b:19 (nesting habits); Nambu, 1975b:77 (Japan: Saitama Prefecture); Tsuneki, 1976b:117 (Philippines; description), 1984f:6 (Philippines), 1984f:7 (Philippines), 32 (in key to Crabronini of Philippines); Hashimoto and Nakanishi, 1997:19 (holotype transferred to Hyogo Mus.); Tano, Kurokawa, Murota, and Nozaka, 2003:32 (Japan: Nagasaki Prefecture: Tsushima); Haneda, Nosaka, Tano, Kurokawa, and Murota, 2004:37 (Japan: Gifu Prefecture, as *succineicollarum*); Suda, 2004:42 (Japan: Yamanashi Prefecture); Haneda, Inoue, Nozaka, Tano, Kurokawa, and H. and T. Murota, 2005:67 (Japan: Fukui Prefecture: Mount Monju, as *succineicollarum*); Haneda, Nozaka, Tano, Kurokawa, and Murota, 2005:53 (Japan: Gifu Prefecture, as *succineicollarum*), 2006a:29 (Japan: Toyama Prefecture, as *succineicollarum*); Nagase, 2006a:55 (Japan: Kanagawa Prefecture: Mount Komagatake near Hakone, as *succineicollarum*); Haneda, 2008:5, 7 (in key to Japanese Crabroninae, as *succineicollarum*); S. Takahashi, Haneda, and Tano, 2009:43, 50 (distribution in Japan); Leclercq, 2011:5 (in key to Asian species with bicolored tergum I, as *succineicollare succineicollare*), 17 (in list of Asian *Rhopalum*, as *succineicollare succineicollare*).

**ssp. taiwanum Tsuneki**

*Rhopalum succineicollare taiwanum* Tsuneki, 1971a:27, ♀. Holotype: ♀, Taiwan: no specific locality (originally K. Tsuneki coll., now USNM). – Leclercq, 1973c:302 (Taiwan); R. Bohart and Menke, 1976:390 (in checklist of world Sphecidae); Tsuneki, 1977j:291 (Taiwan: Taihorin; shape of male flagellomere VI), 1982e:34 (Taiwan); Nuhn and Menke, 1994:26 (holotype transferred to USNM); Porter, Stange, and Wang, 1999:11 (in checklist of Sphecidae of Taiwan); Hua, 2006:282 (in list of Chinese insects, geographic distribution); Leclercq, 2011:5 (in key to Asian species with bicolored tergum I), 17 (in list of Asian *Rhopalum*).

**250. sumatrae Leclercq**

*Rhopalum sumatrae* Leclercq, 1950b:2, ♀. Holotype: ♀, Indonesia: Sumatra: Fort de Kock (Zool. Mus. Amsterdam). – Leclercq, 1954c:190 (in catalog of world Crabronini); R. Bohart and Menke, 1976:390 (in checklist of world Sphecidae); Leclercq, 2011:6 (in key to Asian species with bicolored tergum I), 17 (in list of Asian *Rhopalum*).

**251. taeniatum Leclercq**

*Rhopalum taeniatum* Leclercq, 1957b:225, ♀, ♂. Holotype: ♂, Australia: Queensland: Kuranda (BMNH). – Leclercq, 1957b:185 (in key to Australian *Rhopalum*); R. Bohart and Menke, 1976:390 (in checklist of world Sphecidae); Cardale, 1985:268 (in catalog of Australian Sphecidae); Leclercq, 1997:86 (in revision of Australian *Rhopalum*).

**252. taipingshanum Tsuneki**

*Rhopalum taipingshanum* Tsuneki, 1968g:21, ♂. Holotype: ♂, Taiwan: Ilan Prefecture: Mount Taiping (originally K. Tsuneki coll., now USNM). – Tsuneki, 1968g:29 (in key to Crabronini of Taiwan and Ryukyus); Leclercq, 1973c:302 (Taiwan); R. Bohart and Menke, 1976:390 (in checklist of world Sphecidae); Porter, Stange, and Wang, 1999:11 (in checklist of Sphecidae of Taiwan); Hua, 2006:282 (in list of Chinese insects, geographic distribution); Leclercq, 2011:17 (in list of Asian *Rhopalum*).

**253. *tayalum* Tsuneki**

*Rhopalum tayalum* Tsuneki, 1966d:16, ♂. Holotype: ♂, Taiwan: Nantou Prefecture: Sungkang (Kyushu Univ.). – Tsuneki, 1968d:58 (Taiwan), 1968g:29 (Taiwan; in key to Crabronini of Taiwan and Ryukyus; as *tayarum*); R. Bohart and Menke, 1976:390 (in checklist of world Sphecidae); Porter, Stange, and Wang, 1999:11 (in checklist of Sphecidae of Taiwan); Hua, 2006:282 (in list of Chinese insects, geographic distribution); Leclercq, 2011:17 (in list of Asian *Rhopalum*).

**254. *tegulatum* Leclercq**

*Rhopalum tegulatum* Leclercq, 1997:86, ♀, ♂. Holotype: ♀, Australia: South Australia: 25 km south-southwest of Pinnaroo at 35°28'S 140°47'E (ANIC).

**255. *tenuiventre* (R. Turner)**

*Crabro tenuiventris* R. Turner, 1908:524, ♀. Holotype or syntypes: ♀, Australia: Queensland: Mackay (BMNH). – As ***Rhopalum tenuiventre***: R. Turner, 1915a:86 (new combination, in key to Australian *Rhopalum*); Leclercq, 1950b:4 (is a member of *Rhopalum*), 1954c:184 (in catalog of world Crabronini), 1957b:186 (in key to Australian *Rhopalum*), 224 (redescription); R. Bohart and Menke, 1976:390 (in checklist of world Sphecidae); Leclercq, 1979b:354 (member of subgenus *Rhopalum* s.s.); Cardale, 1985:266 (in catalog of Australian Sphecidae); Leclercq, 1997:87 (in revision of Australian *Rhopalum*).

**256. *tepicum* Leclercq**

*Rhopalum tepicum* Leclercq, 1957b:226, ♂. Holotype: ♂, Australia: Tasmania: Mount Wellington (BMNH). – Leclercq, 1957b:186 (in key to Australian *Rhopalum*); R. Bohart and Menke, 1976:390 (in checklist of world Sphecidae); Cardale, 1985:266 (in catalog of Australian Sphecidae); K. Walker, Naumann, Austin, Taylor, and Cardale, 1992:48 (in catalog of insects of Tasmania); Leclercq, 1997:87 (in revision of Australian *Rhopalum*).

**257. *terzoi* Leclercq**

*Rhopalum terzoi* Leclercq, 2002b:96, ♀, ♂. Holotype: ♀, Ecuador: Tungurahua: Baños (BMNH). – Leclercq, 2002b:8, 25 (in key to New World *Rhopalum*); Amarante, 2005a:7 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae); Rasmussen and Asenjo, 2009:10 (in checklist of Crabronidae of Peru).

**258. *testaceum* R. Turner**

*Rhopalum testaceum* R. Turner, 1917a:108, ♀. Holotype or syntypes: ♀, Australia: Queensland: Kuranda (BMNH). – Leclercq, 1950b:5 (is a member of *Rhopalum*), 1954c:183 (in catalog of world Crabronini, redescription), 1957b:183 (in key to Australian *Rhopalum*), 213 (known only from holotype); R. Bohart and Menke, 1976:390 (in checklist of world Sphecidae); Cardale, 1985:266 (in catalog of Australian Sphecidae); Leclercq, 1997:88 (in revision of Australian *Rhopalum*); Naumann, 1998:183 (Australia: northwest Queensland: Musselbrook area, approximately 18°40'S 138°23'E).

**259. *tingonum* Leclercq**

*Rhopalum tingonum* Leclercq, 2002b:100, ♂. Holotype: ♂, Peru: eastern Carpish Mts. 40 mi. southwest of Tingo María (CAS). – Leclercq, 2002b:28 (in key to New World *Rhopalum*); Amarante, 2005a:8 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae); Rasmussen and Asenjo, 2009:10 (in checklist of Crabronidae of Peru).

**260. *tongyaii* Tsuneki**

*Rhopalum tongyaii* Tsuneki, 1963c:35, ♂. Holotype: ♂, Thailand: Chantaburi (Sasayama Univ.). – R. Bohart and Menke, 1976:390 (in checklist of world Sphecidae); Leclercq, 2011:5 (in key to Asian species with bicolored tergum I), 18 (in list of Asian *Rhopalum*).



**261. *transiens* (R. Turner)**

*Crabro transiens* R. Turner, 1908:525, ♂. Holotype or syntypes: ♂, Australia: Victoria: no specific locality (BMNH). – **As *Rhopalum transiens***: Leclercq, 1950b:5 (new combination), 1954c:183 (in catalog of world Crabronini), 1957b:183 (in key to Australian *Rhopalum*), 211 (in revision of Australian *Rhopalum*); R. Bohart and Menke, 1976:390 (in checklist of world Sphecidae); Cardale, 1985:266 (in catalog of Australian Sphecidae); Leclercq, 1997:88 (in revision of Australian *Rhopalum*).

**262. *tristani* (Pate)**

*Euplilis tristani* Pate, 1947d:3, ♂. Holotype: ♂, Costa Rica: San José (ANSP). – **As *Rhopalum tristani***: Leclercq, 1954c:187 (new combination, in catalog of world Crabronini); R. Bohart and Menke, 1976:390 (in checklist of world Sphecidae); H. Allen, 1995:15 (type in ANSP); Hanson and Menke, 1995:644 (known from Costa Rica); Amarante, 2002:33 (in catalog of Neotropical Crabronidae); Leclercq, 2002b:36 (in key to New World *Rhopalum*), 101 (bibliographic references, locality records from Costa Rica, Mexico, and Panama); Amarante, 2005a:8 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae).

**263. *tsunekiense* Leclercq**

*Rhopalum tsunekiense* Leclercq, 1957d:348, ♂. Holotype: ♂, West Malaysia: Kedah Peak (BMNH). – R. Bohart and Menke, 1976:390 (in checklist of world Sphecidae); Leclercq, 2011:18 (in list of Asian *Rhopalum*, additional description).

**264. *tsunekii* Terayama and Murota**

*Rhopalum tsunekii* Terayama and Murota, 2016:3, ♀, Holotype: ♀, Japan: Amami Oshima island: Kouchiyama (National Institute for Agro-Environmental Sciences, Tsukuba, Japan)

**265. *tubarum* Leclercq**

*Rhopalum tubarum* Leclercq, 1957b:218, ♀, ♂. Holotype: ♂, Australia: Queensland: Brisbane (ANIC). – Leclercq, 1957b:187 (in key to Australian *Rhopalum*); R. Bohart and Menke, 1976:390 (in checklist of world Sphecidae); Cardale, 1985:269 (in catalog of Australian Sphecidae); Leclercq 1997:89 (in revision of Australian *Rhopalum*).

***ssp. papuanum* Tsuneki**

*Rhopalum tubarum papuanum* Tsuneki, 1977d:1. ♂. Holotype: ♂, Papua New Guinea: Sattelberg in Huon-Golf (TMB).

**266. *tuberculicorne* R. Turner**

*Rhopalum tuberculicorne* R. Turner, 1917a:107, ♂. Holotype or syntypes: ♂, Australia: Queensland: Caloundra (BMNH). – Leclercq, 1950b:5 (is a member of *Rhopalum*), 1954c:184 (in catalog of world Crabronini), 1957b:183 (in key to Australian *Rhopalum*), 213 (in revision of Australian *Rhopalum*); R. Bohart and Menke, 1976:390 (in checklist of world Sphecidae); Cardale, 1985:266 (in catalog of Australian Sphecidae); Leclercq, 1997:90 (in revision of Australian *Rhopalum*).

**267. *tunguræ* Leclercq**

*Rhopalum tunguræ* Leclercq, 2002b:101, ♀, ♂. Holotype: ♂, Ecuador: Tungurahua: Baños (BMNH). – Leclercq, 2002b:24, 28 (in key to New World *Rhopalum*); Amarante, 2005a:8 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae).

**268. *urallæ* Leclercq**

*Rhopalum urallæ* Leclercq, 1997:91, ♀, ♂. Holotype: ♂, Australia: New South Wales: 11 mi south of Uralla (Kansas Univ.)

**269. *vallense* Leclercq**

*Rhopalum vallense* Leclercq, 2002b:102, ♀, ♂. Holotype: ♂, Colombia: Valle: Peñas Blancas 10 km from Cali (FSCA). Paratypes: Costa Rica, Ecuador, Mexico. – Leclercq, 2002b:13, 31 (in key to New World *Rhopalum*); Amarante, 2005a:7 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae).

**270. *varicoloratum* Li and He**

*Rhopalum varicoloratum* Li and He, 1998d:1, 3, ♀, ♂. Holotype: ♀, China: Zhejiang Province: Kaihua: Gutianshan (Zhejiang Agric. Univ.). – Li and He, 2004:1092 (in hymenopterous fauna of Zhejiang Province, China); Leclercq, 2011:5 (in key to Asian species with bicolored tergum I), 18 (in list of Asian *Rhopalum*).

**271. *variitarse* R. Turner**

*Rhopalum variitarse* R. Turner, 1915a:89, ♀. Syntypes: ♀, Australia: Tasmania: Mount Wellington and Eaglehawk Neck (BMNH). – R. Turner, 1915a:86 (in key to Australian *Rhopalum*), 1915b:552 (in key to *Rhopalum* of Tasmania), 553 (Tasmania); Leclercq, 1950b:5 (is a member of *Rhopalum*), 1954c:184 (in catalog of world Crabronini), 1957b:184 (in key to Australian *Rhopalum*), 209 (in revision of Australian *Rhopalum*); Evans and Matthews, 1971a:3 (nesting habits, prey); R. Bohart and Menke, 1976:390 (in checklist of world Sphecidae); Leclercq, 1979b:361 (additional collecting records); Cardale, 1985:269 (in catalog of Australian Sphecidae); McCorquodale and Thomson, 1989:95 (citation of Evans and Matthews, 1971); K. Walker, Naumann, Austin, Taylor, and Cardale, 1992:48 (in catalog of insects of Tasmania); Leclercq, 1997:91 (in revision of Australian *Rhopalum*).

**272. *venustum* Tsuneki**

*Rhopalum venustum* Tsuneki, 1955a:107, ♀. Holotype: ♀, Japan: Fukui Prefecture: Koike (originally K. Tsuneki coll., now Hyogo Mus.). – Tsuneki, 1960e:58, 61 (in key to *Rhopalum* of Japan and Korea), 1960g:50 (nesting habits unknown); Tsuneki and Shimoyama, 1963:50 (Japan: Towada Prefecture); Tsuneki, 1966a:27 (Japan), 1969e:28 (Japan: specimens in Osaka Museum of Natural History; as *vanustum*); Haneda, 1968a:46 (Japan); Tsuneki, 1969f:28 (Japan: Kyushu), 1969i:61 (Japan: Fukui Prefecture: Taichôdzi temple); Tsuneki and Tano, 1969:31 (distribution in Japan); Nambu, 1973a:153 (Japan: Saitama Prefecture); Tsuneki, 1973b:18 (nesting habits); Nambu, 1975b:77 (Japan: Saitama Prefecture); R. Bohart and Menke, 1976:390 (in checklist of world Sphecidae); Tano, 1994a:7 (holotype in K. Tsuneki collection); Hashimoto and Nakanishi, 1997:19 (holotype and allotype transferred to Hyogo Mus.); Takahashi and Shiraishi, 1999:12 (Japan: Ehime Prefecture); Tano, Kurokawa, Murota, and Nozaka, 2003:32 (Japan: Nagasaki Prefecture: Tsushima); Haneda, Nosaka, Tano, Kurokawa, and Murota, 2004:37 (Japan: Gifu Prefecture); Suda, 2004:42 (Japan: Yamanashi Prefecture); Haneda, Nozaka, Tano, Kurokawa, and Murota, 2005:53 (Japan: Gifu Prefecture), 2006a:29 (Japan: Toyama Prefecture); Nagase, 2006a:55 (Japan: Kanagawa Prefecture: Mount Komagatake near Hakone); Haneda, 2008:5, 7 (in key to Japanese Crabroninae); S. Takahashi and Haneda, 2008a:60 (Japan: Hokkaido: Sapporo), 2009:26 (Japan: Hokkaido: Sapporo); S. Takahashi, Haneda, and Tano, 2009:43, 50 (distribution in Japan); Leclercq, 2011:6 (in key to Asian species with bicolored tergum I), 18 (in list of Asian *Rhopalum*); J.-K. Kim, 2014:434 (in catalog of Sphecidae s.l. of Korean Peninsula), 450 (recorded from Korea but no occurring there).

**273. *verutum* (Rayment)**

*Dasyproctus verutus* Rayment, 1932:171, ♀, ♂. Holotype: ♂, Australia: Victoria: Ferntree Gully (ANIC). – Rayment, 1935:62 (...); Leclercq, 1954c:257 (in catalog of world Crabronini), 316 (nest and prey records); Evans and Matthews, 1971:4 (citation of Rayment, 1932); Leclercq, 1972b:121 (is not a *Dasyproctus*); R. Bohart and Menke, 1976:421 (in checklist of world Sphecidae). – **As *Rhopalum verutum***: Naumann, 1983a:349 (new combination, redescription); Cardale, 1985:266 (in catalog of Australian Sphecidae); Leclercq, 1997:92 (in revision of Australian *Rhopalum*).

**274. *vicosae* Leclercq**

*Rhopalum vicosae* Leclercq, 2002b:103, ♀, ♂. Holotype: ♂, Brazil: Mato Grosso: Vicosa (G. Melo coll.). – Leclercq, 2002b:11, 12, 34 (in key to New World *Rhopalum*); Amarante, 2005a:7 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae).

**275. *vincenti* Leclercq**

*Rhopalum vincenti* Leclercq, 2002b:104, ♀, ♂. Holotype: ♂, Saint Vincent and the Grenadines: Saint Vincent Island: Majorca (CNC). – Leclercq, 2002b:21, 36 (in key to New World *Rhopalum*); Amarante, 2005a:8 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae).

**276. *volcani* Leclercq**

*Rhopalum volcani* Leclercq, 2002b:105, ♀, ♂. Holotype: ♂, Costa Rica: Guanacaste: Sotobosque west of Volcán Cacao (Universidad de Costa Rica). – Leclercq, 2002b:19, 27 (in key to New World *Rhopalum*); Amarante, 2005a:8 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae).

**277. *watanabei* Tsuneki**

*Rhopalum watanabei* Tsuneki, 1952b:124, ♂, ♀. Holotype: ♂, Japan: Hokkaido: Jozankei (originally K. Tsuneki coll., now Hyogo Mus.). – Tsuneki, 1952b:113, 114 (in key to *Rhopalum* of northeastern Asia); Leclercq, 1954c:189 (in catalog of world Crabronini); Tsuneki, 1955d:218 (Russia: Kuril Islands: Island of Etorofu, now Iturup); Tsuneki and Tanaka, 1955b:25 (Japan: Nikko, 120 km NW Tokyo); Tsuneki, , 1960e:58, 61 (key to *Rhopalum* of Japan and Korea), 1960g:50 (nesting in pith hollow of *Diervilla japonica*); Okuno, 1968:31 (Japan); Tsuneki and Tano, 1969:31 (distribution in Japan); Haneda, 1972a:6 (Taiwan), 1972c:59 (Japan: Fukui Prefecture); Tsuneki, 1973a:23 (synonymy), 1973b:20 (nesting habits); R. Bohart and Menke, 1976:390 (in checklist of world Sphecidae); Marshakov, 1976d:109 (in revision of *Rhopalum* of USSR: Russian Far East); Hoshihara and Imai, 1993:468 (chromosome number  $n = 13$ ); Tano, 1994a:7 (holotype in K. Tsuneki collection); Nemkov *in* Nemkov, Kazenas, Budrys, et Antropov, 1995:426 (in key to Sphecidae of Russian Far East); Hashimoto and Nakanishi, 1997:19 (holotype and allotype transferred to Hyogo Mus.); Haneda, Nosaka, Tano, Kurokawa, and Murota, 2004:36 (Japan: Gifu Prefecture); Suda, 2004:42 (Japan: Yamanashi Prefecture); Haneda, Nozaka, Tano, Kurokawa, and Murota, 2005:53 (Japan: Gifu Prefecture); Nemkov, 2005a:150 (Russia: Sakhalin Island); Haneda, Nozaka, Tano, Kurokawa, and Murota, 2006a:28 (Japan: Toyama Prefecture); Nagase, 2006a:55 (Japan: Kanagawa Prefecture: Mount Komagatake near Hakone); Ohkusa, 2006a:25 (Japan: Honshu: Gifu Prefecture); Nemkov, 2007b:71 (Russia: Kuril Islands: Kunashir Island); Haneda, 2008:5, 6 (in key to Japanese Crabroninae); Nemkov, 2008b:21 (in catalog of Crabronidae of Asiatic Russia); S. Takahashi and Haneda, 2008a:59 (Japan: Hokkaido: Sapporo); Nemkov, 2009b:95 (in new catalog of Sphecidae and Crabronidae of Asiatic Russia); S. Takahashi, Haneda, and Tano, 2009:43, 50 (distribution in Japan); Leclercq, 2011:18 (in list of Asian *Rhopalum*, as *watanabei watanabei*); Nemkov, 2012c:444 (in catalog of Crabronidae of Russian Far East); J.-K. Kim, 2014:434 (in catalog of Sphecidae s.l. of Korean Peninsula); Antropov, 2017b:235 (in catalog of Crabroninae of Russia).

*Rhopalum arasianum* Tsuneki, 1972b:16, ♀. Holotype: ♀, Japan: Fukui Prefecture: Arashi (K. Tsuneki coll.). Synonymized with *Rhopalum watanabei* by Tsuneki, 1973a:23.

**ssp. *tsuifenicum* Tsuneki**

*Rhopalum watanabei tsuifenicum* Tsuneki, 1972c:8, ♂. Holotype: ♂, Taiwan: Nantou Prefecture: Tsuifeng (K. Tsuneki coll.). – R. Bohart and Menke, 1976:390 (in checklist of world Sphecidae); Porter, Stange, and Wang, 1999:11 (in checklist of Sphecidae of Taiwan); Hua, 2006:282 (in list of Chinese insects, geographic distribution); Leclercq, 2011:18 (in list of Asian *Rhopalum*).

**278. *weipanum* Leclercq**

*Rhopalum weipanum* Leclercq, 1997:92, ♀. Holotype: ♀, Australia: Queensland: 13 km southeast of Weipa at 12°40'S 143°00'E (ANIC).

**279. wileyi Leclercq**

*Rhopalum wileyi* Leclercq, 2002b:106, ♂. Holotype: ♂, Venezuela: Merida: Alto Manzano Alton (FSCA). – Leclercq, 2002b:26 (in key to New World *Rhopalum*); Amarante, 2005a:7 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae); Rasmussen and Asenjo, 2009:10 (in checklist of Crabronidae of Peru).

**280. wonvillei Leclercq**

*Rhopalum wonvillei* Leclercq, 1997:92, ♀, ♂. Holotype: ♀, Australia: Queensland: 11 km east-northeast of Mount Tozer at 12°43'S 143°18'E (ANIC).

**281. wusheense Tsuneki**

*Rhopalum wusheense* Tsuneki, 1973f:47, ♂. Holotype: ♂, Taiwan: Nantou Prefecture: Wushe (originally K. Tsuneki coll., now USNM). – R. Bohart and Menke, 1976:390 (in checklist of world Sphecidae); Nuhn and Menke, 1994:26 (holotype transferred to USNM); Porter, Stange, and Wang, 1999:11 (in checklist of Sphecidae of Taiwan); Hua, 2006:282 (in list of Chinese insects, geographic distribution); Leclercq, 2011:18 (in list of Asian *Rhopalum*).

**282. xenum Leclercq**

*Rhopalum xenum* Leclercq, 1957b:217, ♀, ♂. Holotype: ♂, Australia: Western Australia: Dongarra (BMNH). – Leclercq, 1957b:187 (in key to Australian *Rhopalum*); R. Bohart and Menke, 1976:390 (in checklist of world Sphecidae); Leclercq, 1979b:362 (variation, additional localities); Cardale, 1985:269 (in catalog of Australian Sphecidae); Leclercq, 1997:93 (in revision of Australian *Rhopalum*).

**283. xinjangense Li and Xue**

*Rhopalum xinjangense* Li and Xue, 1998c:262, ♀. Holotype: ♀, China: Xinjiang Province: Wulumuqui (Zhejiang Agricult Univ). – Leclercq, 2011:18 (in list of Asian *Rhopalum*).

**284. yallingupae Leclercq**

*Rhopalum yallingupae* Leclercq, 1997:93, ♀. Holotype: ♀, Australia: Western Australia: Yallingup (BMNH).

**285. yercaudi Leclercq**

*Rhopalum yercaudi* Leclercq, 1963:69, ♂. Holotype: ♂, India: Tamil Nadu: Yercaud in Shevaroy Hills (originally G.R. Ferguson coll., now CAS). – R. Bohart and Menke, 1976:390 (in checklist of world Sphecidae); Leclercq, 2011:5 (in key to Asian species with bicolored tergum I), 18 (in list of Asian *Rhopalum*, additional description).

**286. zamorae Leclercq**

*Rhopalum zamorae* Leclercq, 2002b:107, ♀. Holotype: ♀, Ecuador: Loja: Zamora (BMNH). – Leclercq, 2002b:16 (in key to New World *Rhopalum*); Amarante, 2005a:8 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae).

**287. zethus Leclercq**

*Rhopalum zethus* Leclercq, 2002b:108, ♂. Holotype: ♂, Peru: Amazonas: Lymbamba (BMNH). – Leclercq, 2002b:26 (in key to New World *Rhopalum*); Amarante, 2005a:8 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae); Rasmussen and Asenjo, 2009:10 (in checklist of Crabronidae of Peru).

**288. zelandum Leclercq**

*Rhopalum zelandum* Leclercq, 1955:16, ♀. Holotype: ♀, New Zealand: Kumara, Westland (USNM). – Leclercq, 1955k:6 (in key to *Rhopalum* of New Zealand); R. Bohart and Menke, 1976:390 (in checklist of world Sphecidae); Callan, 1979:37 (New Zealand); Valentine and Walker, 1991:40 (in catalog of New Zealand Hymenoptera); Harris, 1994:55 (in Fauna of New Zealand, nest).

**sp.**

Bischoff and von Schulthess, 1937:170 (Bolivia); Giner Marí, 1945c:857 (India); Tsuneki, 1960e:59 (in key to *Rhopalum* of Japan and Korea); Leclercq, 1963:63 (*Rhopalum* cf. *domesticum*, Philippines); D. Evans, 1985:22 (Canada: British Columbia: southern Vancouver Island: associated with *Quercus garryana* Douglas, as *Euplilis*); Bernhardt, 1987:48 (visiting flowers of *Acacia*); Cambra, 1993:16 (Peru: Pakitza, 11°57'S, 71°17'W); Naumann, 1998:184 (Australia: northwest Queensland: Musselbrook area, approximately 18°40'S 138°23'E); Gonzáles, Gayubo, and Tormos, 2000:20 (Andorra: Santa Coloma); Beardsley and Perreira, 2002:13 (Hawaiian Islands); Cambra and Santos, 2000:54 (Panama: Parque Nacional Coiba in Isla de Coiba, Pacific Ocean); Starr and Hook, 2003:19 (in catalog of Aculeata of Trinidad, West Indies); Alves-dos-Santos, 2003:330 (Brazil: University of São Paulo campus); Dollfuss, 2004b:783 (China: Yunnan: Heishui 35 km north of Lijang); Haneda, Nozaka, Tano, Kurokawa, Murota, and Murota, 2007:55 (Japan: Kagoshima Prefecture: Amami Oshima Islands); Horta Vega, Pinson Domínguez, Barrientos Lozano, and Correa Sandoval, 2007: 46 (Mexico: Tamaulipas); Leclercq, 2011:18, 19 (India, Indonesia); Pagliano, 2011a:136 (*Corynopus* sp. in coll. Spinola, Torino, are *Rhopalum coarctatum*); Silvestre, Demétrio, Trad, de Oliveira Lima, Auko, and de Souza, 2014:69 (Brazil: Mato Grosso do Sul: dry forests in Bodoquena Mountain Range and Brazilian Chaco).

**UNRECOGNIZABLE SPECIES HERE PLACED IN RHOPALUM*****Crabro cognatus* (F. Smith)**

As *Physoscelis* [sic] *pallipes* Lepeletier de Saint Fargeau and Brullé, 1835 and *Rhopalum pallipes* (Lepeletier de Saint Fargeau and Brullé) Dahlbom, 1844:294; F. Smith, 1856:393 (in catalog of Hymenoptera in British Museum).

*Crabro cognatus* F. Smith, 1856:478 (in Addenda et Corrigenda). Substitute name for *Crabro pallipes* of F. Smith, 1856:393. Here tentatively placed in *Rhopalum*. Origin: South America: Montevideo.

**NOMINA NUDA IN RHOPALUM**

*Rhopalum fraternum* F. Smith: Walker, 1871:27 (Egypt: Cairo); Innes Bey, 1912:112 (specimens recorded by Walker, 1871, now destroyed by dermestids, were collected at unknown locality); Honoré, 1942:50 (in list of Egyptian Sphecidae); Roche, 2007a:140 (is a *nomen nudum*).

*Corynopus melanoscelis*: Casolari and Casolari Moreno, 1980:117 (specimens in M. Spinola collection); ; Pagliano, 2011a:136 (specimen in M. Spinola collection, Torino, is *Rhopalum coarctatum*).

*Physoscelus australasiae*: Casolari and Casolari Moreno, 1980:121 (specimens in M. Spinola collection); Pagliano, 2014:85 (specimens in M. Spinola collection, Torino).

*Rhopalum zonatum* Stephens, 1829a:366 (in catalog of British insects). – Stephens, 1829b:34 (in checklist of British insects).

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

*albipes* F. Smith, 1878 = *Podagritys*  
*albocollare* Ashmead, 1904 = *Eupliloides*  
*aliciae* R. Turner, 1915 = *Podagritys*  
*buddha* Cameron, 1889 = *Dasyproctus*  
*carbonicolor* Dalla Torre, 1897 = *Podagritys*  
*cornigerum* Tsuneki, 1977 = *Podagritys*  
*cygnorum* R. Turner, 1915 = *Podagritys*  
*imbelle* R. Turner, 1915 = *Podagritys*  
*leptospermi* R. Turner, 1915 = *Podagritys*

*lynchii* Holmberg, 1903 = *Podagritys*  
*ornatipes* R. Turner, 1918 = *Crossocerus*  
*parrotti* Leclercq, 1955 = *Podagritys*  
*patagonicum* Holmberg, 1903 = *Podagritys*  
*quadricolor* F.W. Kirby, 1900 = *Dasyproctus*  
*spinigerum* Cameron, 1904 = *Crossocerus*  
*spinulifer* R. Turner, 1918 = *Notocrabro*  
*swalei* Leclercq, 1955 = *Podagritys*