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CHALYBION

Chalybion Dahlbom, 1843:21. Type species: "*Chalybion caeruleum*" [= *Sphex caeruleus* of Linnaeus, 1767:941 = *Sphex caeruleus* Linnaeus, 1763 (nec *Sphex caeruleus* Linnaeus, 1758) = *Sphex cyaneus* Fabricius, 1775 (nec *Sphex cyaneus* Linnaeus, 1758) = *Pelopeus* (sic) *californicus* de Saussure, 1867], designated by Patton, 1880a:378. The following comment is from Bohart and Menke (1976:38): The name *caeruleus* was not specifically mentioned by Dahlbom in his assignment of species of *Chalybion*. However, his third species *cyaneum* was obviously a lapsus for *caeruleus* of Linnaeus, 1767, since his bibliographic citation for *cyaneum* refers to *caeruleus* of Linnaeus, 1767. It is clear that Dahlbom simply made a mistake in substituting *cyaneum* (a Fabrician name) for *caeruleus* Linnaeus, 1767, and hence we accept Patton's designation.

Chalybium Agassiz, 1846:77. Emendation of *Chalybion* Dahlbom, 1843.

Chalybium W. Schulz, 1906:192. Emendation of *Chalybion* Dahlbom, 1843, junior homonym of *Chalybium* Agassiz, 1846.

Hemichalybion Kohl, 1918:79. Type species: *Pelopoeus eckloni* Dahlbom, 1845, designated by Pate, 1937c:30.

Revision: Hensen, 1988 (subgenus *Chalybion* s. s.).

Review of biology: Kazenas, 2001b:64.

1. *accline* (Kohl)

Sceliphron accline Kohl, 1918:76, ♀. Holotype: ♀, Papua New Guinea: Finschhafen (ZMHU). – As *Chalybion accline*: R. Bohart and Menke, 1976:102 (new combination, listed); Hensen, 1988:32 (in revision of subgenus *Chalybion* s.s.).

2. *ammophiloides* Hensen

Ammophila cyanea Cameron, 1908:268, "♂" = ♀, junior secondary homonym of *Chalybion cyaneum* (Fabricius, 1775). Holotype: ♀: Kenya: Mt. Meru: Ngare na nyuki (Stockholm). – Arnold, 1928b:279 (as synonym of *Sceliphron sommereni*); Leclercq, 1955h:47 (as synonym of *Chalybion laevigatum*); R. Bohart and Menke, 1976:103 (as synonym of *Chalybion laevigatum*).

Chalybion ammophiloides Hensen, 1988:37. Substitute name for *Chalybion cyaneum* (Cameron, 1908) (as valid species, in revision of subgenus *Chalybion* s.s.).

3. *bengalense* (Dahlbom)

Sphex violaceus Fabricius, 1775:346, ♀, ♂ (as *violacea*, incorrect original termination), junior primary homonym of *Sphex violaceus* Scopoli, 1763. Lectotype: ♀, South Africa: Cape of Good Hope (ZMK), designated by van der Vecht, 1961a:41. – Fabricius, 1781:443 (redescription), 1787:274 (redescription); Gmelin, 1790:2725 (redescription); Christ, 1791:307 (redescription, as *violaeae*); Fabricius, 1793:201 (redescription), 1796:156 (in Index to his Entomologia Systematica, 1793); Lichtenstein, 1796:199 (in auction catalog). – As *Pepsis violacea*: Fabricius, 1804:211 (new combination, redescription); Dahlbom, 1845:XXI (specimens in collection Fabricius are *Pelopaeus violaceus*). – As *Pelopaeus violaceus*: Billberg, 1820:105 (new combination, specimens from Cape of Good Hope in collection Billberg); Dahlbom, 1845:XXI (new combination), 433 (in key); Lepeletier de Saint Fargeau, 1845:321 (revision); F. Smith, 1856:228 (in catalog of Hymenoptera in British Museum); A. Costa, 1864b:112 (three specimens from Vera Cruz in Museo Zoologico di Napoli), 1866:24 (specimen of unknown origin in Museo Zoologico di Napoli); nec A. Costa, 1867b:76 and 1867c:20 (= *Chalybion flebile*); nec Palma, 1867:38 (= *Chalybion flebile*); Taschenberg, 1869:428 (Egypt, clearly a misdetermination of *Chalybion flebile*); Gerstaecker, 1871:331 (Tanzania: island of Zanzibar); Radoszkowski, 1871:195 (Himalayas: no specific locality); Walker, 1871:19 (Sinai Peninsula; Africa: Red Sea Coast: Harkeko, Massowah); Dours, 1874:146 (in catalog of Hymenop-

- tera of France: Cannes, clearly a misdetermination of *Chalybion flebile*); Maindron, 1878: 397 (in checklist of *Pelopaeus* of India and Indian Archipelago); nec Magretti, 1882b:160 (= *Chalybion flebile*); Gribodo, 1884b:357 (Burma: Minhla); Ed. André, 1886:101 (in revision of Sphecidae of Europe and Algeria, clearly a misidentification of *Chalybion flebile*), 1888:6* (bibliographic references); Cameron, 1889c:102 (listed), 152 (does not occur in India); De Stefani Perez, 1894:216 (Italy: Sicilia, clearly a misidentification of *Chalybion flebile*); Bingham, 1895:442 (Philippines: Luzon); De Stefani Perez, 1895:226 (in catalog of Sicilian Hymenoptera, clearly a misidentification of *Chalybion flebile*); Graeffe, 1911:48 (Italy: Trieste area, clearly a misidentification of *Chalybion flebile*); Innes Bey, 1912:111 (specimens recorded by Walker, 1871, now destroyed by dermestids, were collected at Wadi Feiran, Sinai Peninsula); Coulon, 1925:115 (Madagascar, China, India); Casolari and Casolari Moreno, 1980:102 (specimens in M. Spinola collection). – **As *Sceliphron violaceum***: de Saussure, 1892:440 (new combination, Madagascar); Pérez, 1895b:210 (Seychelles Islands); W Fox, 1896e:552 (Ethiopia: Bale Province: Sheikh Husein, now Shek Husen); Bingham, 1897:240 (redescription); Dalla Torre, 1897:392 (as in catalog of world Hymenoptera); Bingham, 1898a:105 (Yemen: Aden), 1902:217 (South Africa); Cameron, 1901d:55 (Maldives); Ashmead, 1904a:6 (Philippines), 1904d:151 (Philippines); Cameron, 1904b:119 (Singapore); Bingham, 1905:45 (Malaysia: Biserat); Cameron, 1905k:65 (Borneo, Java); R. Brown, 1906:687 (in catalog of Philippine Hymenoptera); Magretti, 1906:19 (Eritrea); Paiva, 1907:15 (India: West Bengal: Siliguri, Tindaharia between Siliguri and Darjiling; Nepal: Nagarkote); de Gaulle, 1908:103 (in catalog of French Hymenoptera, obviously a misidentification); Strand, 1910c:49 (Sri Lanka); Dutt, 1912:233 (nesting habits); Friederichs, 1918:33 (nesting habits: nesting in abandoned nests of *Sceliphron hemipterum*); Kohl, 1918:54 (in revision of world *Sceliphron*); Berland, 1921:532 (Greece, almost certainly a misidentification of *Chalybion flebile*); Rohwer, 1922:674 (Philippines: Luzon); Begum and Bose, 1976:26 (Bangladesh: Dakka), 1978:55 (nesting behavior); Joshi, 1984:762 (spinning cocoon by larva). – **As *Chalybion violaceum***: Dahlbom, 1843:21 (new combination, in revision of Sphecidae and Pompilidae); Radoszkowski, 1892:576 (male genitalia, as *violaceus*); Ashmead, 1904d:151 (Philippines); R. Brown, 1906:687 (in catalog of Philippine Hymenoptera); F. Williams, 1919d:119 (Philippines: Luzon Los Baños: nesting behavior); Matsumura and Uchida, 1926:41 (Okinawa); Sonan, 1927:131 (Taiwan). – Nec following authors (= *Chalybion madecassum*): de Saussure, 1892:449; Friederichs, 1918:33, 42; Vesey-Fitzgerald, 1945:75 and 1956b:362.
- ? *Sphex ferus* Drury, 1782:57, ♀. Holotype or syntypes: China: no specific locality (lost). Synonymized with ... (may be a synonym of *Chlorion lobatum* (Fabricius, 1775)).
- ? *Sphex nitidulus* Christ, 1791:... (as *nitidula*, incorrect original termination).
- ? *Sphex smaragdinus* Christ, 1791:310, sex not indicated, replacement name for *Sphex ferus* Drury (as *smaragdina*, incorrect original termination).
- ? *Sphex ferox* Westwood, 1837:...
- Pelopoeus bengalensis* Dahlbom, 1845:433, ♀, ♂. Holotype or syntypes: India: Bengal: no specific locality (Lund). Synonymized with *Pelopaeus violaceus* by Bingham, 1896a:438. – F. Smith, 1856:230 (in catalog of Hymenoptera in British Museum), 1858b:18 (Indonesia: Sulawesi), 1862:55 (Indonesia); Horne, 1870:163 (listed); F. Smith, 1863a:34 (Indonesia), 1873a:191 (Japan: Hakodade, Hyogo); Cameron, 1889c:101 (listed), 102 (redescription). – **As *Sceliphron bengalensis***: Kohl, 1894:342 (new combination, Mozambique: no specific locality); Dalla Torre, 1897:379 (new combination, in catalog of world Hymenoptera); Ashmead, 1904a:6 (Philippines: San Rafael); R. Brown, 1906:687 (in catalog of Philippine Hymenoptera); Kohl, 1906a:189 (Yemen: Socotra), 194, 197 (in key); nec Cameron, 1907:76 (= *Chalybion madecassum*); Brauns, 1911a:118 (South Africa); R. Turner, 1911b:369 (Seychelles Islands); Strand, 1915:90 (Sri Lanka); Kohl, 1918:54 (in revision of world Sceliphriini); F. Williams, 1919:80 (...); Arnold, 1928b:240 (revision, recorded from Mozambique); Bugnion, 1929:142 (labiomaxillary complex, as *bengalense*); Arnold, 1930:16 (in checklist of Afrotropical Sphecidae); von Schulthess, 1932:42 (Borneo: Samarinda), 1935:304 (Indonesia: Java, Buitensorg, now Bogor; Timor: Koepan; Soembawa: Bima); Yasumatsu, 1937a:127 (China: Botel Tobago Islands SE Taiwan, now Lang Hsu Island); Arnold, 1945:85 (may occur in Madagascar; in key); Tsuneki, 1963i:102 (Malaya); Jayakar and Shastry Mangipudi, 1965:708 (sleeping aggregations);

Yasumatsu and Hirashima, 1965:176 (Taiwan: Urai-Agyoku); Tsuneki, 1967i:385 (Taiwan), 1967j:8 (Taiwan); Haneda, 1971b:32 (Taiwan); Tsuneki, 1971f:7 (Taiwan); Haneda, 1972a:5 (Taiwan), 1973:30 (Japan: Bonin Islands: Chichijimas Islands); Tsuneki, 1973:3 (Okinawa; first record from the domain of Japan); Murota, 1973b:117 (Taiwan); Tsuneki, 1974b:591 (Thailand, Malaysia). – **As *Chalybion bengalense***: Radoszkowski, 1892:577 (new combination, male genitalia, as *bengalensis*); Krombein, 1949b:380 (in key to Sphecidae of Micronesia), 386 (Gilbert Island), 1950b:138 (Micronesia: Guam Island); Leclercq, 1955h:45 (bibliographic references); van der Vecht, 1957c:368 (variation in male antenna; Lesser Sunda Islands: locality records); Yoshimoto, 1960:335 (Hawaiian Islands); Jayakar and Spurway, 1963:748 (use of vertebrate feces for plugging nests); Jayakar and Spurway, 1965:169 (facultative use of nest temporary closure); Baltazar, 1966:347 (in catalog of Hymenoptera of Philippines); R. Bohart and Menke, 1976:102 (listed); Al-Ali, 1977:100 (Iraq: Baghdad); Tsuneki, 1977c:22 (Taiwan); Sudheendrakumar and Narendran, 1980:171 (biology of immature stages); Joseph, 1982:403 (roosting behavior); Tsuneki, 1982d:8 (Taiwanese population), 1982g:57 (known from the Ryukyu archipelago), 1984a:11 (known from Ogasawara = Bonin Islands); Cardale, 1985:220 (in catalog of Australian Sphecidae); Chakrabarti, 1985:17 (materials used in plugging nest cells), 1986:50 (list of prey); Guichard, 1988a:117 (recorded from Aden by Bingham, 1898); Hensen, 1988:51 (in revision of subgenus *Chalybion* s.s., Afrotropical, Oriental, and Australian Zoogeographic Regions); Begum, Bose, and Howlander, 1989:126 (nesting habits in Bangladesh); Sudheendrakumar and Narendran, 1989:147 (nesting habits in India); Kadirvelu, 1990:121 (India: Tamil Nadu: Coimbatore); Yamane and Ikudome, 1990:105 (distribution in Ryukyu Islands, Japan); Tano, Nozaka, Kurokawa, and Murota, 1994:58 (Philippines); Jha and Farooqi, 1994:9 (description and illustration of male genitalia); Begum, Khan, and Bose, 1995:174 (Bangladesh: Dhaka University Campus); S. Gupta, 1995:85 (India: Uttar Pradesh); Porter, Stange, and Wang, 1999:4 (in checklist of Sphecidae of Taiwan); Yamane, Ikudome, and Terayama, 1999:483 (in Identification Guide to Sphecidae of Nansei = Ryukyu Islands, Japan); Klein, Steffan-Dewenter, Buchori, and Tschamtké, 2002:1008 (Indonesia: Sulawesi: Lore-Lindu National Park 60 km S Palau); Hua, 2006:275 (in list of Chinese insects, geographic distribution).

Pelopoeus convexus F. Smith, 1876a:449, ♂. Syntypes: ♂, Mascarenes: Rodriguez Island (BMNH). Synonymized with *Chalybion bengalense* by Hensen, 1988:51. – F. Smith, 1879c:536 (Rodriguez Island). – **As *Sceliphron convexum***: Dalla Torre, 1897:382 (new combination, in catalog of world Hymenoptera); Kohl, 1918:134 (original description copied). – **As *Chalybion convexum***: R. Bohart and Menke, 1976:102 (new combination, listed).

4. *bocandei* (Spinola)

Ammophila bocandei Spinola, 1851:36, ♂ (as *Bocandei*, incorrect original capitalization). Holotype: ♂, Guinea: no specific locality (lost: Hensen, 1988:43). – Dalla Torre, 1897:396 (in catalog of world Hymenoptera); Menke, Bohart, and van der Vecht, 1966:49 (holotype could not be located in Torino Museum; the species is probably a *Chalybion*). – **As *Chalybion bocandei***: R. Bohart and Menke, 1976:102 (new combination, listed); Hensen, 1988:43 (in revision of subgenus *Chalybion* s.s.).

Ammophila bocandei Spinola, 1853:52. Objective synonym of *Ammophila bocandei* Spinola, 1851.

Pelopoeus fuscipennis F. Smith, 1856:229, ♀. Lectotype: ♀, Sierra Leone: no specific locality (BMNH), designated by Hensen, 1988:43. Synonymized with *Chalybion bocandei* by Hensen, 1988:43. – **As *Sceliphron fuscipenne***: Dalla Torre, 1897:386 (new combination, in catalog of world Hymenoptera); Kohl, 1906a:190, 195 (in key), 1918:72 (in revision of world Sceliphirini); Arnold, 1928b:241 (revision), 1930:16 (in checklist of Afrotropical Sphecidae). – **As *Chalybion fuscipenne***: Leclercq, 1955h:46 (new combination, bibliographic references, locality records); R. Bohart and Menke, 1976:102 (listed); Edmunds, 1990:119 (list of spider prey in Ghana).

Sphex laevigatum nigrithorax Benoit, 1951:127, ♀, ♂. Holotype: ♀, Liberia: Ghanga (MRAC). Synonymized with *Chalybion laevigatum* by Leclercq, 1955h:47 and with *Chalybion bocandei* by Hensen, 1988:43.

ssp. *aeronitens* Hensen

Chalybion bocandei aeronitens Hensen, 1988:45, ♀, ♂. Holotype: ♀, Zaire: Eale (Bruxelles). Paratypes: Central African Republic. – Dollfuss, 1989:8 (paratype in NHMW), 1990:122 (Central African Republic).

5. *bonneti* Leclercq

Chalybion bonneti Leclercq, 1966:55, ♀, ♂. Holotype: ♀, Madagascar: Tamatave (FSAG). – R. Bohart and Menke, 1976:102 (listed); Hensen, 1988:25 (in revision of subgenus *Chalybion* s.s.); Pulawski, 2003b:795 (in checklist of Malagasy Sphecidae, as *bonnetti*); Leclercq, 2007g:195 (holotype in FSAG).

6. *californicum* (de Saussure)

Sphex caeruleus Linnaeus, 1763:29, sex not indicated (as *caerulea*, incorrect original termination), junior primary homonym of *Sphex caeruleus* Linnaeus, 1758:571, now in *Entypus* (Pompilidae). Lectotype: ♂, USA: Pennsylvania: Philadelphia (NRS), designated by Day, 1979:53. – De Geer, 1773:589 (redescription); Christ, 1791:302 (redescription); Cameron, 1888a:29 (Mexico, authorship attributed to Drury); Bradley, 1957:40 (Lepeletier's specimens in Turin; as *caerulea* De Geer); Day and Fitton, 1978:193 (recuration of Linnean type material). – **As *Pelopaes caeruleus***: Lepeletier de Saint Fargeau, 1845:320 (new combination, revision); F. Smith, 1856:232 (in catalog of Hymenoptera in British Museum); A. Costa, 1864b:112 (specimen from Vera Cruz in Museo Zoologico di Napoli, as *coeruleus*); Cresson, 1865b:463 (specimens in ANSP collection); de Saussure, 1867:26 (USA, Mexico); Taschenberg, 1869:427 (South Carolina, Venezuela; wing venation; as *coeruleus*); Cresson, 1873:210 (Texas); Provancher, 1883:613 (in revision of Canadian Hymenoptera); Casolari and Casolari Moreno, 1980:101 (specimens in M. Spinola collection). – **As *Sceliphron caeruleum***: W. Fox, 1893d:9 (new combination, Mexico: Baja California), 1895c:265 (Mexico: Baja California); Dalla Torre, 1897:381 (in catalog of world Hymenoptera); Rau and Rau, 1916:28 (nest and prey); Kohl, 1918:54 (in revision of world Sceliphriini, as *coeruleum*); Ogilvie, 1928:49 (Bermuda); Hilburn et. al., 1990:175 (Bermuda). – **As *Chalybion caeruleum***: Cresson, 1887:275 (new combination, in catalog of North American Hymenoptera); Cameron, 1888a:25 (new combination, Mexico); Radoszkowski, 1892:576 (male genitalia); Ashmead, 1899d:355 (in checklist of North American Sphecidae, as *coeruleum*); Bridwell, 1899:209 (Kansas: Baldwin); Harrington, 1902:y224 (Canada: Ontario: Ottawa, as *coeruleum*); Viereck, 1903a:68 (New Mexico: Beulah), 1903d:121 (Maryland: Chestertown and College Park); H. Smith, 1908b:327 (in revision of Nebraskan Sphecidae, as *coeruleum*); Dow, 1930a:99 (*Vespa Ichneumon caerulea* of M. Catesby, 1748, is probably *Chalybion caeruleum*); Faull, 1913:384 (Canada: Toronto region); Rau, 1915:62 (...); Rau and Rau, 1916a:228 (sleeping habits); Rohwer, 1916b:682 (in catalog of Hymenoptera of Connecticut); Mickel, 1918b:407 (in catalog of Nebraskan Sphecidae, as *coeruleum*); Rau, 1928a:25 (nesting habits); Savary, 1922:332 (nesting behavior, as *coeruleum*); F. Williams, 1932c:17 (Hawaiian Islands: Honolulu); nec Frost, 1933:51 (= *Sceliphron caementarium*); Rau, 1938b:540 (sleeping habits); Muma and Jeffers, 1945:253 (spider prey, illustration of nest); Schoenly and Calabrese, 1983:145 (sleeping aggregation in a bell in El Paso, Texas); Dean, Nyffeler, and Sterling, 1988:283 (Texas; prey of this species and of *Sceliphron caementarium*); Matthews, 1997:152 (using nest in teaching ecological interactions); Blackledge and Pickett, 2000:211 (preying on *Argiope*: luring the spider while on the prey web); Ohl and Linde, 2003:149 (number of ovarioles).

Sphex cyaneus Fabricius, 1775:346 (as *cyanea*, incorrect original termination), junior primary homonym of *Sphex cyaneus* Linnaeus, 1758, now in *Trichrysis*. Substitute name for *Sphex caerulea* Linnaeus, 1763. – Fabricius, 1781:443 (redescription), 1787:274 (redescription); Gmelin, 1790:2725 (redescription); Fabricius, 1793:201 (redescription), 1796:155 (in Index to his Entomologia Systematica, 1793); Lepeletier de Saint Fargeau, 1845:336 (revision). – **As *Pepsis cyanea***: Dahlbom, 1845:XXI (new combination, specimens in collection Fabricius are *Pelopoeus cyaneus*, new combination). – **As *Pelopoeus cyaneus***: Dahlbom, 1845:XXI (new combination), 433 (in key). – **As *Sceliphron cyaneum***: Hutson, 1919:217 (new combination, in key to North American *Chalybion*), 219 (in revision of North American *Chalybion*); J.Ch. Bradley, 1928:1012 (in catalog of New York Sphecidae, as *cyaneum* Dahlbom); Brimley, 1938:445 (North Carolina: statewide). – **As *Chalybion cyanaeum***: Dahlbom, 1843:22 (new

combination, in revision of Sphecidae and Pompilidae); Rohwer, 1917a:240 (Texas or Ohio); Fernald, 1931a:450 (use of the name *Chlorion coeruleum*); Rau, 1935c:259 (preying on *Latrodectus mactans*, the black widow spider); Irving and Hinman, 1935:395 (...); Fernald, 1943a:290 (Florida); Dreisbach, 1944:275 (Michigan: locality records); Spencer and Wellington, 1948:10 (British Columbia, as *cyaneum*); Hilburn et. al., 1990:174 (comment on Bequaert's, 1929, record from Bermuda: originally misidentified or no longer established).

Pelopoeus [*sic*] *californicus* de Saussure, 1867:26, ♀, ♂. Lectotype: ♂, California: no specific locality (MHNG), designated by Bohart and Menke, 1963:110. Synonymized with ... – Casolari and Casolari Moreno, 1980:101 (specimens in M. Spinola collection). – **As *Sceliphron californicum***: Dalla Torre, 1897:382 (new combination, in catalog of world Hymenoptera). – **As *Chalybion californicum***: Ashmead, 1899d:355 (new combination, in checklist of North American Sphecidae); Grossbeck, 1912b:325 (new combination, Mexico: Baja California Sur: no specific locality); Snodgrass, 1941:50 (genitalia); Pate, 1943a:217 (nomenclatural history, valid name for the species); Strickland, 1947:129 (Canada: Alberta: Medicine Hat); Krombein, 1951a:143 (Virginia: Dunn Loring; visiting tulip-tree honeydew); Murray in Muesebeck et al., 1951:979 (in catalog of North American Hymenoptera); Krombein, 1952b:181 (USA: West Virginia: Lost River State Park), 1953b:122 (visiting foliage of *Quercus marilandica*), 123 (visiting foliage of *Quercus virginiana*), 133 (North Carolina: Kill Devil Hills), 1954a:6 (West Virginia: Lost River State Park); Krombein and Evans, 1954:234 (Florida), 1955:233 (Florida); Evans and Lin, 1956a:149 (larva); Evans, 1959b:149 (identification of larva's description confirmed); R. Bohart and Menke, 1963:110 (in revision of Nearctic Sceliphirini); Evans, 1963c:92 (nesting in empty nests of *Sceliphron caementarium*); Krombein, 1963f:276 (Maryland: Plimmers Island near Washington, D.C.); Kurczewski and Kurczewski, 1963:147 (Pennsylvania: Presque Isle State Park); Pilon and Steiner, 1966:485 (locality records from Quebec); R. Bohart and Menke, 1976:102 (listed); Coville, 1976:229 (predatory behavior); Kumar, Lavigne, Lloyd, and Pfadt, 1976:51 (USA: Colorado: Pawnee National Grassland); L. Davis, 1978:216 (North Carolina: Kill Devil Hills, data from Krombein, 1953a); Horner and Klein, 1979:30 (Oklahoma; list of spider prey); Krombein, 1979b:1577 (in catalog of North American Hymenoptera); Finnamore, 1982:9 (in Sphecid Fauna of Southern Quebec); ; Obin, 1983:321 (hunting spiders away from nesting sites); Della Lucia and Chandler, 1984:5 (nesting in nests of *Sceliphron caementarium*); Landes and Hunt, 1988:230 (sleeping aggregation with *Chalybion zimmermanni*); Landes, Obin, Cady, and Hunt, 1987:249 (seasonal and latitudinal variation in prey); Hensen, 1988:20 (in revision of subgenus *Chalybion* s.s.); O'Brien, 1989b:203 (distribution in Michigan); Prentice and Walker, 1991:222 (nocturnal clustering); Ahlstrom, 1995:106 (in checklist of insects of North Carolina); Kurczewski, 1998d:250 (pine barrens in upstate New York); Meagher and Mitchell, 1999:368 (collected in pheromone- and synthetic floral volatile-baited traps); Amarante, 2002:71 (in catalog of Neotropical Sphecidae); Ruiz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:669 (in checklist of Mexican Sphecidae); Drewes, 2003:135 (USA: no specific locality); Buck, 2004:24 (in checklist of Sphecidae of Ontario, Canada); Kurczewski, 2004:241 (reuse of old nest of *Trypoxylon politum*).

7. *clypeatum* (Fairmaire)

Pelopoeus clypeatus Fairmaire, 1858:264, sex not indicated. Holotype or syntypes: Gabon: no specific locality (depository unknown, MNHN?). – Radoszkowski, 1876b:133 (Ethiopia); R. Turner, 1919c:394 (as new synonym of *Sceliphron eckloni*). – **As *Sceliphron clypeatum***: Dalla Torre, 1897:382 (new combination, in catalog of world Hymenoptera). – **As *Chalybion clypeatum***: Kohl, 1894:342 (new combination, Cameroon: no specific locality); R. Bohart and Menke, 1976:103 (new combination, listed). – **As *Hemichalybion clypeatum***: Rodgers and Home-wood, 1982:233 (new combination, Tanzania: Usambara Mountains); Leclercq, 1969:1047 (Congo Brazzaville).

Pelopoeus brachystylus Kohl, 1888a:154, ♀. Holotype or syntypes: ♀, Mozambique: Chinchoxo (ZMHU). Synonymized with ... *clypeatus* by ... – **As *Sceliphron brachystylum***: Kohl, 1893e:183 (new combination, Mozambique: Quilimane; additional description); Dalla Torre, 1897:379 (in catalog of world Hymenoptera); Kohl, 1918:83 (in revision of world Sceliphirini); Arnold, 1928b:243 (revision, not recorded from Zimbabwe), 1930:16

(in checklist of Afrotropical Sphecidae); Schouteden, 1930:94 (Zaire); Arnold, 1943:76 (Zaire), 1951:139 (Ethiopia: Lake Bishoftu); Leclercq, 1955h:54 (bibliographic references and locality records, as *brachystylus*), 1955i:406 (Rwanda), 1961b:49 (Cameroon, Zaire); Diniz, 1964c:106 (Angola: Lunda: Dundo, Muíta-Luembe); I. Robertson, 1969:480 (Tanzania: Ukiriguru, as *brachystylus*).

spp. *lusingi* (Leclercq)

Sceliphron brachystylus var. *lusingi* Leclercq, 1955h:55, ♀. Holotype: ♀, Zaire: Upemba National Park: Lusinga (MRAC). – **As *Chalybion clypeatus lusingi***: R. Bohart and Menke, 1976:103 (new combination, new status, listed).

spp. *kiloensis* (Leclercq)

Sceliphron brachystylus var. *kiloensis* Leclercq, 1955h:55, ♀. Holotype: ♀, Zaire: Mongbwalu: Kilo (MRAC). – **As *Chalybion clypeatus kiloensis***: R. Bohart and Menke, 1976:103 (new combination, new status, listed).

8. *dolichothorax* (Kohl)

Sceliphron dolichothorax Kohl, 1918:78, ♀. Holotype: ♀, China: no specific locality (ZMHU). – Hua, 1989:115 (China). – Hua, 2006:276 (in list of Chinese insects, geographic distribution). – **As *Chalybion dolichothorax***: R. Bohart and Menke, 1976:102 (new combination, listed); Hensen, 1988:25 (in revision of subgenus *Chalybion* s.s., Vietnam); Zhou and Wu, 1993a:670 (China: Wuling Mountains), 1996a:32 (in revision in Economic Insect Fauna of China); Hua, 2006:275 (in list of Chinese insects, geographic distribution).

9. *fabricator* (F. Smith)

Pelopoeus fabricator F. Smith, 1860b:123, ♀. Holotype or syntypes: ♀, Indonesia: Moluccas: Batjan: no specific locality (Oxford). – Maindron, 1878: 396 (in checklist of *Pelopaeus* of India and Indian Archipelago). – **As *Sceliphron fabricator***: Dalla Torre, 1897:384 (new combination, in catalog of world Hymenoptera); Kohl, 1918:135 (original description copied). – **As *Chalybion fabricator***: R. Bohart and Menke, 1976:102 (new combination, listed); Hensen, 1988:32 (in revision of subgenus *Chalybion* s.s.).

Sceliphron gnavum Kohl, 1918:77, ♀. Holotype: ♀, Indonesia: Moluccas: Batjan (NHMW). Synonymized with *Chalybion fabricator* by van der Vecht in Bohart and Menke, 1976:102; Dollfuss, 1989:8 (holotype in NHMW).

10. *femoratum* (Fabricius)

Sphex femoratus Fabricius, 1781:443, sex not indicated (as *femorata*, incorrect original termination). Lectotype: ♀, Italy: no specific locality (ZMK), designated by van der Vecht, 1961a:42. – Fabricius, 1781:443 (redescription), 1787:274 (redescription); Gmelin, 1790:2724 (redescription); Fabricius, 1793:202 (redescription), 1796:155 (in Index to his Entomologia Systematica, 1793). – **As *Pepsis femorata***: Fabricius, 1804:212 (new combination, redescription); Dahlbom, 1845:XXI (specimens in Fabricius collection are *Pelopoeus femoratus*). – **As *Pelopaeus femoratus***: Vander Linden, 1827:367 (new combination, a specimen from Dalmatia may be this species); Dahlbom, 1845:XXI (specimens in collection Fabricius), 433 (in key); Lepeletier de Saint Fargeau, 1845:322 (revision); F. Smith, 1856:228 (in catalog of Hymenoptera in British Museum); A. Costa, 1861:32 (in revision of Sphecidae of Kingdom of Naples); Sichel, 1861:751 (Italy: Sicilia); A. Costa, 1867b:76 and 1867c:20 (in revision of Italian Sphecidae); Palma, 1867:38 (Italy: Sicilia settentrionale); Dours, 1874:146 (in catalog of Hymenoptera of France); Frivaldszky, 1876:354 (Hungary: Ulma, now Romania: Caraş-Severin or Timiş Districts); Magretti, 1881:117 (Italy: Lombardia), 270 (listed); Ed. André, 1886:103 (in revision of Sphecidae of Europe and Algeria); Gasperini, 1887:18 (recorded from Dalmatia, now Croatia, by Kirchner, 1869); André, 1888:6* (bibliographic references); De Stefani Perez, 1889:268 (in key to Sicilian *Sceliphron*); De Stefani Perez, 1895:226 (in catalog of Sicilian Hymenoptera); Acloque, 1897:95 (in Sphecid Fauna of France and Algeria); de Cobelli, 1903:104 (Italy: Province of Trentino); Antiga and Bofill, 1904:3 (Spain: Cataluña Province, as *femoratum*); Casolari and Casolari Moreno, 1980:101 (specimens in M. Spinola collection). – **As *Sceliphron femoratum***: Dalla Torre, 1897:384 (new combination, in catalog of world Hymenoptera); Mocsáry, 1897:79 (Kingdom of Hungary, some localities are in today's

Croatia); E. Saunders, 1904c:637 (Spain); Kohl, 1906a:191, 195 (in key); Schmiedeknecht, 1907:247 (in key to Hymenoptera of Central Europe); de Gaulle, 1908:103 (in catalog of French Hymenoptera); Zilahi Kiss, 1915:80 (Hungary: Boksánbánya, Ferenczfalva); Kohl, 1918:50 (in revision of world Sceliphirini); Berland, 1921:532 (Greece), 1925d:44 (in Sphecidae Fauna of France); Maidl, 1922:66 (Croatia: Gravosa); Kuznetsov-Ugamskij, 1927:249 (Kazakhstan: W Tien-Shan, upper Ugam River: Kizil Valley); Schmiedeknecht, 1930:707 (in keys to Hymenoptera of North and Central Europe); Bischoff, 1931:8 (Spain); Giner Marí, 1934a:131 (Spain); Maidl, 1934:64 (Greece: Aegean Islands: Seriphos); Bernard, 1935:62 (France: Var: Fréjus area); Gussakovskij, 1935:414 (Tajikistan: Kulab); Guiglia, 1941c:165 (Italy: Calabria: Grande Sila); Giner Marí, 1943a:64 (in Sphecidae Fauna of Spain); Guiglia, 1943b:69 (Albania: Kopluku), 1944b:9 (Italy); de Beaumont, 1945:469 (Switzerland); Zavadil *in* Zavadil and Šnoflak, 1948:170 (in key to Sphecidae of Czechoslovakia, not yet found in Czechoslovakia); Scobiola, 1950:22 (Romania); Zavadil, 1951:86 (Slovakia: Hajnačka N Filakov, Štúrovo); Vogrin, 1955:31 (Yugoslavia); Ceballos, 1956:361 (in catalog of Hymenoptera of Spain); Bajári, 1957a:16 (in key to Hungarian Sphecidae); de Beaumont, 1957b:131 (n. Iran); Balthasar and Hrubant, 1961:15 (Slovakia: Ardovo S Plešivec); Atanassov, 1962:126 (Bulgaria: Petrich area); de Beaumont, 1962b:19 (Spain); Myartseva, 1963b:59 (Turkmenistan: lower Murgab River); Ceballos, 1964:87 (in supplement to catalog of Spanish Sphecidae); de Beaumont, 1964c:30 (in Sphecidae Fauna of Switzerland), 1965a:17 (Greece); Myartseva, 1965:87 (Turkmenistan: Murgab district); de Beaumont, 1967a:277 (Turkey); Myartseva, 1968:62 (Turkmenistan: lower Murgab River, Tedjen); Scobiola-Palade, 1968c:382 (Romania: Pusnicu); Benedek, 1969b:421 (Hungary: Csopak, collected in vicinity of aphid *Hyalopteritena pruni* (Geoffroy)); Bonelli, 1969b:166 (nest structure); de Beaumont, 1969:81 (Turkey), 1970a:390 (Afghanistan); Islamov, 1970:64 (Uzbekistan: Chirchik Basin); Balthasar, 1972:438 (in Sphecidae Fauna of Czechoslovakia); Erlandsson, 1974:59 (Yugoslavia); Kazenas, 1978b:45 (in key to Sphecidae of Kazakhstan and Central Asia); Pulawski, 1978:186 (in key to Sphecidae of European part of former USSR); Benedek, 1979:227 (Hungary: Bakony Hills: Csopak); Bregant, 1981:52 (Austria: Burgenland); Pádr *in* Šedivy, 1989a:166 (in checklist of Czechoslovakian Sphecidae). – **As *Chalybion femoratum***: Kirchner, 1867:218 (new combination, in catalog of European Hymenoptera); Aichinger, 1870:322 (Austria: Tirol); Kohl, 1880:181 (Italy: Trentino–Alto Adige: Bolzano area); Marquet, 1881:178 (southern France); Radoszkowski, 1892:576 (male genitalia, as *femorata*); Graeffe, 1911:48 (Italy: Trieste area); Dusmet, 1915:86 (Spain: Aragón); Harant and Leclercq, 1955:251 (France: Hérault: Les Baux); Diniz, 1965:3 (Portugal: Rezende, Santo Tirso); R. Bohart and Menke, 1976:103 (listed); Haeseler, 1976a:370 (France); Guichard, 1978:270 (Greece); Gayubo, 1981a:133 (N Spain: Sierra de Béjar); Heath and Leclercq, 1981: map 15 (distribution in Europe); Dollfuss, 1983a:79 (endangered in Steiermark, Austria), 1983b:2 (in catalog of Sphecidae of Austria); Mingo and Gayubo, 1983:141 (Spain); Józán, 1985b:55 (Hungary S Lake Balaton), 76 (floral records), 83 (ecological and zoogeographic characteristics); Gayubo, 1986c:30 (Spain: Zamora Province); Gayubo and Sanza, 1986:26 (Spain: Soria); Gayubo and Tormos, 1986a:7 (Spain: Castellón de la Plana); Islamov, 1986:518 (Uzbekistan: Tashkent Oblast: Khumsan); Asís and Jiménez, 1987:23 (Spain: Castellón Province); Dollfuss, 1987:18 (Austria); Bitsch, 1988:43 (distribution in France, nest); Bregant, 1981:51 (Austria: Burgenland); Day, 1991:xiii (summary of European Endangered Hymenoptera Lists); Dollfuss, 1991:25 (in key to Sphecidae of North and Central Europe); Gusenleitner, 1991:644 (Austria: Steiermark: Bad Gleichenberg); Negrisolo, 1991:315 (Italy: Udine Province); Gayubo, Borsato, and Osella, 1992:274 (Greece); Józán, 1992b:171 (Hungary: Boronka-melléki Protected Area), 1992c:288 (Hungary: Zselic Hills); Bourgeat, 1993:268 (France: Bouches-du-Rhône: Trets); Fonfria, 1993:91 (France: Bouches-du-Rhône: Eygalières); Bourgeat, 1995:285 (same locality); Ebrahimi, 1993:100 (Iran); Gusenleitner, 1996a:6 (Austria), 1996c:817 (Croatia: Rovinj); Negrisolo *in* Minelli, Ruffo, and La Posta, 1995b:3 (in catalog of Italian fauna); Bitsch, Barbier, Gayubo, Schmidt, and Ohl, 1997:34 (in Sphecidae Fauna of Western Europe); Dollfuss, Gusenleitner, and Bregant, 1998:509 (Austria: summary of collecting records from Burgenland); Nazarova, 1998:39 (Tajikistan: Tigrovaya Balka Nature Reserve); Gayubo, García, Torres, and González, 1999:89 (Spain: Soria Province); Kazenas, 2001b:12 (in checklist of Sphecidae of Kazakhstan and Central Asia), 2002a:23 (geographic distribution, in Kazakhstan: Karzhantau Range 25–40 km S

Lenger); Drewes, 2003:135 (Croatia: Moščenicka Draga); Schmid-Egger, 2003:751 (Italy: Sicilia: Randazzo); Kazenas, 2004b:97 (Kazakhstan: western Tien Shan Mts.); Nazarova, 2004:103 (Tajikistan: Badakhshan Region: Tusen District: Sebzor); Ebrahimi, 2005:122 (in key to selected Iranian Sphecidae); Gayubo and Özbek, 2005:3 (Turkey: Erzincan, Erzurum, Iğdır, Karabük, Konya, and Malatya Provinces); Gülmez and Tüzün, 2005:43 (Turkey: Ankara Province); Nazarova, 2005:93 (alfalfa fields in southwestern Tajikistan); Pagliano and Negrisolò, 2005:78 (in Sphecidae Fauna of Italy); Yildirim and Ljubomirov, 2005:1786 (Turkey: Erzincan, Iğdir, and Konya provinces); Tormos, Polidori, and Asís, 2006:388 (description of mature larva); Standfuss and Standfuss, 2006c:306 (Greece: Thessalia: Magnissia Peninsula at 39°N 23°E); Yildirim and Ljubomirov, 2007:117 (Turkey: Erzincan); Ljubomirov and Yildirim, 2008:12 (in catalog of Sphecidae of Turkey). – **As *Hemichalybion femoratum***: Pagliano, 1980:112 (new combination, Italy: Liguria), 1984:369 (Italy), 1985:21 (Italy), 1990:63 (in catalogue of Italian Sphecidae); Giachino, Grosso, Marchetti, Pagliano, Scaramozzino, and Vailati, 2000:104 (Greece). *Pelopoëus chalybeus* Vander Linden, 1827:... Synonymized with *femoratu.* by ... – F. Smith, 1856:229 (description of ♀, in catalog of Hymenoptera in British Museum); Taschenberg, 1872:11 (additional description); Radoszkowski, 1881:211 (Angola).

11. *flebile* (Lepeletier de Saint Fargeau)

Pelopoëus flebilis Lepeletier de Saint Fargeau, 1845:321, ♀, ♂. Syntypes: Turkey: Smyrna, now Izmir (lost: Hensen, 1988:52). Neotype: ♀, Greece: Rhodes: Trianta (RMNH), designated by Hensen, 1988:53. – Ed. André, 1888:6* (as synonym of *Pelopoëus violaceus*); Kohl and Handlirsch, 1889:276 (discussion of identity). – **As *Sceliphron flebile***: Dalla Torre, 1897:385 (new combination, in catalog of world Hymenoptera). – **As *Chalybion flebile***: Guichard, 1988a:116 (new combination, Arabian Peninsula); Hensen, 1988:52 (in revision of subgenus *Chalybion* s.s.); Pagliano, 1990:63 (in catalogue of Italian Sphecidae); Gayubo, Borsato, and Osella, 1992:273 (Greece, Turkey); Negrisolò and Pagliano, 1993:90 (Italy: Sardegna; sleeping aggregations); Roche and Zalut, 1994:113 (Egypt: Sinai Peninsula); Negrisolò *in* Minelli, Ruffo, and La Posta, 1995b:3 (in catalog of Italian fauna); Bitsch, Barbier, Gayubo, Schmidt, and Ohl, 1997:33 (in Sphecidae Fauna of Western Europe); Gadallah and Assery, 2004a:220 (in catalog of Sphecidae of Saudi Arabia); Gayubo and Özbek, 2005:3 (Turkey: Aydıń, Erzurum, Iğdır, Ýcel, Kars, and Malatya Provinces); Pagliano and Negrisolò, 2005:77 (in Sphecidae Fauna of Italy); Standfuss and Standfuss, 2006c:306 (Greece: Thessalia: Magnissia Peninsula at 39°N 23°E); Yildirim and Ljubomirov, 2007:117 (Turkey: Erzurum: Tortum); Ghahari, Hayat, Tabari, Ostovan, and Imani, 2008:740 (Iran: Guilan: Rasht); Ljubomirov and Yildirim, 2008:10 (in catalog of Sphecidae of Turkey).

Pelopoëus targionii Carruccio, 1872:275, sex not indicated (as *Targionii*, incorrect original capitalization). Syntypes: Italy: Sardegna: Ozieri (lost, see Hensen, 1988:53). Synonymized with *Chalybion flebile* by Hensen, 1988:52. – **As *Sceliphron targionii***: Dalla Torre, 1897:391 (new combination, in catalog of world Hymenoptera); Graeffe, 1906:455 (Tunisia: Tunis area); Kohl, 1906a:194, 197 (in key); Morice, 1911:71 (Algeria: Biskra); Kohl, 1918:51 (in revision of world *Sceliphron*); W. Schulz, 1905b:32 (Algeria: Biskra); Zavattari, 1913:3 (Greece: Island of Rhodes); Kohl, 1918:51 (in revision of world *Sceliphron*); Ferton, 1923:71 (nesting habits); Berland, 1925d:43 (in Sphecidae Fauna of France); von Schulthess, 1926b:208 (Tunisia); Bischoff, 1933:6 (Morocco); Nadig, 1933:100 (Morocco), 1934:33 (Italy: Sardegna: Cagliari); Guiglia, 1937:185 (Libya: Cyrenaica: Derna), 1942a:59 (Greece: Rhode Island: Kremasti, Villanova), 1942b:230 (Libya); Giner Marí, 1943a:64 (in Sphecidae Fauna of Spain); Giordani Soika, 1944:13 (Italy: Sicily: Messina); Lotte, 1944:145 (sleeping aggregation attracted to inactive blue light bulb); Giner Marí, 1945b:359 (Morocco: Muley Ali); de Beaumont, 1947b:384 (Cyprus, as *targioni*); Guiglia, 1948c:200 (Italy: Sardegna: Villasalto); Pittioni, 1950:21 (Cyprus); de Beaumont, 1951e:269 (Morocco); Balthasar, 1954b:281 (Palestine: Jerusalem); Grandi, 1954:236 (Italy: Sardegna); de Beaumont and Bytinski-Salz, 1955:43 (Israel); Vogrin, 1955:32 (Yugoslavia); Ceballos, 1956:362 (in catalog of Hymenoptera of Spain); Giner Marí, 1959:387 (Morocco); Grandi, 1959b:287 (Italy: Sardegna); Suárez *in* Giner Marí, 1959:400 (recorded from Morocco by de Beaumont, 1951); de Beaumont, 1960a:6 (Greece: Island of Rhodes), 1960b:229 (Libya), 1961c:45

(Greece: Island of Crete), 1961e:2 (Iraq), 1962b:19 (Spain, as *targioni*); Ceballos, 1964:87 (in supplement to catalog of Spanish Sphecidae); de Beaumont, 1965a:15 (Greece); Scobiola-Palade, 1967b:37 (Romania); Suárez, 1969:28 (Spain: Almería Province); de Beaumont, 1970c:3 (Iran: Baluchistan); Balthasar, 1972:439 (in Sphecidae Fauna of Czechoslovakia: may be expected in the country); Erlandsson, 1974:59 (Spain); Georghiou, 1977:191 (Cyprus); Kazenas, 1978b:45 (in key to Sphecidae of Kazakhstan and Central Asia); Pulawski, 1978:186 (in key to Sphecidae of European part of former USSR). – **As *Chalybion targioni***: Smits van Burgst, 1913a:319 (new combination, Tunisia); Ferton, 1921:346 (Algeria: Nemours, now Ghazaouet; nesting habits); Leclercq, 1955h:45 (bibliographic references); Diniz, 1965:3 (Portugal: Aljustrel); R. Bohart and Menke, 1976:103 (listed); Guichard, 1978:270 (Greece), 1980:224 (Oman); Mingo and Gayubo, 1983:141 (Spain); Pagliano, 1984:369 (Italy), 1985:21 (Italy); Gayubo, 1986b:34 (Spain: Andalucía); Gayubo and Tormos, 1986a:7 (Spain: Castellón de la Plana), 1986b:3 (Spain: Valencia).

As *Pelopaeus violaceus* (present correction based on geographic distribution): A. Costa, 1867b:76 and 1867c:20 (in revision of Italian Sphecidae: Sicilia); Palma, 1867:38 (Italy: Sicilia settentrionale); Magretti, 1882b:160 (Italy: Sardegna); De Stefani Perez, 1889:268 (in key to Sicilian *Sceliphron*), 1894:216 (Italy: Sicilia); Graeffe, 1911:48 (Italy: Trieste area).

12. *frontale* (Kohl)

Sceliphron frontale Kohl, 1906a:192, ♀. Holotype: ♀, Indonesia: Sulawesi: Toli-Toli (NHMW). – Ramakrishna Aiyar, 1916:554 (in catalog of Indian aculeates described after Bingham, 1897); Kohl, 1918:68 (in revision of world Sceliphriini). – **As *Chalybion frontale***: R. Bohart and Menke, 1976:102 (new combination, listed); Hensen, 1988:28 (in revision of subgenus *Chalybion* s.s.); Dollfuss, 1989:8 (holotype in NHMW).

13. *fuscum* (Lepelletier de Saint Fargeau)

Pelopaeus fuscus Lepelletier de Saint Fargeau, 1845:311, ♀. Holotype or syntypes: ♀, origin unknown (originally Serville coll., now?). – Casolari and Casolari Moreno, 1980:102 (specimens in M. Spinola collection). – **As *Sceliphron fuscum***: Dalla Torre, 1897:386 (new combination, in catalog of world Hymenoptera); Kohl, 1918:135 (original description copied); B. Porter, 1926:21 (unrecognizable species). – **As *Chalybion fuscum***: R. Bohart and Menke, 1976:103 (new combination, listed).

Sceliphron taprobanense Strand, 1915:93, ♀ Holotype: ♀, Sri Lanka: Pankulam (DEI). Synonymized with *Chalybion fuscum* by Menke in Bohart and Menke, 1976:103. – Kohl, 1918:85 (in revision of world Sceliphriini); Oehlke and Wudowenz, 1974:425 (holotype in DEI).

14. *gracile* Hensen

Chalybion gracile Hensen, 1988:28, ♀. Holotype: ♀, Sri Lanka: Ratnapura District: Sinharaja Forest (USNM).

15. *gredleri* (Kohl)

Sceliphron gredleri Kohl, 1918:67, ♀. Holotype or syntypes: ♀, Zaire: Boma Sundi on Lukula River (NHMW). – Arnold, 1928b:239 (original description translated into English), 1930:16 (in checklist of Afrotropical Sphecidae); Schouteden, 1930:94 (Zaire, determination?). – **As *Chalybion gredleri***: Leclercq, 1955h:46 (new combination, bibliographic references); R. Bohart and Menke, 1976:102 (listed); Hensen, 1988:21 (in revision of subgenus *Chalybion* s.s.).

16. *heinii* (Kohl)

Sceliphron heinii Kohl, 1906a:189, 194, 197 ♀, ♂. Syntypes: South Yemen: Qishin (NHMW). – Kohl, 1918:54 (in revision of world Sceliphriini); Arnold, 1928b:239 (Kohl's 1918 description translated into English), 1930:16 (in checklist of Afrotropical Sphecidae); Giordani Soika, 1939a:169 (Eritrea: Tessenei); Guiglia, 1939a:199 (Eritrea: Keren). – **As *Chalybion heinii***: Leclercq, 1955h:46 (new combination, bibliographic references); R. Bohart and Menke, 1976:102 (listed); Guichard, 1980:224 (Oman), 1988a:116 (Arabian Peninsula); Hensen, 1988:37 (in revision of subgenus *Chalybion* s.s., Saudi Arabia, Yemen, Djibuti, Somalia, Ethiopia, Chad); Dollfuss, 1989:8 (type

material in NHMW); Gadallah and Assery, 2004a:217 (in key to Sphecidae of Jeddah Region, Saudi Arabia), 220 (in catalog of Sphecidae of Saudi Arabia: Hadasham 120 km E Jeddah).

17. *incisum* Hensen

Chalybion incisum Hensen, 1988:30, ♀. Holotype: ♀, Malawi: Mlanje (BMNH).

18. *japonicum* (Gribodo)

Chalybion curvatum Ritsema, 1880:226, ♀, ♂, junior secondary homonym of *Chalybion curvatum* (F. Smith, 1870).

Lectotype: ♀, Japan: no specific locality (RMNH), designated by Hensen, 1988:54.– Kohl, 1906a:193, 196 (in key).

Pelopaeus japonicus Gribodo, 1883a:264, ♀, ♂ (as tentative new species). Lectotype: ♀, Japan: no specific locality (Genova), designated by Hensen, 1988:54. Synonymized with *Sceliphron curvatum* by Kohl, 1906a:193. – Tsuneki, 1967j:7 (comments). – **As *Sceliphron japonicum***: Dalla Torre, 1897:386 (new combination, in catalog of world Hymenoptera); Kohl, 1918:136 (original description copied). – **As *Chalybion japonicum***: R. Bohart and Menke, 1976:102 (new combination, listed); Tsuneki, 1979d:9 (Japan), 1982d:6 (Taiwan; comments on identification), 1982g:57 (known from Ryukyu archipelago); Hensen, 1988:57 (in revision of subgenus *Chalybion* s.s.); Sk. Yamane and Ikudome, 1990:104 (distribution in Ryukyu Islands, Japan); Hoshiba and Imai, 1993:467 (chromosome number $n = 24$); Takahashi, 1993:3 (Japan: Hachijo-Jima Island); Zhou and Wu, 1993a:670 (China: Wuling Mountains), 1993b:725 (China: Longqi Mountain Nature Reserve); Li, 1995:88 (in key to Chinese Sceliphriini); Li and Yang, 1995c:573 (China: Zhejiang Province: Baishanzu Mountain); Nemkov in Nemkov, Kazenas, Budrys, and Antropov, 1995:382 (in key to Sphecidae of Russian Far East); Miyatake, 1996:101 (specimens in Hiroshi Aoki collection); Wu and Zhou, 1996a:32 (in revision in Economic Insect Fauna of China); Yamane, Ikudome, and Terayama, 1999:482 (in Identification Guide to Sphecidae of Nansei = Ryukyu Islands, Japan); Li and He, 2001:755 (China: Tianmushan Nature Reserve at 30°22'N 119°26'E); Miyano and Yamaguchi, 2001:244 (reduction of nest building activities by ants); Li and He, 2004:1123 (in hymenopterous fauna of Zhejiang Province, China); Hua, 2006:275 (in list of Chinese insects, geographic distribution); Ohkusa, 2007:34 (Japan: central Honshu: Aichi Prefecture); Nemkov, 2008b:17 (in catalog of Sphecidae of Asian part of Russia); Okusa and Tajima, 2008:74 (Japan: central Honshu: Aichi Prefecture).

Pelopaeus punctatus Kohl, 1888a:155, ♀. Holotype: ♀, Tanzania: Zanzibar (ZMHU), probably mislabeled (Hensen, 1988:53). Synonymized with *Chalybion japonicum* by Hensen, 1988:53. – **As *Chalybion punctatum***: Dalla Torre, 1897:389 (new combination, in catalog of world Hymenoptera); Leclercq, 1955h:46 (bibliographic references). – **As *Sceliphron punctatum***: Kohl, 1918:61 (new combination, in revision of world Sceliphriini). – **As *Chalybion japonicum punctatum***: van der Vecht in Bohart and Menke, 1976:103 (new status); Porter, Stange, and Wang, 1999:4 (in checklist of Sphecidae of Taiwan); Ohl and Linde, 2003:149 (number of ovarioles).

Sceliphron inflexum Sickmann, 1894:220, ♀, ♂. Syntypes: China: Hopei Province: Tientsing (Münster). Synonymized with *Sceliphron curvatum* by Kohl, 1906a:193, with *Chalybion japonicum punctatum* by van der Vecht in Bohart and Menke, 1976:103, and with *Chalybion japonicum* by Hensen, 1988:53. – Dalla Torre, 1897:386 (in catalog of world Hymenoptera); Kohl, 1918:62 (in revision of world Sceliphriini); Dover, 1926:234 (China: Hong Kong); Gussakovskij, 1934a:4 (China: Shansi Province); Shirôzu, 1934:122 (Japan: Goto Islands); Yasumatsu, 1934c:63 (Japan: Yakushima Island); Baba, 1935:84 (Japan: Sado Island); Yasumatsu, 1935b:34 (Japan: Ryukyu Archipelago: Ishigaki Island), 37 (Japan: Ryukyu Archipelago: Yonakuni Island), 1936a:358 and 361 (Bonin = Ogasawara Islands); Masaki, 1937:83 (Japan: Honsu: islands off Izu Peninsula); Yasumatsu, 1937c:67 (Japan: Tsushima Island); Gussakovskij, 1938:4 (China: Kiangsu Province); Iwata, 1939b:169 (nesting habits), 1939c:92 (nesting habits); Yamamoto, 1942:69 (nesting habits); Yasumatsu, 1942c:107 (China: Beijing); Iwata and Yoshikawa, 1961:399 (Thailand); Tsuneki, 1962a:6 (Ryukyu Islands: Amami-Oshima Islands); Iwata, 1963:115 (prey); Tsuneki and Shimoyama, 1963:48 (Japan: Towada Prefecture); Iwata, 1964a:318 (nesting gregariously in Japan, but solitary in Thailand), 1964b:363 (nesting behavior in Thailand); Tano, 1964:38 (Japan: Kyushu: Yakushima Is-

land); Iwata, 1965:107 (number of oocytes); Tsuneki, 1967g:44 (W Japan: Mt. Hyonoson), 1967j:7 (Taiwan); Fukuda, 1968:26 (Japan); Itami, 1968a:16 (Japan: Yamagata Prefecture: foot of Mount Iide); Tsuneki, 1968l:50 (S Korea: Quelquepart Island), 1967i:384 (Taiwan); Haneda, 1968b:56 (Japan: Nagano Prefecture: Ina District); Nishino, 1968:24 (Japan); Itami, 1969:46 (Japan: Niigata Prefecture); Tsuneki, 1969e:25 (Japan), 1969i:59 (Japan: Fukui); Haneda, 1970:13 (Japan: Akita Prefecture), 1971b:39 (Taiwan); Tano, 1971:82 (Japan: Shikoku: Mt. Tsu-rugi); Tsuneki, 1971f:7 (Taiwan), 1971m:7 (China: Peking: Tiendang); Yamada, 1971:34 (Japan: Aichi Prefecture); Haneda, 1972a:5 (Taiwan); Tano, 1972:23 (Japan: Ryukyu Islands); Murota, 1973b:116 (Taiwan); Nambu, 1973d:152 (Japan: Saitama Prefecture); Tsuneki and Moriyama, 1973:15 (orientation when emerging from nest); Murota, 1973a:101 (Ryukyu Islands: Amami group); Nambu, 1975b:69 (Japan: Saitama Prefecture); Tsuneki, 1976d:293 (China: Manchuria), 1977j:263 (Taiwan); Hua, 1989:116 (China). – **As *Chalybion inflexum***: Yamamoto, 1958:63 (new combination, nesting habits); Kazenas, 1980e:82 (Russia: Far East).

Sceliphron ritsemae Dalla Torre, 1897:389, substitute name for *Sceliphron curvatum* (Ritsema, 1880). – Strand, 1913b:165 (Taiwan, redescription), 1915:91 (Taiwan; China: Tsingtau, now Qingdao).

Chalybion japonicum Pérez, 1905a:152, ♀ (as *Japonicum*, incorrect original capitalization), junior secondary homonym of *Chalybion japonicum* (Gribodo, 1883). Holotype or syntypes: ♀, Japan: no specific locality but presumably Tokyo area (MNHN). Synonymized with *Chalybion japonicum* Gribodo by van der Vecht in Bohart and Menke, 1976:103. – Pérez, 1905a:25 (listed).

Sceliphron degenerans Kohl, 1918:79, ♀. Holotype, ♀, China: Peking (ZMHU). Synonymized with *Chalybion japonicum punctatum* by van der Vecht in Bohart and Menke, 1976:103.

19. *kenyae* Hensen

Chalybion kenyae Hensen, 1988:39, ♀. Holotype: ♀, Kenya: Marsabit (BMNH).

20. *klapperichi* (Balthasar)

Sceliphron klapperichi Balthasar, 1957b:196, ♀. Holotype: ♀, Afghanistan: Badakhshan Mts.: Djurm in Koksha Valley (V. Balthasar coll.?; Stockholm according to Hensen, 1988:54) – **As *Chalybion klapperichi***: R. Bohart and Menke, 1976:103 (new combination, listed); Hensen, 1988:54 (in revision of subgenus *Chalybion* s.s.); Standfuss and Standfuss, 2006c:306 (first record from Greece: Thessalia: Magnissia Peninsula at 39°N 23°E).

21. *laevigatum* (Kohl)

Pelopaeus chalybaeus F. Smith, 1856:229, ♀, junior primary homonym of *Pelopaeus chalybaeus* Vander Linden, 1827. Lectotype: ♀, South Africa: Natal: no specific locality (BMNH), designated by Hensen, 1988:45. – W.F. Kirby, 1884a:408 (South Africa: Cape of Good Hope). – **As *Sceliphron chalybaeum***: Dalla Torre, 1897:382 (new combination, in catalog of world Hymenoptera); Cameron, 1910b:137 (South Africa: Transvaal; as *chalybeum*).

Pelopaeus laevigatus Kohl, 1888a:155, ♀, ♂. Syntypes: Tanzania: Zanzibar (ZMHU). – **As *Sceliphron laevigatum***: Kohl, 1984:342 (new combination, Mozambique: Delagoa Bay, now Maputo Bay); Dalla Torre, 1897:387 (new combination, in catalog of world Hymenoptera, as *levigatum*); Kohl, 1906:191, 195 (in key), 1909:371 (Tanzania: Fundu Island near Pemba Island); Brauns, 1911a:118 (South Africa); Strand, 1916b:108 (South Africa: Natal); Kohl, 1918:69 (in revision of world Sceliphriini); Arnold, 1928b:237 (revision), 1930:16 (in checklist of Afrotropical Sphecidae); Schouteden, 1930:95 (Zaire); Arnold, 1935a:45 (Botswana). – **As *Chalybion laevigatum***: Leclercq, 1955h:47 (new combination, bibliographic references, variation, locality records); Diniz, 1964c:105 (Angola: Lunda: Dundo); R. Bohart and Menke, 1976:103 (listed); Rodgers and Homewood, 1982:233 (Tanzania: Usambara Mountains); Hensen, 1988:45 (in revision of subgenus *Chalybion* s.s.); Weaving, 1994:184 (nesting behavior).

Sceliphron cubitaloide Strand, 1910c:47, ♂. Holotype: Namibia: Rietmond (Städtisches Mus. Wiesbaden). Synonymized with *Sceliphron laevigatum* by Kohl, 1918:69.

Chalybion benoitii Leclercq, 1955h:52, ♀, ♂. Holotype: ♀, southern Mozambique: no specific locality (MRAC). Synonymized with *Chalybion laevigatum* by Hensen, 1988:45. – Bohart and Menke, 1976:102 (listed).

22. lividum Hensen

Chalybion lividum Hensen, 1988: 32, ♀. Holotype: ♀, China: "Yachow to Mupin" (USNM). – Hua, 2006:275 (in list of Chinese insects, geographic distribution).

23. madecassum (Gribodo)

Pelopoëus madecassus Gribodo, 1883a:263, ♀, ♂. Lectotype: ♀, Madagascar: no specific locality (Genova), designated by Hensen, 1988:27. – **As *Sceliphron madecassum***: Dalla Torre, 1897:387 (new combination, in catalog of world Hymenoptera); Kohl, 1906a:193, 196 (in key), 1909:370 (Comoro Islands); R. Turner, 1911b:368 (Seychelles Islands); Kohl, 1918:65 (in revision of world Sceliphriini); Arnold, 1945:86 (Madagascar). – **As *Chalybion madecassum***: Leclercq, 1953b:211 (new combination, Madagascar); Vesey-Fitzgerald, 1956b:362 (Seychelles); Leclercq, 1961d:106 (Madagascar), 1966:56 (comparison with *Chalybion bonneti*; Hensen, 1988:27 (in revision of subgenus *Chalybion* s.s.); Madl, Matyot, and Schödl, 1996:831 (Seychelles Islands); Madl, 1997:819 (Madagascar: Nosy Boraha Island), 821 (in checklist of Nosy Boraha Sphecidae); Pulawski, 2003b:795 (in checklist of Malagasy Sphecidae).

As *Sceliphron violaceum*: de Saussure, 1892:449 (Madagascar), corrected to *Sceliphron madecassum* by Kohl, 1906a:193; Friederichs, 1918:33, 42 (nesting habits) and von Schulthess in Friederichs, 1918a:48 (Madagascar: Antananarivo, Diego Suarez), corrected to *Chalybion madecassum* by Hensen, 1988:27; Vesey-Fitzgerald, 1950:75 (first record from Seychelles Islands), corrected to *Chalybion madecassum* by Hensen, 1988:27.

Sceliphron purpurescens Pérez, 1895:211, ♀, ♂. Lectotype: ♀, Madagascar: no specific locality (MNHN), designated by Hensen, 1988:27. Synonymized with *Sceliphron madecassum* by Kohl, 1906a:193. – Dalla Torre, 1897:389 (in catalog of world Hymenoptera).

As *Sceliphron bengalense*: Cameron, 1907:76 (Seychelles Islands), corrected to *Sceliphron madecassum* by R. Turner, 1911b:369.

24. magnum Hensen

Chalybion magnum Hensen, 1988:34, ♀. Holotype: ♀, Philippines: Luzon: Mt. Makiling (USNM).

25. malignum (Kohl)

Sceliphron malignum Kohl, 1906:192, ♀. Holotype: ♀, Sri Lanka: no specific locality (NHMW). – Kohl, 1918:74 (in revision of world Sceliphriini, description of ♂); Hua, 1989:116 (China). – **As *Chalybion malignum***: R. Bohart and Menke, 1976:103 (new combination, listed); Hensen, 1988:34 (in revision of subgenus *Chalybion* s.s., Sri Lanka, India, Burma, Malaysia, Indonesia); Dollfuss, 1989:8 (holotype in NHMW); Hua, 2006:275 (in list of Chinese insects, geographic distribution).

Sceliphron horni Strand, 1915:91, ♀. Holotype: Sri Lanka: "Pankulam" (DEI). Synonymized with *Sceliphron malignum* by Kohl, 1918:74. – Oehlke and Wudowenz, 1974:423 (holotype in DEI).

26. minos (de Beaumont)

Sceliphron sp.: de Beaumont, 1961c:45 (Greece: Island of Crete), corrected to *Sceliphron minos* by de Beaumont, 1965a:15.

Sceliphron minos de Beaumont, 1965a:15, ♀, ♂. Holotype or syntypes: ♀, Greece: Crete Island: Sitia (M. Schwarz coll.). – de Beaumont, 1967a:277 (Turkey) – **As *Chalybion minos***: R. Bohart and Menke, 1976:103 (new combination, listed); Hensen, 1988:54 (in revision of subgenus *Chalybion* s.s.); Gayubo, Borsato, and Osella, 1992:273 (Greece: Eubea); Ljubomirov and Yildirim, 2008:10 (in catalog of Sphecidae of Turkey).

27. mochii Hensen

Chalybion mochii Hensen, 1988:41, ♂. Holotype: ♂, Kenya: Travo: Kuaguni (TORINO).

28. *omissum* (Kohl)

As *Pelopoeus pruinus* Germar: Dahlbom, 1845:433 (in key), corrected to *Sceliphron omissum* by de Beaumont, 1953h:196. – As *Chalybion pruinus*: Kirchner, 1867:218 (new combination, in catalog of European Hymenoptera).

Pelopoeus omissus Kohl, 1889a:22, ♀, ♂. Syntypes: Balkan Peninsula: no specific locality (NHMW). – As *Sceliphron omissum*: Dalla Torre, 1897:388 (new combination, in catalog of world Hymenoptera); Mocsáry, 1897:79 (Kingdom of Hungary, all localities are in today's Croatia); Kohl, 1906a:193, 194, 196 (in key, as *ommissum*); Szilády, 1913:89 (Hungary: Novi, now Croatia); Kohl, 1918:64 (in revision of world Sceliphtrini, as *ommissum*); Maidl, 1922:66 (Albania, Croatia); Zavadil *in* Zavadil and Šnoflak, 1948:170 (in key to Sphecidae of Czechoslovakia, not yet found in Czechoslovakia); Bajári, 1957a:16 (in key to Hungarian Sphecidae, as *omissum*, not yet found in Hungary); de Beaumont, 1965a:15 (Greece), 1967a:277 (Turkey); Balthasar, 1972:439 (in Sphecidae Fauna of Czechoslovakia: may be expected in the country, as *ommissum*); Pulawski, 1978:186 (in key to Sphecidae of European part of former USSR, as *ommissum*). – As *Chalybion omissum*: R. Bohart and Menke, 1976:103 (new combination, listed, as *ommissum*); Hensen, 1988:55 (in revision of subgenus *Chalybion* s.s.); Dollfuss, 1989:8 (type material in NHMW); Negrisola *in* Minelli, Ruffo, and La Posta, 1995b:3 (in catalog of Italian fauna); Gülmez and Tüzün, 2005:42 (Turkey: Ankara Province); Pagliano and Negrisola, 2005:77 (in Sphecidae Fauna of Italy); Standfuss and Standfuss, 2006c:306 (Greece: Thessalia: Magnissia Peninsula at 39°N 23°E); Ljubomirov and Yildirim, 2008:10 (in catalog of Sphecidae of Turkey).

29. *parvulum* Hensen

Chalybion parvulum Hensen, 1988:39, ♀, ♂. Holotype: ♂, Africa: no specific locality but probably Kenya (BMNH). Paratypes: Kenya.

30. *petroleum* Hensen

Chalybion petroleum Hensen, 1988:55, ♀, ♂. Holotype: ♀, Bahrain: no specific locality (BMNH). Paratypes: Iran.

31. *planatum* (Arnold)

Sceliphron planatum Arnold, 1951:139, ♂. Lectotype: ♂, Ethiopia: Danakil at Mille River (BMNH), designated by Hensen, 1988:41. – Leclercq, 1955h:53 (bibliographic reference); van der Vecht *in* Bohart and Menke, 1976:102 (as synonym of *Chalybion heinii*); Hensen, 1988:41 (revised status, in revision of subgenus *Chalybion* s.s.).

32. *polyphemus* Hensen

Chalybion polyphemus Hensen, 1988:27, ♀, ♂. Holotype: ♀, Philippines: Luzon: Atimonan (RMNH).

33. *ruficorne* Hensen

Chalybion ruficorne Hensen, 1988:42, ♂. Holotype: ♂, Central African Republic: Uam area: Bosum (ZMHU).

34. *schulthessirechbergi* (Kohl)

Sceliphron schulthessirechbergi Kohl, 1918:238, ♀ (as *Schulthessi-Rechbergi*, incorrect original capitalization and hyphenation). Holotype: ♀, Zaire: Kissantu on Inkissi River (NHMW, see Hensen, 1988:46). – Arnold, 1928b:238 (original description translated into English), 1930:16 (in checklist of Afrotropical Sphecidae); Schouteden, 1930:95 (Zaire). – As *Chalybion schulthessirechbergi*: Leclercq, 1955h:46 (new combination, Zaire, bibliographic references); R. Bohart and Menke, 1976:103 (listed); Hensen, 1988:46 (in revision of subgenus *Chalybion* s.s.); Dollfuss, 1989:8 (type material in NHMW).

35. *sommereni* (R. Turner)

Sceliphron sommereni R. Turner, 1920a:267, ♀. Syntypes: Kenya: Kabete near Nairobi (BMNH). – Arnold, 1928b:237 (original description copied), 1930:16 (in checklist of Afrotropical Sphecidae); I. Robertson, 1969:480 (Tanzania: Shinyanga, as *somereni*). – As *Chalybion laevigatum sommereni*: Leclercq, 1955h:51 (new combination, new status, Zaire: locality records); Diniz, 1964c:105 (Angola: Lunda: Andrada, Dundo); R. Bohart and

Menke, 1976:103 (listed). – **As *Chalybion sommereni***: Hensen, 1988:46 (revised status, in revision of subgenus *Chalybion* s.s.).

Sceliphron perpulchrum Arnold, 1934:27, ♀. Holotype: East Africa (Kenya or Tanzania?): Ndala Mission (Oxford). Synonymized with *Chalybion laevigatum sommereni* by Leclercq, 1955:51.

36. *spinolae* (Lepeletier de Saint Fargeau)

Pelopaeus spinolae Lepeletier de Saint Fargeau, 1845:307, ♀, ♂. Syntypes: India: Maharashtra: Bombay (M. Spinola coll.). – de Motschoulsky, 1863:23 (Sri Lanka, listed); Gerstaecker, 1871:852 (Kenya: Mombasa), 1873:330 (Kenya: Mombasa); Maindron, 1878: 397 (in checklist of *Pelopaeus* of India and Indian Archipelago); Gribodo, 1884a:299 (Ethiopia: Let Marefia 16 km N Ankober), 1895:356 (Mozambique). – Nec following authors (= *Sceliphron javanum nalandicum*): F. Smith, 1856:231, Cameron, 1889:102, Bingham, 1897:237. – **As *Sceliphron spinolae***: nec de Saussure, 1892:440 (new combination, = *Chalybion spinolae saussurei*); Dalla Torre, 1897:390 (new combination, in catalog of world Hymenoptera); W Fox, 1896e:552 (Ethiopia: Bale Province: Sheikh Husein, now Shek Husen); Bingham, 1902:217 (South Africa); Cameron, 1910b:1136 (South Africa: Transvaal); Brauns, 1911a:118 (South Africa, nest); Guiglia, 1932:124 (Kenya: Archer's Post). – **As *Chalybion spinolae***: R. Bohart and Menke, 1976:103 (new combination, listed); Gess, 1981:24 (South Africa: 18 km WNW Grahamstown; nesting in vertical banks); Hua, 2006:275 (in list of Chinese insects, geographic distribution).

Pelopaeus eckloni Dahlbom, 1845:434, sex not indicated (as *Eckloni*, incorrect original capitalization). Holotype or syntypes: South Africa: Cape Town area (LUND). Synonymized with *Chalybion spinolae* by Gerstaecker, 1871:852 and Menke in Bohart and Menke, 1976:103 (as new synonym). – A. Costa, 1864a:60 (one specimen from Port Natal, now Durban, South Africa, in Napoli Museum); Taschenberg, 1869:428 (Cape Province, redescription). – **As *Sceliphron eckloni***: Kohl, 1918:80 (new combination, in revision of world Sceliphri); R. Turner, 1919c:394 (probably identical with *Sceliphron spinolae* Lepeletier); Maidl, 1924:246 (Sudan: Atbara, Dilling); Arnold, 1928b:242 (revision), 1930:16 (in checklist of Afrotropical Sphecidae); Schouteden, 1930:94 (Zaire); Scott in Arnold, 1933a:370 (Ethiopia: Harar District); Guiglia, 1940b:287 (Somalia), 1940e:292 (Ethiopia: Harer: Gota), 1950:244 (Ethiopia: Gamo Gofa: El Dire); Leclercq, 1955h:56 (bibliographic references, locality records), 1961b:50 (Zaire); Diniz, 1964b:238 (Guinea Bissau, redescription), 1964c:106 (Angola: Lunda: Andrada, Dundo, Margem do Rio Luita, Muíta-Luembe); I. Robertson, 1969:480 (Tanzania: Ukiriguru).

ssp. rufopictum Magretti

Pelopaeus spinolae var. *rufopictus* Magretti, 1884b:577, ♀, ♂. Syntypes: Ethiopia: Bahr el Sakaanm Netemma; Eritrea: Keren (MSNG). – **As *Sceliphron eckloni* var. *rufopictum***: Dalla Torre, 1897:390 (new combination, new subspecific combination, in catalog of world Hymenoptera); Arnold, 1935b:2 and 8 (Mali: Sokolo, as *rufopictus*); Giordani Soika, 1939a:169 (Eritrea: Keren, as *rufopictus*), 1939c:104 (Eritrea: Adi Ugri, Keren); Guiglia, 1939a:200 (Eritrea: Keren), 1943c:75 (Ethiopia: Gamo Gofa: Sagan – Omo region), 1950:244 (Ethiopia: Gamo Gofa: Caschei). – **As *Sceliphron eckloni rufopictum***: Leclercq, 1955h:57 (bibliographic references, locality records). – **As *Chalybion spinolae rufopictum***: R. Bohart and Menke, 1976:103 (new combination, listed).

ssp. saussurei (Kohl)

As *Sceliphron spinolae*: de Saussure, 1867:27 (South Africa: Cape of the Good Hope) and 1892:440 (Madagascar), corrected to *Sceliphron saussurei* by Kohl, 1918:82.

Sceliphron saussurei Kohl, 1918:82, ♀, ♂ (as *Saussurei*, incorrect original capitalization). Syntypes: South Africa: Western Cape Province: Cape Town area (NHMW). – Arnold, 1928b:243 (original description translated into English), 1930:16 (in checklist of Afrotropical Sphecidae), 1945:86 (known from Madagascar; in key); Leclercq, 1955h:58 (bibliographic references). – **As *Chalybion spinolae saussurei***: van der Vecht in Bohart and Menke, 1976:103 (new combination, new status).

37. *sumatranum* (Kohl)

Pelopoëus sumatranus Kohl, 1884a:375, ♀. Holotype or syntypes: ♀, Indonesia: Sumatra: no specific locality (NHMW). – Cameron, 1889c:102 (listed). – **As *Sceliphron sumatranum***: Dalla Torre, 1897:391 (new combination, in catalog of world Hymenoptera); Kohl, 1918:84 (in revision of world Sceliphriini). – **As *Chalybion sumatranum***: R. Bohart and Menke, 1976:103 (new combination, listed); Dollfuss, 1989:8 (type material in NHMW).

38. *tibiale* (Fabricius)

Sphex tibialis Fabricius, 1781:444, ♀. Holotype: ♀, South Africa: Cape of Good Hope (BMNH, Banks coll.). – Fabricius, 1781:444 (redescription), 1787:274 (redescription), 1793:202 (redescription), 1796:156 (in Index to his Entomologia Systematica, 1793); Lichtenstein, 1796:200 (in auction catalog); Cresson, 1963:320 (in catalog of North American Hymenoptera). – **As *Pepsis tibialis***: Fabricius, 1804:212 (new combination, redescription). – **As *Pelopaëus tibialis***: Dahlbom, 1845:433 (new combination, in key); Lepeletier de Saint Fargeau, 1845:323 (revision); F. Smith, 1856:229 (in catalog of Hymenoptera in British Museum); Gribodo, 1895:357 (Mozambique); W. Schulz, 1911b:159 (Gribodo's determination confirmed); Casolari and Casolari Moreno, 1980:101 (specimens in M. Spinola collection). – **As *Sceliphron tibiale***: Dalla Torre, 1897:392 (new combination, in catalog of world Hymenoptera); Kohl, 1906a:191, 195 (in key); Brauns, 1911a:118 (South Africa, nest structure); Kohl, 1918:70 (in revision of world Sceliphriini); Arnold, 1928b:241 (revision), 1930:16 (in checklist of Afrotropical Sphecidae); van der Vecht, 1961a:41 (revision of type); de Beaumont, 1967b:505 (South Africa: Cape Province). – **As *Chalybion tibiale***: Leclercq, 1955h:47 (new combination, bibliographic references, Cape of Good Hope); R. Bohart and Menke, 1976:103 (listed); F. Gess and S. Gess, 1980b:11 (nesting habits); Gess, 1981:25 (South Africa: 18 km WNW Grahamstown; nesting in vertical banks in modified preexisting cavities), 29 (nests within woody stems; nest structure; prey), 47 (multiple prey), 60 and 66 (nesting both in vertical banks and plant tissue), 70 (partition walls in nest); Callan, 1985:25 (South Africa, sleeping aggregations); Hensen, 1988:42 (in revision of subgenus *Chalybion* s.s.).

39. *tomentosum* Hensen

Chalybion tomentosum Hensen, 1988:47, ♀, ♂. Holotype: ♂, Somalia: Baidoa (G. Pagliano coll.).

40. *triangulum* Hensen

Chalybion triangulum Hensen, 1988:21, ♀, ♂. Holotype: ♂, Gambia: Keneba (BMNH). Paratypes: Central African Republic, Togo.

41. *turanicum* (Gussakovskij)

Sceliphron turanicum Gussakovskij, 1935:414, ♀, ♂. Syntypes: Tajikistan: Zavar, Chash; also Uzbekistan: Taskhent, Samarkand, Bukhara, Khiva; Karakalpakya; Turkmenistan: no specific locality; Kazakhstan: Alma Ata; Iran: Astrabad (ZIL). – Myartseva, 1968:62 (Turkmenistan: Chardjaw district, Firuza, Kizil-Ayak district); Islamov, 1970:63 (Uzbekistan: Chirchik Basin); Kazenas, 1972b:115 (Kazakhstan) – **As *Chalybion turanicum***: R. Bohart and Menke, 1976:103 (new combination, listed); Hensen, 1988:56 (in revision of subgenus *Chalybion* s.s.); Kazenas, 2001b:12 (in checklist of Sphecidae of Kazakhstan and Central Asia), 67 (nest, preying on spiders in tree crowns in Alma-Ata area); Kazenas and Esenbekova, 2001:133 (Kazakhstan: Almatinskiy Nature Reserve); Kazenas, 2002a:23 (geographic distribution, collecting localities in Kazakhstan, 2004b:97 (Kazakhstan: western Tien Shan Mts.); Nazarova, 2004:103 (Tajikistan: Badakhshan Region: Rushan District: Lakshik and Langar villages).

42. *vechti* Hensen

Chalybion vechti Hensen, 1988:56, ♀, ♂. Holotype: ♀, Philippines: Los Baños (RMNH).

43. *walteri* (Kohl)

Pelopoëus walteri Kohl, 1889a:22, ♀, ♂ (as *Walteri*, incorrect original capitalization). Syntypes: Caucasus, Turkmenistan: no specific localities (NHMW). – Kohl and Handlirsch, 1889:276 (Turkmenistan, redescription); F. Morawitz, 1893b:409 (Tajikistan: Iskander-kul in Zeravshan River valley). – **As *Sceliphron walteri***: Dalla Torre,

1897:393 (new combination, in catalog of world Hymenoptera); Kohl, 1906a:193, 197 (in key), 1918:51 (in revision of world Sceliphriini); Gussakovskij, 1933b:274 (Iran); de Beaumont, 1967a:277 (Turkey), 1969:81 (Turkey); Kazenas, 1972b:116 (Kazakhstan), 1978b:45 (in key to Sphecidae of Kazakhstan and Central Asia). – **As *Chalybion walteri***: R. Bohart and Menke, 1976:103 (new combination, listed); Hensen, 1988:58 (in revision of subgenus *Chalybion* s.s.); Islamov, 1986:518 (Uzbekistan: Tashkent Oblast’); Dollfuss, 1989:8 (type material in NHMW); Gayubo, Borsato, and Osella, 1992:274 (Turkey); Kazenas, 2001b:12 (in checklist of Sphecidae of Kazakhstan and Central Asia); Gayubo and Özbek, 2005:3 (Turkey: Artvin, Bayburt, Burdur, Erzincan, Erzurum, and Kars Provinces); Gülmez and Tüzün, 2005:42 (Turkey: Ankara Province); Ghahari, Hayat, Tabari, Ostovan, and Imani, 2008:740 (Iran: Mazandaran: Sari); Ljubomirov and Yildirim, 2008:10 (in catalog of Sphecidae of Turkey).

44. *yangi* Li

Chalybion yangi Li, 1995:88, ♂. Holotype: ♂, China: Guanxi: Huaping; Neicuijiang (Ibeijin Agric. Univ.).

45. *zimmermanni* Dahlbom

Chalybion zimmermanni Dahlbom, 1843:22, ♀, ♂. Syntypes: South Carolina: no specific locality (Lund). – Dahlbom, 1845:433 (in key); Cresson, 1863:319 (in catalog of North American Hymenoptera); A. Costa, 1864b:112 (specimen from America in Museo Zoologico di Napoli); Cresson, 1887:275 (in catalog of North American Hymenoptera); Cameron, 1888a:25 (Mexico); W. Fox, 1895c:265 (Mexico: Baja California); Ashmead, 1899d:355 (in checklist of North American Sphecidae); Rau, 1940:591 (Mexico: 40 km S Ciudad Victoria, Jacala, Tamazunchale), 1942:196 (sleeping aggregation), 1943:648 (Mexico, reusing nests of *Sceliphron assimile*); Murray in Muesebeck et al., 1951:979 (in catalog of North American Hymenoptera); R. Bohart and Menke, 1963:103 (in revision of Nearctic Sceliphriini); Ward, 1970:231 (first record from Indiana), 1971:264 (site preference), 1973b:233 (nest parasite: *Melittobia chalybii* Ashmead, a eulophid); R. Bohart and Menke, 1976:103 (listed); Krombein, 1979b:1577 (in catalog of North American Hymenoptera); Ward and Cole, 1975:284 (spider prey); Ward and Ode, 1984:229 (current status in Indiana); Hensen, 1988:60 (in revision of subgenus *Chalybion* s.s.); Landes and Hunt, 1988:230 (sleeping aggregation with *Chalybion californicum*); Ahlstrom, 1995:106 (in checklist of insects of North Carolina); Hanson and Menke, 1995:637 (known from Costa Rica); Bitsch, Barbier, Gayubo, Schmidt, and Ohl, 1997:34 (in Sphecid Fauna of Western Europe); Pauly, 1999:107 (in catalog of Belgian aculeates: an accidental introduction); Horta Vega, Pinson Domínguez, Barrientos Lozano, and Correa Sandoval, 2007: 47 (Mexico: Tamaulipas, as *zimmermanni zimmermanni*). – **As *Pelopeus zimmermanni***: de Saussure, 1867:26 (new combination, Mexico). – **As *Sceliphron zimmermanni***: W. Fox, 1893d:9 (new combination, Mexico: Baja California), 1894c:103 (Mexico: Baja California Sur); Dalla Torre, 1897:393 (in catalog of world Hymenoptera); Kohl, 1918:54 (in revision of world Sceliphriini); Hutson, 1919:217 (in key to North American *Chalybion*), 223 (in revision of North American *Chalybion*); Brimley, 1938:445 (North Carolina: Elkin).

Pelopoeus texanus Cresson, 1873:210, ♀, ♂. Lectotype: ♂, USA: Texas: Comal County: no specific locality (ANSP), designated by Cresson, 1916:94. Synonymized with *Sceliphron zimmermanni* by Kohl, 1918:59. – Cresson, 1875:714 (Arizona); Rau and Rau, 1940:591 (...); Rau, 1942:196 (...). – **As *Sceliphron texanum***: Dalla Torre, 1897:392 (new combination, in catalog of world Hymenoptera). – **As *Chalybion texanum***: Cresson, 1887:275 (new combination, in catalog of North American Hymenoptera).

ssp. aztecum (de Saussure)

Pelopeus [sic] *aztecus* de Saussure, 1867:26, ♂. Lectotype: ♂, Mexico: Tampico (MHNG), designated by Bohart and Menke, 1963:112. – Casolari and Casolari Moreno, 1980:101 (specimens in M. Spinola collection). – **As *Sceliphron aztecum***: Dalla Torre, 1897:378 (new combination, in catalog of world Hymenoptera); Kohl, 1918:59 (as synonym of *Sceliphron zimmermanni*). – **As *Chalybion aztecum***: Cameron, 1888a:25 (new combination, Mexico); Ashmead, 1899d:355 (in checklist of North American Sphecidae). – **As *Chalybion zimmermanni aztecum***: R. Bohart and Menke, 1963:112 (new status, in revision of Nearctic Sceliphriini), 1976:103 (listed); Krombein,

1979b:1577 (in catalog of North American Hymenoptera); Hensen, 1988:60 (in revision of subgenus *Chalybion* s.s.); Maes, 1989:90 (in catalog of Nicaraguan Sphecidae); Leclercq, 1994c:367 (introduced to Belgium); Amarante, 2002:71 (in catalog of Neotropical Sphecidae); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:669 (in checklist of Mexican Sphecidae); Horta Vega, Pinson Domínguez, Barrientos Lozano, and Correa Sandoval, 2007: 47 (Mexico: Tamaulipas).

Sceliphron monstrosus Kohl, 1918:61, ♂. Holotype or syntypes: ♂, Mexico: between Tampico and San Luis (ZMHU). Synonymized with *Chalybion zimmermanni aztecum* by Menke in Bohart and Menke, 1976:103.

spp. peninsularum Bohart and Menke

Chalybion zimmermanni peninsularum Bohart and Menke, 1963:113, ♂. Holotype: ♂, Mexico: Baja California Norte: Todos Santos (CAS). – R. Bohart and Menke, 1976:103 (listed); Hensen, 1988:60 (in revision of subgenus *Chalybion* s.s.); Amarante, 2002:71 (in catalog of Neotropical Sphecidae); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:669 (in checklist of Mexican Sphecidae).

sp.

de Beaumont, 1961c:45 (Greece: Island of Crete); A. Hutson, 1981:21 (Chagos Archipelago: Diego Garcia Atoll); Ruíz Cancino, Coronado Blanco, and Horta Vega, 2005:170 (Mexico: recorded from Tamaulipas State).

FOSSIL CHALYBION

***mortuum* Cockerell**

Chalybion mortuum Cockerell, 1907b:615, sex not indicated. Holotype: USA: Colorado: Florissant (MCZ). Age: Lower Oligocene. – R. Bohart and Menke, 1976:103 (listed).