

Last updated: 5 July 2010

LIRIS

Proper grammatical gender: *Liris*, an ancient name of Garigliano River, Italy, is masculine (Menke and R. Bohart, 1979:117).

Liris Fabricius, 1804:227. Type species: *Sphex auratus* Fabricius, 1787, junior primary homonym of *Sphex auratus* Linnaeus, 1758 [= *Sphex aurulentus* Fabricius, 1787], designated by Patton, 1880b:386.

Lirisis Rafinesque, 1815:124. Emendation or substitute name for *Liris* Fabricius, 1804.

Notogonia A. Costa, 1867b:82, junior homonym of *Notogonia* Perty, 1850 (Crustacea). Type species: *Tachytes niger* of Vander Linden, 1829 [= *Larra nigra* of Latreille, 1805 = *Pompilus niger* of Panzer, 1799 = *Sphex niger* Fabricius, 1775], by monotypy.

Motes Kohl, 1897a:351. Type species: "*Notogonia odontophora* Kohl, 1892" [= *Larra odontophora* Kohl, 1894], designated by Pate, 1837c:41.

Caenolarra Cameron, 1900a:28. Type species: *Caenolarra appendiculata* Cameron, 1900 [= *Spanolarra rufitarsis* Cameron, 1900], junior secondary homonym of *Liris appendiculatus* (Taschenberg, 1870), by monotypy.

Leptolarra Cameron, 1900a:29. Type species: *Leptolarra reticulata* Cameron, 1900, junior secondary homonym of *Liris reticulatus* (de Saussure, 1892) [= *Leptolarra nigricans reticuloides* Richards, 1935 = *Liris nigricans reticuloides* (Richards)], designated by Richards, 1935a:164.

Spanolarra Cameron, 1900a:32. Type species: *Spanolarra rufitarsis* Cameron, 1900, by monotypy.

Notogonius Howard, 1901:pl. 6, fig. 1 (June). Lapsus for *Notogonia* A. Costa. Bohart and Menke (1976:43) write the following: "There are numerous spelling errors in Howard's book, and we regard *Notogonius* as a lapsus for *Notogonia* Costa. This view was also shared by G.E. Bohart (1951:954) who nevertheless recognized *Notogonius nigripennis* (W. Fox) as type species, an unnecessary action. The specimen figured by Howard is in the U.S. National Museum and is *Liris argentatus* (Palisot de Beauvois), not *nigripennis*".

Chrysolarra Cameron, 1901b:118 (Aug.). Type species: *Chrysolarra appendiculata* Cameron, 1901, junior secondary homonym of *Liris appendiculatus* (Taschenberg, 1870), designated by Pate, 1837c:18.

Notogonidea Rohwer, 1911d:234. Substitute name for *Notogonia* A. Costa, 1867.

Dociliris Tsuneki, 1967b:26, as subgenus of *Liris*. Type species: *Larrada subtessellata* F. Smith, 1856, by original designation. Synonymized with *Leptolarra* Cameron, 1900, by Menke in Bohart and Menke, 1976:43.

Nigiliris Tsuneki, 1967b:27, as subgenus of *Liris*. Type species: *Notogonia japonica* Kohl, 1885 [= *Liris festinans japonicus* (Kohl)], by original designation. Synonymized with *Leptolarra* by Menke in Bohart and Menke, 1976:43.

Colloliris Tsuneki, 1974b:612, as subgenus of *Liris*. Type species: *Notogonidea negrosensis* F. Williams, 1928, by original designation and monotypy. Synonymized with *Leptolarra* by Menke in Bohart and Menke, 1976:629.

Pitaliris Tsuneki, 1982e:26, as subgenus of *Liris*. Type species: *Cratolarra pitamawa* Rohwer, 1916, original designation.

Nesting: *Liris lutusator* may be a mud-dauber (F. Williams, 1928a:99).

Review of biology: Kazenas, 2001b:148.

Revisions: de Beaumont, ppo (Mediterranean species); Krombein and Shanks Gingras, 1984 (North American species).

Keys: R. Turner, 1916e (Australia); Evans, 1972b (Dominica Island); Tsuneki, 1982a:10 and 17 (South Pacific islands), 1983a:45 (*Leptolarra* of Philippines).

NOTE: *Tachytes dives* Lepeletier de Saint Fargeau, 1845 (placed in *Liris* by Bohart and Menke, 1976) is listed under *Larra*.

Members of subgenus *Motes*:

1. *anticus* (F. Smith), Neotropical
2. *antilles* (Krombein), Caribbean Islands
3. *bidentatus* (Arnold), Afrotropical
4. *fulvipes* (Fabricius), Neotropical
5. *inopinatus* de Beaumont, 1961, Mediterranean
6. *mescalero* (Pate), Nearctic
7. *odontophorus* (Kohl), Afrotropical
8. *peruanus* (Brèthes, 1924), Neotropical
9. *rubellus* (F. Smith) = *cyphononyx* (Kohl, 1894), Afrotropical
10. *rugifer* (Turner, 1918), Afrotropical

1. *abbreviatus* (R. Turner)

Notogonia abbreviata R. Turner, 1908:481, ♀. Holotype or syntypes: ♀, Australia: Queensland: Cairns (BMNH). – R. Turner, 1916e:281 (in revision of Australian *Liris*). – **As *Liris abbreviata***: R. Bohart and Menke, 1976:243 (new combination, listed); Cardale, 1985:234 (in catalog of Australian Sphecidae).

2. *abyssinicus* (Arnold)

Notogonia abyssinica Arnold, 1933:353, ♂. Holotype: ♂, Ethiopia: between Addis Ababa and Jej-Jem (BMNH). – **As *Motes abyssinica***: Bonelli, 1976:228 (new combination, nesting habits). – **As *Liris abyssinica***: Arnold, 1951:160 (new combination, Ethiopia: Fiché); R. Bohart and Menke, 1976:243 (listed).

3. *aciculatus* (Cameron)

Notogonia aciculata Cameron, 1905c:225, ♀. Holotype or syntypes: ♀, India: Assam: Khasia Hills (OXUM). – Ramakrishna Aiyar, 1916:552 (in catalog of Indian aculeates described after Bingham, 1897). – **As *Liris aciculata***: R. Bohart and Menke, 1976:244 (new combination, listed).

4. *aedilis* (F. Smith)

Larrada aedilis F. Smith, 1858b:16, ♀. Holotype or syntypes: ♀, Indonesia: Sulawesi: no specific locality (BMNH). **As *Larra aedilis***: Kohl, 1885a:240 (new combination, in checklist of world *Larra*); Dalla Torre, 1897:661 (in catalog of world Hymenoptera). – **As *Liris aedilis***: R. Bohart and Menke, 1976:244 (new combination, listed).

5. *agilis* (F. Smith)

Larrada agilis F. Smith, 1856:284, ♀. Holotype or syntypes: ♀, Gambia: no specific locality (BMNH). – **As *Larra agilis***: Kohl, 1885a:240 (new combination, in checklist of world *Larra*); Dalla Torre, 1897:661 (in catalog of world Hymenoptera). – **As *Notogonia agilis***: R. Turner, 1917e:196 (new combination, as synonym of *Liris niger*); Richards, 1928a:359 (as synonym of *Notogonia pompiliformis*). – **As *Leptolarra agilis***: nec Richards, 1935:164, and de Beaumont, 1940a:18 (new combination, = *Liris niger*). – **As *Liris agilis***: de Beaumont, 1961f:242 (new combination, in revision of Mediterranean *Liris*), 1968a:261 (Canary Islands: Tenerife); Simon Thomas, 1969a:120 (Canary Islands: Tenerife); de Beaumont, Bytinski-Salz and Pulawski, 1973:5 (Israel); Báez and Ortega, 1978:192 (Canary Islands); Guichard, 1980:226 (Oman); Wolf, 1980:72 (Canary Islands); Al-Houty, 1989:160 (Kuwait: Erifjan, Khwasat, Nuaseeb, Sulabiya); Schembri, 1991:180 (first record from Malta); Hohmann, La Roche, Ortega, and Barquín, 1993:216 (detailed locality records from Canary Islands); T. Li, Cai, and Li, 2009a:117, 119 (in key to Palearctic *Liris*), 119 (first record from China: Xinjiang: Shihezi City and Tienshan: Janxin Cui).

Notogonia argyropyga var. *costae* Magretti, 1884c:588, ♀ (as *Costae*, incorrect original capitalization). Syntypes: ♀, Sudan: Doka, Kor Gerbabb, Sawakin (MSNG). Synonymized with *Liris agilis* by de Beaumont, 1961f:242. – **As**

Larra argyropyga var. *costae*: Kohl in Dalla Torre, 1897:663 (new combination, in catalog of world Hymenoptera)

Liris cooperi de Beaumont, 1950d:16, ♀, ♂. Holotype: ♀, Egypt: Siwa oasis (BMNH). Synonymized with *Liris agilis* by de Beaumont, 1961f:242. – de Beaumont, 1953a:175 (Mauritania), 1955a:170 (Morocco), 1956d:3 (Cabo Verde Islands), 1960b:237 (Libya).

Larra sp.: Groh, 1982:260 (Cape Verde Islands), corrected to *Liris atratus* by Simon Thomas and Wiering, 1993:404.

6. *agitatus* (R. Turner)

Notogonia agitata R. Turner, 1908:477, ♀. Syntypes: ♀, Australia: Queensland: Mackay and Cairns (BMNH). – R. Turner, 1916e:284 (in revision of Australian *Liris*). – **As *Liris agitata***: R. Bohart and Menke, 1976:244 (new combination, listed); Cardale, 1985:234 (in catalog of Australian Sphecidae).

7. *alaris* (de Saussure)

Notogonia alaris de Saussure, 1892:503, ♀, ♂. Lectotype: ♀, Madagascar: Antananarivo or Anosibé in Bezanozano Province (MHNG), designated by Leclercq, 1961d:113 (specific locality not indicated). – **As *Larra alaris***: Kohl in Dalla Torre, 1897:661 (new combination, in catalog of world Hymenoptera). – **As *Liris alaris***: Arnold, 1945:125 (new combination, Madagascar; redescription); R. Bohart and Menke, 1976:244 (listed); Pulawski, 2003b:796 (in checklist of Malagasy Sphecidae).

ssp. felinus (Arnold)

Notogonidea felina Arnold, 1923b:247, ♀, ♂. Syntypes: South Africa: Durban, Sundays River, and Zimbabwe: Bulawayo (SAM, TMP). – Arnold, 1930:6 (in checklist of Afrotropical Sphecidae), 1935a:498 (South Africa: Kalahari). – **As *Liris alaris felina***: Arnold, 1944:23 (new combination, new status); R. Bohart and Menke, 1976:244 (listed).

8. *alberti* (Arnold)

Leptolarra alberti Arnold, 1943:79, ♂, ♀ (as *Alberti*, incorrect original capitalization). Syntypes: Zaire: Rutshuru in Albert National Park (MRAC). – **As *Liris alberti***: R. Bohart and Menke, 1976:244 (new combination, listed).

Liris alberti Arnold, 1944:37, ♂, ♀ (as *Alberti*, incorrect original capitalization). Syntypes: Zaire: Rutshuru (MRAC). Objective synonym of *Leptolarra alberti* Arnold, 1943.

9. *albopilosus* Tsuneki

Liris albopilosa Tsuneki, 1967b:38, ♂, ♀, incorrect original termination. Holotype: ♂, Taiwan: Hualien Prefecture: Liyuchih (originally K. Tsuneki coll., now USNM). – Haneda, 1971b:29 (Taiwan); Tsuneki, 1971h:7 (Taiwan); Haneda, 1972a:4 (Taiwan); Murota, 1973b:118 (Taiwan); Tsuneki, 1974b:607 (Thailand); R. Bohart and Menke, 1976:244 (listed); Tsuneki, 1983a:30 (Philippines), 46, 48 (in key); Nuhn and Menke, 1994:25 (holotype transferred to USNM); Porter, Stange, and Wang, 1999:7 (in checklist of Sphecidae of Taiwan). – **As *Liris albopilosus***: Yamane, Ikudome, and Terayama, 1999:514 (in Identification Guide to Crabronidae of Nansei = Ryukyu Islands, Japan); Hua, 2006:280 (in list of Chinese insects, geographic distribution); T. Li, Cai, and Li, 2007:419, 422 (in key to *Liris* of China), 2009a:117, 118 (in key to Palearctic *Liris*).

10. *angustiventris* (Arnold)

Notogonidea angustiventris Arnold, 1923b:248, ♀, ♂. Holotype: sex not indicated: Zimbabwe: Bulawayo (SAM). – Arnold, 1930:6 (in checklist of Afrotropical Sphecidae); Hancock, Chahwanda, and Mhlanga, 1995:39 (syntypes in Bulawayo Museum). – **As *Liris angustiventris***: R. Bohart and Menke, 1976:244 (new combination, listed).

11. *antaka* (de Saussure)

Notogonia antaka de Saussure, 1890: pl.19, fig. 7, ♀. Holotype: ♀, illustrated specimen, Madagascar: no specific locality (MHNG). – **As *Liris antaka***: R. Bohart and Menke, 1976:244 (new combination, listed); Pulawski, 2003b:796 (in checklist of Malagasy Sphecidae).

Notogonia ancara de Saussure, 1891:260, ♀. Objective synonym of *Notogonia antaka* de Saussure, 1890. Lectotype: ♀, Madagascar: no specific locality (MHNG), unnecessary designation by Leclercq, 1961d:113 (as *antaka*). – **As *Larra ancara***: Kohl in Dalla Torre, 1897:663 (new combination, in catalog of world Hymenoptera).

Notogonia antaca de Saussure, 1892:505, ♀. Unjustified mendation of *Notogonia antaka* and *ancara*. – Bischoff, 1913c:73 (Zimbabwe: Bulawayo); von Schulthess in Friederichs, 1918ay:47 (Madagascar: Diego Suarez); Berland, 1925c:154 (Angola); Arnold, 1929c:394 (as synonym of *Notogonidea radialis*). – **As *Motes antaca***: Leclercq, 1961d:113 (new combination, Madagascar). – **As *Liris antaca***: Arnold, 1945:126 (new combination, Madagascar: Behara; redescription).

spp. transvaalensis (Cameron)

Notogonia transvaalensis Cameron, 1910b:131, ♀. Holotype or syntypes: ♀, South Africa: Transvaal: Rietfontein in Pretoria District (TMP). – Arnold, 1923b:244 (as synonym of *Notogonidea sepulchralis*). – **As *Liris antaka transvaalensis***: Arnold, 1951:159 (new combination, new status, Ethiopia: Addis Ababa, River Hawash); R. Bohart and Menke, 1976:244 (listed).

Notogonia brevicarinata Cameron, 1910b:131, ♀. Holotype or syntypes: ♀, South Africa: Transvaal: Pretoria (TMP). Synonymized with *Motes transvaalensis* by Arnold, 1940:123. – Brauns, 1917:242 (type in TMP); Arnold, 1923b:244 (as synonym of *Notogonidea sepulchralis*).

Notogonia massaica Cameron, 1908a:287, ♀, ♂. Syntypes: Tanzania: Mt. Kilimanjaro: Kibonoto (NRS). – Arnold, 1923b:244 (as synonym of *Notogonia sepulchralis*); R. Bohart and Menke, 1976:244 (as questionable synonym of *Liris antaka transvaalensis*).

Notogonia pretoriaensis Cameron, 1910b:132, ♀. Holotype or syntypes: ♀, South Africa: Transvaal: Pretoria (TMP). Synonymized with *Motes transvaalensis* by Arnold, 1940:123. – Brauns, 1917:242 (type in TMP); Arnold, 1923b:244 (as synonym of *Notogonidea sepulchralis*).

Notogonidea griseola Arnold, 1923b:246, ♀. Holotype: ♀: Zimbabwe: Bulawayo (SAM). – Arnold, 1930:6 (in checklist of Afrotropical Sphecidae). – **As *Motes antaca griseola***: Arnold, 1944:23 (new combination, new status). Synonymized with ... by ...

12. anthracinus Kohl

Liris anthracina Kohl, 1892:224, ♀, incorrect original termination. Holotype or syntypes: ♀, ?Sikkim: no specific locality (NHMW). – Kohl, 1892:228 (in key); Dalla Torre, 1897:663 (in catalog of world Hymenoptera); W. Schulz, 1906:205 (omitted by Bingham, 1897); Dover, 1926:234 (China: Hong Kong); R. Bohart and Menke, 1976:244 (listed); Dollfuss, 1989:10 (type material in NHMW). – **As *Liris anthracinus***: T. Li, Cai, and Li, 2007:419 (in key to *Liris* of China). – **As *Notogonia anthracina***: Ramakrishna Aiyar, 1916:552 (new combination, in catalog of Indian aculeates described after Bingham, 1897).

13. anthracinus (Cameron) (preoccupied)

Notogonia anthracina Cameron, 1903b:117, ♀, junior secondary homonym of *Liris anthracinus* Kohl, 1903. Holotype or syntypes: ♀, India: Bengal: Barrackpore 20 km N Calcutta (OXUM). – **As *Liris anthracina***: R. Bohart and Menke, 1976:244 (new combination, listed).

14. anticus (F. Smith)

Larrada antica F. Smith, 1856:287, ♂. Holotype: ♂, Brazil: "Amazons" (OXUM?). – **As *Larra antica***: Kohl, 1885a:241 (new combination, in checklist of world *Larra*); Dalla Torre, 1897:663 (in catalog of world Hymenoptera). – **As *Motes antica***: Ducke, 1908a:48 (new combination, description of ♀). – **As *Liris antica***: R. Bohart and Menke, 1976:244 (new combination, listed). – **As *Liris anticus***: Krombein and Shanks Gingras, 1984:17 (redescription); Callan, 1991a:8 (Trinidad); Amarante, 2002:41 (in catalog of Neotropical Crabronidae); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:664 (in checklist of Mexican Sphecidae); Starr and Hook, 2003:19 (in catalog of Aculeata of Trinidad, West Indies).

? *Tachysphex rufogeniculatus* Cameron, 1912a:435, ♂ (as *rufo-geniculata*, incorrect original hyphenation and termination). Holotype or syntypes: ♂, Guiana: Demerara: no specific locality (BMNH). – R. Bohart and Menke, 1976:244 (as questionable synonym of *Liris anticus*); Krombein and Shanks Gingras, 1984:17 (questionable synonym of *Liris anticus*).

15. *antilles* (Krombein)

Motes antilles Krombein, 1953c:14, ♀, ♂. Holotype: ♂, Bahamas: South Bimini Island (AMNH). – **As *Liris antilles***: Alayo Dalmau, 1973:179 (new combination, in catalog of Cuban Hymenoptera) 1976:23 (in checklist of Cuban Sphecidae); Bohart and Menke, 1976:244 (listed); Elliott, Kurczewski, Claffin, and Salbert, 1979:357 (Bahama Islands: San Salvador Island); Alayo Soto, 1982:5 (nesting habits); Simon Thomas, 1984:96 (Caribbean: St. Martin Island); Amarante, 2002:41 (in catalog of Neotropical Crabronidae); Genaro, 2006:56 (in checklist of Cuban Sphecidae and Crabronidae; also: Isla de la Juventud, Bahamas: South Bimini Island, San Salvador Island).

16. *apicalis* (W. Fox)

Notogonia apicalis W. Fox, 1896e:553, ♂. Holotype: ♂, Ethiopia: Bale Province: Sheikh Husein, now Shek Husen; (ANSP). – Cresson, 1928:43 (holotype in ANSP). – **As *Liris apicalis***: R. Bohart and Menke, 1976:244 (new combination, listed).

17. *apicipennis* (Cameron)

Notogonia apicipennis Cameron, 1889a:58, ♀, ♂. Lectotype: ♂, Panama: no specific locality (BMNH), designated by Krombein and Shanks Gingras, 1984:50. – Ashmead, 1899d:249 (in checklist of North American Crabronidae); Cheesman, 1929:151 (Martinique). – **As *Larra apicipennis***: Kohl in Dalla Torre, 1897:663 (new combination, in catalog of world Hymenoptera). – **As *Liris apicipennis***: R. Bohart and Menke, 1976:244 (new combination, listed); Krombein, 1979b:1618 (in catalog of North American Hymenoptera); Krombein and Gingras, 1984:48 (redescription; Panama to Texas); Simon Thomas, 1984:96 (Caribbean: St. Martin Island); Hanson and Menke, 1995:639 (known from Costa Rica); Amarante, 2002:39 (in catalog of Neotropical Crabronidae); Ruiz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:664 (in checklist of Mexican Sphecidae).

18. *appendiculatus* (Taschenberg)

Larrada appendiculata Taschenberg, 1870:7, ♀. Holotype or syntypes: ♀, Brazil: Minas Gerais: Congonhas (Halle). – **As *Larra appendiculata***: Kohl, 1885a:241 (new combination, in checklist of world *Larra*); Dalla Torre, 1897:661 (new combination, in catalog of world Hymenoptera). – **As *Liris appendiculata***: R. Bohart and Menke, 1976:244 (new combination by Menke, listed); Amarante, 2002:39 (in catalog of Neotropical Crabronidae).

19. *argentatus* (Palisot de Beauvois)

Larra pensylvanica Palisot de Beauvois, 1811:118, sex not indicated. Holotype or syntypes: USA: Pennsylvania: no specific locality (destroyed?). Synonymized with *Liris argentatus* by R. Bohart and Menke, 1976:244. – Cresson, 1862:237 (in catalog of North American Hymenoptera); Kohl, 1885a:246 (in checklist of world *Larra*); Cresson, 1887:277 (in catalog of North American Hymenoptera); W. Fox, 1894a:483 (unidentified species, original description copied); Dalla Torre, 1897:671 (in catalog of world Hymenoptera, as *pennsylvanica*); Weber, 1950:16 (Hawaiian Islands: ...). – **As *Larrada pensylvanica***: F. Smith, 1856:292 (new combination, in catalog of Hymenoptera in British Museum, as *Pennsylvanica*); Cresson, 1887:277 (listed). – **As ? *Tachysphex pennsylvanicus***: Ashmead, 1899d:250 (new combination, in checklist of North American Crabronidae).

Larra argentata Palisot de Beauvois, 1811:119, sex not indicated. Holotype or syntypes: USA: Pennsylvania: no specific locality (destroyed?). – Cresson, 1862:237 (in catalog of North American Hymenoptera), 1876:208 (Iowa: Davenport); Kohl, 1885a:241 (in checklist of world *Larra*); Cresson, 1887:277 (in catalog of North American Hymenoptera); Ashmead, 1890:33 (in checklist of Hymenoptera of Colorado), 1894:63 (nest, prey); Dalla Torre, 1897:663 (in catalog of world Hymenoptera); Bridwell, 1899:209 (Kansas: Baldwin, as *argentea*). – **As *Lyrops argentatus***: Say, 1837:370 (new combination, redescription); Le Conte, 1859b:754 (reprint of Say, 1837:370). – **As**

Larrada argentata: F. Smith, 1856:292 (new combination, in catalog of Hymenoptera in British Museum); Cresson, 1865b:466 (specimen in ANSP collection), 1873:214 (Texas). – **As *Notogonia argentata***: W. Fox, 1894a:485 (new combination, in revision of North American Larrinae); Ashmead, 1899d:249 (in checklist of North American Crabronidae); Cockerell, 1899a:143 (New Mexico); Viereck, 1903d:120 (Maryland: College Park); Rohwer, 1908a:224 (Colorado); H. Smith, 1908b:374 (in revision of Nebraskan Sphecidae);); F. Williams, 1914a:142 (in revision of Larrinae of Kansas), 189 (nesting habits); J.Ch. Bradley, 1928:1009 (in catalog of Hymenoptera of New York); G. Carpenter, 1930b:299 (nest closure). – **As *Notogonidea argentata***: Rohwer, 1916b:684 (new combination, in catalog of Hymenoptera of Connecticut); Mickel, 1918b:409 (in catalog of Nebraskan Sphecidae); Rau, 1922:26 (prey: *Nemobius fasciatus* DeGeer); Reinhard, 1929:67 (nesting habits); G. Carpenter, 1930b:299 (nest closure); Brimley, 1938:442 (statewide in North Carolina); K. Cooper, 1950:105 (Massachusetts: Cape Code: Woods Hole). – **As *Motes argentata***: Pate, 1943i:200 (new combination, recorded from USA); Shappirio, 1946:229 (Washington, D.C., as *argentatus*); Krombein, 1950a:267 (North Carolina: Dare County), 1951a:143 (Virginia: Dunn Loring; visiting tulip-tree honeydew, as *argentatus*); Weber, 1950b:16 (first record from Hawaiian Islands); Krombein, 1951:143 (nesting habits); G. Bohart in Muesebeck et al., 1951:954 (in catalog of North American Hymenoptera); Krombein, 1952a:93 (USA: Virginia: Westmoreland State Park), 1953a:296 (visiting foliage of *Quercus marilandica*), 297 (visiting foliage of *Liquidambar styraciflua*), 331 (North Carolina), 1953b:123 (visiting foliage of *Liquidambar styraciflua*), 125 (attracted to a grass), 132 (North Carolina: Kill Devil Hills), 1953c:14 (Cuba; Bahama Islands: South Bimini), 1954b:16 and 17 (in key); Krombein and Evans, 1954:233 (prey), 1955:232 (Florida, nesting habits); Krombein, 1958a:52 (USA: West Virginia: Lost River State Park), 1958c:103 (prey), 1958...:188 (prey); Yoshimoto, 1960:331 (Hawaiian Islands: Oahu); Krombein, 1963f:273 (Maryland: Plummers Island near Washington, D.C.); Kurczewski and Kurczewski, 1963:146 (Pennsylvania: Presque Isle State Park), 1971:134 (prey); L. Davis, 1978:217 (North Carolina: Kill Devil Hills, data from Krombein, 1953a). – **As *Liris argentata***: G. Bohart, Nye, and Hawthorn, 1970:48 (new combination, Utah: Logan, onion pollinator); Alayo Dalmau, 1973:179 (in catalog of Cuban Hymenoptera), 1976:23 (in checklist of Cuban Sphecidae); R. Bohart and Menke, 1976:244 (listed); Kumar, Lavigne, Lloyd, and Pfadt, 1976:51 (USA: Colorado: Pawnee National Grassland); Steiner, 1976:342 (stinging habits); Elliott, Kurczewski, Claffin, and Salbert, 1979:357 (Bahama Islands: San Salvador Island); Krombein, 1979b:1618 (in catalog of North American Hymenoptera); O'Brien and Kurczewski, 1982a:60 (nesting habits, overwintering); Simon Thomas, 1984:96 (Caribbean: St. Martin Island); McCoy and Rey, 1987:94 (Florida); Frommer, 1988:94 (California: Riverside County: Deep Canyon); Ahlstrom, 1995:107 (in checklist of insects of North Carolina); Kurczewski, 1998d:250 (pine barrens in upstate New York); Giles and Ascher, 2006:231 (New York: Black Rock Forest Preserve). – **As *Liris argentatus***: Krombein and Shanks Gingras, 1984:25 (redescription); Rust, Menke, and Miller, 1985:46 (California: Channel Islands), 52 (prey); Kurczewski and Spofford, 1987:121 (nesting habits); Kurczewski and Acciavatti, 1990:60 (New York: Cayuga County); Spofford and Kurczewski, 1992:996 (species of miltogrammine parasites listed), 1002 (counter-cleptoparasitic habits: freeze-stop and face-off), 1005 (post-larvipositional counter-cleptoparasitic habits: abandon prey, inordinate amount of post-provisioning time in burrow); Amarante, 2002:39 (in catalog of Neotropical Crabronidae); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:664 (in checklist of Mexican Sphecidae); Buck, 2004:25 (in checklist of Crabronidae of Ontario, Canada); Genaro, 2004a:18 (nesting habits); Amarante, 2005a:11 (correction to his 2002 catalog); Genaro, 2006:56 (in checklist of Cuban Sphecidae and Crabronidae; also: North America, St. Martin Island, Venezuela, Bahamas: San Salvador Island); Horta Vega, Pinson Domínguez, Barrientos Lozano, and Correa Sandoval, 2007: 45 (Mexico: Tamaulipas).

Tachytes murinus Dahlbom, 1843:132, ♀ (as *murina*, incorrect original termination). Lectotype: ♀, North America (ZMHU), designated by Krombein, 1976b:333. Synonymized with *Tachytes labiatus* by Dahlbom, 1845:469, with *Tachytes tricinctus* by F. Smith, 1856:306, and with *Liris argentata* by Krombein, 1976:333. – Amarante, 2005a:11 (correction to his 2002 catalog). – **As *Larra murina***: Casolari and Casolari Moreno, 1980:112 (new com-

bination, specimens in M. Spinola collection, Torino); Pagliano, 2008:543 (specimens in M. Spinola collection, Torino). – **As *Notogonia murina***: Stadelmann, 1897:255 (new combination, study of type).

Larrada nuda Taschenberg, 1870:5, ♀. Holotype: ♀, Venezuela (Halle). Synonymized with *Liris argentatus* by Krombein in Bohart and Menke, 1976:244. – **As *Larra nuda***: Kohl, 1885a:246 (new combination, in checklist of world *Larra*); Dalla Torre, 1897:671 (in catalog of world Hymenoptera).

20. *argenticauda* (Cameron)

Notogonia chrysur Cameron, 1889a:57, ♂. Holotype or syntypes: Mexico: Sinaloa: Presidio near Mazatlán (BMNH).

Synonymized with *Liris argenticauda* by R. Bohart in Bohart and Menke, 1976:244. – Ashmead, 1899d:249 (in checklist of North American Crabronidae). – **As *Larra chrysur***: Kohl in Dalla Torre, 1897:665 (new combination, in catalog of world Hymenoptera).

Notogonia argenticauda Cameron, 1889a:58, ♂. Holotype or syntypes: ♂, Mexico: Veracruz (BMNH). – Ashmead, 1899d:249 (in checklist of North American Crabronidae). – **As *Larra argenticauda***: Kohl in Dalla Torre, 1897:663 (new combination, in catalog of world Hymenoptera). – **As *Liris argenticauda***: R. Bohart and Menke, 1976:244 (new combination, listed); Krombein, 1979b:1619 (s. Texas to Costa Rica, in catalog of North American Hymenoptera); Krombein and Shanks Gingras, 1984:38 (redescription); Amarante, 2002:40 (in catalog of Neotropical Crabronidae); Ruiz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:664 (in checklist of Mexican Sphecidae).

21. *argentifrons* (Cameron)

Notogonia argentifrons Cameron, 1889a:55, sex not indicated. Holotype or syntypes: Guatemala: Pantaleon (BMNH).

– Ashmead, 1899d:249 (in checklist of North American Crabronidae). – **As *Larra argentifrons***: Kohl in Dalla Torre, 1897:663 (new combination, in catalog of world Hymenoptera)– **As *Liris argentifrons***: R. Bohart and Menke, 1976:244 (new combination, listed); Amarante, 2002:40 (in catalog of Neotropical Crabronidae).

22. *asymphonus* Krombein and Shanks Gingras

Liris asymphonus Krombein and Shanks Gingras, 1984:61. Holotype: ♂, Mexico: Morelos: Cuernavaca (USNM). – Amarante, 2002:40 (in catalog of Neotropical Crabronidae); Ruiz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:664 (in checklist of Mexican Sphecidae).

23. *aterrimus* (F. Smith)

Larrada aterrima F. Smith, 1856:282, ♀. Holotype or syntypes: ♀, South Africa: Cape of Good Hope (BMNH). – Gribodo, 1880:402 (Tunisia, identification questionable). – **As *Larra aterrima***: Kohl, 1885a:241 (new combination, in checklist of world *Larra*); Dalla Torre, 1897:664 (new combination, in catalog of world Hymenoptera). – **As *Notogonia aterrima***: Cameron, 1910b:130 (new combination, South Africa: Transvaal: Pietersburg). – **As *Liris aterrima***: R. Bohart and Menke, 1976:244 (new combination, listed).

24. *atratus* (Spinola)

Larra atrata Spinola, 1805:12, sex not indicated. Lectotype: ♀, Italy: Genova (Turin), designated by de Beaumont, 1952e:43. – Kirchner, 1867:216 (in catalog of European Hymenoptera). – **As *Tachytes atrata***: Lucas, 1849:248 (new combination, Algeria: La Calle, redescription); Acloque, 1897:93 (in Sphecid Fauna of France and Algeria); de Gaulle, 1908:121 (in catalog of French Hymenoptera). – **As *Larrada atrata***: F. Smith, 1856:275 (new combination, in catalog of Hymenoptera in British Museum); Dours, 1874:140 (in catalog of Hymenoptera of France); Girard, 1879:954 (example of *Larrada*). – **As *Liris atrata***: de Beaumont, 1952c:189 (new combination, Algeria: Hoggar), 1955a:170 (Morocco), 1956a:195 (Libya; Chad: Tibesti), 1956d:3 (Cabo Verde Islands); Morel, Nouvel, and Ribaut, 1956:338 (France: Département des Pyrénées-Orientales); Grandi, 1957:389 (Algeria: El Kantara; Italy: Sardegna); Nouvel and Ribaut, 1958:12 (France: Pyrénées-Orientales: Banyuls-sur-Mer); Suárez in Giner Marí, 1959:400 (*Liris atrata* is the correct name for *Notogonia nigrita* in Giner Marí, 1959:388); Suárez, 1959:56 (Spain: Almería Province); de Beaumont, 1960b:237 (Libya), 1961f:231 (in revision of Mediterranean *Liris*), 1962b:25

- (Spain); Ceballos, 1964:89 (in supplement to catalog of Spanish Sphecidae); Diniz, 1964a:7 (Portugal: Abrunhosa, Cascais); de Beaumont, 1965a:45 (Greece), 1966:212 (Egypt: s. Abd el Rahman near Alexandria), 1967a:330 (Turkey), 1968a:261 (Canary Islands: Fuerteventura, Gran Canaria, Tenerife); Simon Thomas, 1969a:120 (Canary Islands: Tenerife); de Beaumont, 1970a:399 (Afghanistan); Balthasar, 1972:300 (in Sphecid Fauna of Czechoslovakia: can be expected in the country); de Beaumont, Bytinski-Salz and Pulawski, 1973:4 (Israel); Erlandsson, 1974:70 (Spain); R. Bohart and Menke, 1976:244 (listed); Báez and Ortega, 1978:192 (Canary Islands); Erlandsson, 1978a:205 (Canary Islands); Kazenas, 1978b:103, 104 (in key to Sphecidae of Kazakhstan and Central Asia); Pulawski, 1978:214 (in key to Sphecidae of European part of former USSR); Wolf, 1980:72 (Canary Islands); Gayubo and Tormos, 1984:13 (Spain: Valencia); Gayubo and Tormos, 1986a:12 (Spain: Castellón de la Plana); Tormos and Jiménez, 1987a:124 (Spain: Valencia); Asís and Jiménez, 1988:270 (Spain: Castellón Province); Pagliano, 1990:101 (in catalog of Italian Sphecidae); Guichard, 1991a:339 (Jordan); Hohmann, La Roche, Ortega, and Barquín, 1993:217 (detailed locality records from Canary Islands); Simon Thomas and Wiering, 1993:404 (Cape Verde Islands: Santiago Island); Roche and Zalát, 1994:115 (Egypt: Sinai Peninsula); Smit, 2000:175 (Madeira); Kazenas, 2001:25 (in checklist of Sphecidae of Kazakhstan and Central Asia); Ebrahimi, 2006:1 (Iran). – **As *Liris atratus***: Torregrosa, Gayubo, Tormos, and Asís, 1993:18 (Spain: Alicante Province); Gayubo and Borsato, 1994:206 (Italy: Sicilia); Tormos, Asís, and Gayubo, 1994:188, 203 (Spain: Albacete Province); Negrisolo *in* Minelli, Ruffo, and La Posta, 1995b:9 (in catalog of Italian fauna); K. Schmidt and Bitsch *in* Bitsch et al., 2001:201 (in Sphecid Fauna of Western Europe); Drewes, 2003:139 (Spain: Tarragona); Pagliano and Negrisolo, 2005:350 (in Sphecid Fauna of Italy); Ebrahimi, 2008:95 (first record from Iran: Tehran: Varamin, Aliabad); T. Li, Cai, and Li, 2009a:117, 119 (in key to Palearctic *Liris*).
- Larra micans* Spinola, 1806:14. Substitute name for *Liris atrata* Spinola, 1905. – Casolari and Casolari Moreno, 1980:112 (specimens in M. Spinola collection, Torino); Pagliano, 2008:542, 543, 544 (specimens in M. Spinola collection, Torino). – **As *Liris micans***: Ljubomirov and Yildirim, 2008:192 (new combination, as valid name, in catalog of Crabronidae of Turkey); Ljubomirov, 2008:256 (known from La Palma, Canary Islands); González, Gayubo, Asís, and Tormos, 2009:623 (Spain: Salamanca and Zamora provinces: Arribes del Duero Natural Park).
- Tachytes nigrita* Lepeletier de Saint Fargeau, 1845:241, ♀, ♂. Syntypes: Algeria: Oran (MNHN). Synonymized with *Liris atrata* by de Beaumont, 1952e:42 – Brullé, 1839:91 (Canary Islands); Lucas, 1849:247 (Algeria: Alger, Bône, Constantine, Oran); Radoszkowski, 1876b:135 (Egypt); Rizzardi, 1896:14 (Libya: Tripolitania: Misratah); Acloque, 1897:93 (in Sphecid Fauna of France and Algeria). – **As *Larrada nigrita***: F. Smith, 1856:280 (new combination, in catalog of Hymenoptera in British Museum); Walker, 1871:21 (Egypt: Cairo: Sinai: Wadi Feiran, Mount Sinai); – **As *Larra nigrita***: Kohl, 1885a:246 (new combination, in checklist of world *Larra*); Dalla Torre, 1897:671 (in catalog of world Hymenoptera); Mantero, 1915:326 (Libya, subgenus *Notogonia*); Coulon, 1925:121 (Italy, Canary Islands, Tunisia). – **As *Notogonia nigrita***: Kohl, 1885a:253 (new combination, in revision of Palearctic Larrinae); Schletterer, 1889b:1128 (Canary Islands: Santa Cruz Island); Mocsáry, 1897:77 (not found in Kingdom of Hungary); Antiga and Bofill, 1904:10 (Spain: Cataluña Province); W. Schulz, 1904b:102 (Spain: Murcia), 1905b:45 (Algeria: Biskra), 68 (Tunisia: Gafsa); Graeffe, 1906:455 (Tunisia: Tunis area); von Schulthess, 1909:441 (Libya: Benghazi, Tripoli); Mercet, 1910b:165 (listed from Spain); Morice, 1911:96 (Algeria: Alger, Biskra); Ferton, 1912a:359 (Algeria, hunting habits); Smits van Burgst, 1913a:319 (Tunisia); R. Turner, 1917e:195 (Pakistan: Punjab: Multan); Morice, 1921:824 (Iraq); Picard, 1922:27 (first record from France: Alpes-Maritimes: Cannes); Ferton, 1923:123 (preying on gryllids, habits identical to these of *Notogonia pompiliformis*, now *Liris niger*); Gribodo, 1924b:51 (Libya: Chersa, Derna); Berland, 1925d:113 (in Sphecid Fauna of France); Coulon, 1925:121 (in Elbeuf Museum: no locality); Eidmann, 1927:33 (Spain: Balearic Islands); von Schulthess, 1926b:213 (Tunisia, Libya), 1927:299 (Iran: Bushehr); Richards, 1928a:360 (in revision of Mediterranean species), 1928b:219 (in key); Guiglia, 1929:396 (Libya: Cirenaica: Bengasi, Cirene, and oasis Giarabub); Kruger, 1929a:21 and 1929b:56 (Libya: Cyrenaica: es Scegga, now Shatib ash Shaqqah); Roth, 1930:83 (Algeria); Dusmet y Alonso, 1931:7 (Portugal: Soure); Guiglia, 1932d:473 (Libya: Cufra); Gussakovskij, 1933b:277 (Iran, Russia: Sarepta);

Turkmenistan, Uzbekistan); Nadig, 1933:85 (Morocco); Roth, 1934b:190 (Algeria); Giner Mari, 1943a:126 (in Sphecid Fauna of Spain), 1945b:362 (Morocco: Western Sahara), 1945e:233 (Western Sahara); Deleurance, 1946b:63 (prey: gryllids), 67 (France: Bouche-du-Rhône: Camargue: Bois des Rièges); Giner Mari, 1947:25 (Western Sahara); 1959:388 (Morocco: Rabat); Lomholdt, 1975a:10 (Madeira). – **As *Notogonidea nigrita***: Giner Mari, 1934:133 (new combination, Spain); Berland, 1939:85 (Western Sahara: Villa Cisneros), 1943a:314 (Western Sahara: Villa-Cisneros). – **As *Leptolarra nigrita***: Guiglia, 1936:6 (new combination, Libya: Fezzan: Gatron, and El Giof in Cufra oasis); 1937:188 (Libya: Cyrenaica: Marada, Mechili); de Beaumont, 1940a:18 (Egypt); de Andrade, 1949:13 (Portugal); Diniz, 1959:29 (Portugal: Cascais, Lisboa, Mitra, Soure). – **As *Motes nigrita***: Guiglia, 1940a:289 (new combination, Libya: Hun, Zella), 1942b:233 (Libya). – **As *Liris nigrita***: de Beaumont, 1950d:14 (new combination, Egypt: Siwa oasis), 1950f:405 (Algeria), 1953a:175 (Mauritania), 1954b:3 (Canary Islands); Grandi, 1954:238 (Algeria: Biskra); Ceballos, 1956:375 (in catalog of Hymenoptera of Spain); Báez and Ortega, 1978:192 (Canary Islands); Al-Houty, 1989:160 (Kuwait: Sulabiya).

Notogonia pharaonum Kohl, 1906a:220, ♂. Holotype: ♂, Egypt: Cairo (NHMW). Synonymized with *Notogonia nigrita* by Richards, 1928a:360, synonymy confirmed by de Beaumont, 1961f:231. – von Schulthess, 1926b:214 (Libya: Benghazi); Guiglia, 1934b:302 (Libya: bibliography and summary of locality records); de Beaumont, 1940a:18 (Egypt).

Larra sp.: Groh, 1982:260 (Cape Verde Islands), corrected to *Liris atratus* by Simon Thomas and Wiering, 1993:404.

25. *atripennis* Tsuneki

Liris atripennis Tsuneki, 1982a:27, ♀. Holotype: ♀, Bismarck Archipelago: New Ireland: Lemkamin (ZMK). – Tsuneki, 1982a:18 (in key).

26. *atropos* Gribodo

Liris atropos Gribodo, 1894c:134, ♀ (as *Atropos*, incorrect original capitalization). Holotype: ♀, Mozambique: Magnarra River (Mus. Zool. Univ. Bologna). – Arnold, 1923b:2253 (revision), 1930:7 (in checklist of Afrotropical Sphecidae), 1935a:498 (South Africa: Kalahari); de Beaumont, 1967b:508 (Namibia); R. Bohart and Menke, 1976:244 (listed); Tommasini and Marini, 1984:41 (type depository). – **As *Larra atropos***: Kohl in Dalla Torre, 1897:664 (new combination, in catalog of world Hymenoptera).

Liris africana R. Turner, 1917f:295, ♀. Holotype or syntypes: ♀, Zimbabwe: Bulawayo (BMNH or SAM?). Synonymized with *Liris atropos* by Arnold, 1923b:253.

27. *atrox* Arnold

Liris atrox Arnold, 1959:330, ♀. Holotype: ♀, Zambia: Abercorn (BMNH). – R. Bohart and Menke, 1976:244 (listed).

28. *aurarius* Tsuneki

Liris aurarius Tsuneki, 1983c:9, ♂ (subgenus *Liris* s. s.). Holotype: ♂, New Guinea: Satterberg (TMB).

29. *aureohirtus* Tsuneki

Liris aureohirta Tsuneki, 1982a:30, ♂, incorrect original termination. Holotype: ♂, Bismarck Archipelago: New Britain: Yalom (ZMK). – Tsuneki, 1982:17 (in key).

ssp. pallidulus Tsuneki

Liris aureohirta pallidula Tsuneki, 1982a:30, ♂, incorrect original termination. Holotype: ♂, Bismarck Archipelago: New Ireland: Lemkamin (ZMK). – Tsuneki, 1982a:17 (in key).

30. *aurifrons* (F. Smith)

Larrada aurifrons F. Smith, 1858b:16, ♂. Holotype: ♂, Indonesia: Sulawesi: no specific locality (OXUM). – **As *Larra aurifrons***: Kohl, 1885a:242 (new combination, in checklist of world *Larra*); Dalla Torre, 1897:664 (in cata-

log of world Hymenoptera). – **As *Liris aurifrons***: Pulawski, 1975a:318 (new combination, diagnostic characters); R. Bohart and Menke, 1976:244 (listed).

Liris nitidus Cameron, 1913:113, ♀. Holotype: ♀, India: Uttar Pradesh: Dehra Dun (BMNH). Synonymized with *Liris aurifrons* by Pulawski, 1975a:318. – Ramakrishna Aiyar, 1916:553 (in catalog of Indian aculeates described after Bingham, 1897).

31. *aurulentus* (Fabricius)

Sphex aurulentus Fabricius, 1787:274, sex not indicated (as *aurulenta*, incorrect original termination). Holotype or syntypes: China: no specific locality (depository unknown). – Gmelin, 1790:2725 (redescription); Fabricius, 1796:155 (in Index to his Entomologia Systematica, 1793). – **As *Larrada aurulenta***: F. Smith, 1856:276 (new combination, in catalog of Hymenoptera in British Museum), 1858b:16 (Indonesia: Sulawesi), 1860b:123 (Indonesia: Moluccas: Batjan), 1863a:34 (Indonesia); Taschenberg, 1870:7 (Java); Magretti, 1884c:584 (Eritrea: Khor Cheru, record erroneous for geographic regions). – **As *Tachytes aurulenta***: Lepeletier de Saint Fargeau, 1845:247 (new combination, in revision of world Hymenoptera) – **As *Larra aurulenta***: Cresson, 1862:237 (new combination, in catalog of North American Hymenoptera); Bradley, 1957:44 (Lepeletier de Saint Fargeau's specimens in Turin); Casolari and Casolari Moreno, 1980:112 and 113 (specimens in M. Spinola collection, Torino); Pagliano, 2008:545 (specimens in M. Spinola collection, Torino). – **As *Liris aurulenta***: van der Vecht, 1961a:19 (new combination, discussion of type material); Tsuneki, 1963i:102 (Malaya), 1964l:62 (key); Baltazar, 1966:333 (in catalog of Hymenoptera of Philippines); Tsuneki, 1966g:1 (Taiwan, Ryukyu Islands), 1967b:27 (Taiwan); T. Iida, 1971:26 (description of larva); Okumura, 1971:22 (Japan: Ryukyu Islands: Amami-Oshima Islands; nesting habits); Tsuneki, 1967i:388 (Taiwan); Haneda, 1971b:29 (Taiwan); Tsuneki, 1971h:2 (Taiwan); Haneda, 1972a:3 (Taiwan); Tano, 1972:23 (Japan: Ryukyu Islands); Murota, 1973a:101 (Ryukyu Islands: Amami-Oshima Islands); Murota, 1973b:118 (Taiwan); Tsuneki, 1974b:599 (Thailand), 1977c:22 (Taiwan), 1976b:59 (Philippines; description of ♀), 1977j:268 (Taiwan), 1982a:10 (in key); Tsuneki, 1982g:58 (known from the Ryukyu archipelago), 1983c:7 (New Guinea); Wu and Zhou, 1996a:80 (in revision in Economic Insect Fauna of China); Porter, Stange, and Wang, 1999:7 (in checklist of Sphecidae of Taiwan); Melo, 2000:105 (one nest occupied by more than one female); Ohl and Linde, 2003:150 (number of ovarioles); Terayama, 2004a:5 (Japan: Volcano Islands: Iwo islands). – **As *Liris aurulentus***: Yamane, Ikudome, and Terayama, 1999:513 (in Identification Guide to Crabronidae of Nansei = Ryukyu Islands, Japan); Hua, 2006:280 (in list of Chinese insects, geographic distribution); T. Li, Cai, and Li, 2007:418, 421 (in key to *Liris* of China), 200a:117 (in key to Palearctic *Liris*).

Sphex auratus Fabricius, 1787:276, sex not indicated, junior primary homonym of *Sphex auratus* Linnaeus, 1758, a chrysidid. Holotype: ♀, India: no specific locality (ZMK). Synonymized with *Sphex aurulentus* by Fabricius, 1793:213. – Fabricius, 1793:213 (redescription), 1796:155 (in Index to his Entomologia Systematica, 1793). – **As *Pompilus auratus***: Fabricius, 1798:250 (new combination, redescription). – **As *Lyrops auratus***: Guérin-Ménéville, 1844:440 (new combination, redescription). – **As *Larra aurata***: Jurine, 1807:145 (J.Ch. Bradley, 1928:1009 (in catalog of Hymenoptera of New York); listed); Kohl, 1885a:241 (in checklist of world *Larra*); Dalla Torre, 1897:664 (in catalog of world Hymenoptera); R. Brown, 1906:687 (in catalog of Philippine Hymenoptera); Casolari and Casolari Moreno, 1980:112 and 113 (specimens in M. Spinola collection, Torino); Pagliano, 2008:545 (specimens in M. Spinola collection, Torino). – **As *Liris aurata***: Fabricius, 1804:228 (new combination, redescription); Dahlbom, 1843:135 (in revision of Sphecidae and Pompilidae), 1845:XXIII (type specimens are *Liris*), 471 (in key); Kohl, 1885:131 (...); Cameron, 1889c:125 (India: Calcutta District, as *auratus*); Kohl, 1892:227 and 229 (in key); Bingham, 1896a:44 (Sri Lanka: Pundaluoya), 1897:206 (redescription), 1905:43 (Malaysia: Biserat, Mabek); Cameron, 1905k:64 (Java, as *auratus*), 1906a:57 (New Guinea: Irian Jaya: Humboldt Bay); Paiva, 1907:15 (India: West Bengal: Siliguri); Nurse, 1914:444 (India: Assam: Sadiya, Kobo); F. Williams, 1919d:138 (Philippines: Luzon: Los Baños: nesting habits); Dover, 1926:234 (China: Hong Kong); F. Williams, 1928a:82 (Philippines, revision); von Schulthess, 1932:42 (Noron: Samarinda); Richards, 1935a:154 (incorrectly

claimed that *Liris auratus* was the types species of *Liris*); Yasumatsu, 1937b:129 (Mariana Islands: Saipan), 1941:45 (Mariana Islands); Swezey, 1942:184 (Guam); Tsuneki, 1962a:5 (Ryukyu Islands: Amami Oshima Islands; as *aurata* subsp.), 1983c:28 (cited from New Guinea by Cameron, 1906).

Tachytes opulentus Lepeletier de Saint Fargeau, 1845:246, ♀, ♂ (as *opulenta*, incorrect original termination). Syn-types: Indonesia: Java: no specific locality (depository?). Synonymized with *Larrada aurulenta* by F. Smith, 1856:276. – Bradley, 1957:44 (Lepeletier de Saint Fargeau's specimens in Turin). – **As *Liris opulenta***: Weber, 1947:22 (new combination, ...); Krombein, 1949b:383 (in key to Sphecidae of Micronesia), 397 (Marshall, Mariana, and Caroline Islands); Yoshimoto, 1960:332 (Hawaiian Islands: Oahu); Iwata and Yoshikawa, 1961:399 (Thailand), 405 (prey), 406 (ovary structure); Iwata, 1964b:372 (nesting habits in Thailand); Iwata, 1965:107 (number of oocytes).

Tachytes auropilosus Rohwer, 1911a:484, ♀. Holotype: ♀, Taiwan: Horisha (USNM). Synonymized with *Liris aurulentus* by Tsuneki, 1967b:27. – Tsuneki, 1966g:14 (discuss.), 1967b:42 (discuss.)

Tachytes sinensis var. *purpureipennis* Matsumura and Uchida, 1926:42, ♀, ♂. Syntypes: Japan: Okinawa: Okinawa-honto, Ishigakijima (Hokkaido Univ., Sapporo). Synonymized with *Liris aurulentus* by Tsuneki, 1967b:27. – **As *Tachytes sinensis purpureipennis***: Tsuneki, 1967b:42 (new combination, new status, discussion).

32. *australis* (de Saussure)

Tachytes australis de Saussure, 1854:19, ♀. Holotype or syntypes: New Holland, now Australia: no specific locality (MNHN). – Dalla Torre, 1897:687 (in catalog of world Hymenoptera). – **As *Larrada australis***: F. Smith, 1856:285 (new combination, in catalog of Hymenoptera in British Museum); de Saussure, 1863:69 (transfer to *Larrada* recorded); Rawes Whittell, 1883:31 (usurping nests of *Sceliphron laetum*, identification certainly in error); Froggatt, 1892:218 (in catalog of Australian Hymenoptera). – **As *Larra australis***: R. Turner, 1908:474 (new combination). – **As *Notogonia australis***: R. Turner, 1916c:306 (new combination), 1916e:281 (in revision of Australian *Liris*). – **As *Liris australis***: R. Bohart and Menke, 1976:244 (tentativenew combination, listed); Cardale, 1985:236 (in catalog of Australian Sphecidae).

33. *avellanipes* (de Saussure)

Notogonia avellanipes de Saussure, 1890: pl. 19, fig. 8. Holotype: ♀, illustrated specimen, Madagascar: no specific locality (MHNG). – **As *Larra avellanipes***: Kohl in Dalla Torre, 1897:664 (new combination, in catalog of world Hymenoptera). – **As *Liris avellanipes***: R. Bohart and Menke, 1976:244 (new combination, listed); Pulawski, 2003b:796 (in checklist of Malagasy Sphecidae).

Notogonia avellanipes de Saussure, 1891:261, ♀. Objective synonym of *Notogonia avellanipes* de Saussure, 1890. Lectotype: ♀, Madagascar: no specific locality (MHNG), unnecessary designation by Leclercq, 1961d:112. – de Saussure, 1892:508 (Madagascar; redescription); Arnold, 1945:122 (Madagascar; redescription). – **As *Motes avellanipes***: Leclercq, 1960a:97 (new combination, Madagascar), 1961d:111 (Madagascar).

ssp. flavivena Arnold

Liris avellanipes race *flavivena* Arnold, 1947:156, ♀. Holotype: ♀, Zimbabwe: Rhodesdale (SAM). – **As *Liris avellanipes flavivena***: R. Bohart and Menke, 1976:248 (new combination, new status, listed).

34. *baguionis* Tsuneki

Liris baguionis Tsuneki, 1983a:13, ♀. Holotype: ♀, Philippines: Luzon: Baguio City (USNM). – Tsuneki, 1983a:45 (in key); 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, 1995:45 (holotype in K. Tsuneki collection).

35. *bakeri* (F. Williams)

Notogonidea bakeri F. Williams, 1928a:74, ♀, ♂. Holotype: ♀, Philippines; Samar: no specific locality (BISHOP). – **As *Motes bakeri***: – Baltazar, 1966:330 (new combination, in catalog of Hymenoptera of Philippines). – **As *Liris***

bakeri: R. Bohart and Menke, 1976:244 new combination, (listed); Tsuneki, 1982a:18 (in key), 20 (Bismarck Archipelago; redescription), 1983a:30 (Philippines; taxonomic comments), 47, 48 (in key).

36. *banoensis* Tsuneki

Liris robustoides F. Williams, 1928:77, ♂ only, corrected to *Liris banoensis* by Tsuneki, 1983a:109.

Liris banoensis Tsuneki, 1983a:109, ♂. Holotype: ♂, Philippines: Los Baños, allotype of *Liris robustoides* F. Williams (BISHOP).

37. *basilissa* (R. Turner)

Notogonia basilissa R. Turner, 1908:476, ♀. Holotype or syntypes: ♀, Australia: Queensland: Mackay (BMNH). – R. Turner, 1916e:284 (in revision of Australian *Liris*). – **As *Liris basilissa***: R. Bohart and Menke, 1976:244 (new combination, listed); Cardale, 1985:235 (in catalog of Australian Sphecidae).

38. *beatus* (Cameron)

Notogonia violaceipennis Cameron, 1889a:51, ♀. Holotype or syntypes: ♀, Panama: Volcan de Chiriquí (BMNH). Synonymized with *Liris beata* by Krombein, 1979:1619. – Ashmead, 1899d:249 (in checklist of North American Crabronidae). – **As *Larra violaceipennis***: Kohl in Dalla Torre, 1897:675 (new combination, in catalog of world Hymenoptera). – **As *Liris violaceipennis***: R. Bohart and Menke, 1976:248 (new combination, listed).

Notogonia montezuma Cameron, 1889a:52, [♀]. Holotype or syntypes: ♀: Mexico: northern Sonora (BMNH). Synonymized with *Liris beatus* by Krombein, 1979:1619. – Ashmead, 1899d:249 (in checklist of North American Crabronidae). – **As *Larra montezuma***: Kohl in Dalla Torre, 1897:670 (new combination, in catalog of world Hymenoptera). – **As *Liris montezuma***: R. Bohart and Menke, 1976:244 (new combination, as questionable synonym of *Liris aequalis*).

Notogonia truncata Cameron, 1889a:54, ♀, ?♂. Holotype: ♀, Costa Rica: Cache (BMNH). Junior secondary homonym of *Liris truncatus* (F. Smith, 1856). Synonymized with *Liris beatus* by Krombein, 1979:1619.

Notogonia beata Cameron, 1889a:56, [♂]. Holotype or syntypes: ♂: Mexico: Veracruz: Orizaba (BMNH). – Ashmead, 1899d:249 (in checklist of North American Crabronidae). – **As *Larra beata***: Kohl in Dalla Torre, 1897:664 (new combination, in catalog of world Hymenoptera). – **As *Liris beata***: R. Bohart and Menke, 1976:244 (new combination, listed); Krombein, 1979b:1619 (in catalog of North American Hymenoptera); Ahlstrom, 1995:108 (in checklist of insects of North Carolina). – **As *Liris beatus***: Krombein and Shanks Gingras, 1984:40 (redescription); Rust, Menke, and Miller, 1985:46 (California: Channel Islands); Parks, 1986:34 (California: Torrey Pine State Reserve); Amarante, 2002:40 (in catalog of Neotropical Crabronidae); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:664 (in checklist of Mexican Sphecidae); Buck, 2004:25 (in checklist of Crabronidae of Ontario, Canada), 29 (distribution within Ontario), 44 (first record from Canada: Ontario: Pinery Provincial Park); Horta Vega, Pinson Domínguez, Barrientos Lozano, and Correa Sandoval, 2007: 45 (Mexico: Tamaulipas).

Notogonia nigripennis W. Fox, 1894a:486, ♀, Holotype: ♀: New York (ANSP), junior primary homonym of *Notogonia nigripennis* Cameron, 1889. Synonymized with *Motes aequalis* by G. Bohart in Muesebeck et al., 1951:954, and with *Liris beata* by Krombein, 1979:1619. – Ashmead, 1899d:249 (in checklist of North American Crabronidae); Cresson, 1928:45 (holotype in ANSP); Amarante, 2005a:11 (correction to his 2002 catalog). – **As *Notogonidea nigripennis***: J.Ch. Bradley, 1928:1009 (new combination, in catalog of Hymenoptera of New York); Brimley, 1938:442 (statewide in North Carolina). – **As *Motes nigripennis***: Pate, 1943i:200 (new combination, recorded from USA).

Notogonia aequalis W. Fox, 1894a:486, ♀, ♂. Lectotype: ♀, USA: New York (ANSP), designated by Cresson, 1928:43. Synonymized with *Liris beata* by Krombein, 1979:1619. – Ashmead, 1899d:249 (in checklist of North American Crabronidae). – **As *Larra aequalis***: Kohl in Dalla Torre, 1897:661 (new combination, in catalog of world Hymenoptera). – **As *Motes aequalis***: Pate, 1943i:200 (new combination, recorded from USA); G. Bohart in Muesebeck et al., 1951:954 (as new combination, in catalog of North American Hymenoptera); Krombein, 1953a:331 (North Carolina), 1954b:16 and 17 (in key); Krombein and Evans, 1955:231 (Florida: Arcadia); Krom-

- bein, 1958:188 (prey); L. Davis, 1978:217 (North Carolina: Kill Devil Hills, data from Krombein, 1953a). – **As *Liris aequalis***: R. Bohart and Menke, 1976:244 (new combination, as questionable synonym of *Liris beata*); Kurczewski, 1976:329 (male territorial habits); Frommer, 1988:94 (California: Riverside County: Deep Canyon); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:664 (in checklist of Mexican Sphecidae).
- Larra nigripennata* Dalla Torre, 1897:670. Substitute name for *Larra nigripennis* (W. Fox), junior secondary homonym of *Larra nigripennis* (Cameron, 1889) = *Liris nigripennis* (Cameron). Synonymized with *Motes aequalis* by G.E. Bohart in Muesebeck et al., 1951:954, and with *Liris beata* by Krombein, 1979:1619.
- Larra truncatula* Dalla Torre, 1897:675. Substitute name for *Larra truncata* (Cameron, 1889), junior secondary homonym of *Larra truncata* (F. Smith, 1856) = *Larrada truncata* F. Smith. Synonymized with *Liris beata* by Krombein, 1979:1619.
- Liris nigripennis occidentalis* Viereck, 1903b:731, ♀. Holotype: ♀, USA: California or New Mexico: no specific locality (ANSP). Synonymized with *Motes aequalis* by G.E. Bohart in Muesebeck et al., 1951:954, and with *Liris beatus* by Krombein, 1979:1619. – **As *Motes occidentalis***: Pate, 1943i:200 (new combination, new status, recorded from USA).
- Notogonia subaequalis* Rohwer, 1909f:370, ♀. Holotype: ♀, Texas: Fedor (MCZ). Synonymized with *Motes aequalis* by G. Bohart in Muesebeck et al., 1951:954, and with *Liris beata* by Krombein, 1979:1619. – **As *Motes subaequalis***: Pate, 1943i:200 (new combination, recorded from USA).

39. *bellus* (Lepeletier de Saint Fargeau, 1845)

- Tachytes bellus* Lepeletier de Saint Fargeau, 1845:248, ♀ (as *bella*, incorrect original termination). Holotype or syntypes: ♀, Brazil: no specific locality (originally coll. Serville, now?). – F. Smith, 1856:305 (in catalog of Hymenoptera in British Museum); Dalla Torre, 1897:688 (in catalog of world Hymenoptera). – **As *Larra bella***: Bradley, 1957:44 (new combination, Lepeletier de Saint Fargeau's specimens in Turin). – **As *Liris bella***: R. Bohart and Menke, 1976:244 (new combination, listed). – **As *Liris bellus***: Hanson and Menke, 1995:639 (known from Costa Rica); Amarante, 2002:40 (in catalog of Neotropical Crabronidae).

40. *bembesianus* (Bischoff)

- Notogonia bembesiana* Bischoff, 1913c:71, ♀, ♂. Syntypes: Zimbabwe: Bembesi (ZMB). – **As *Notogonidea bembesiana***: Arnold, 1923b:237 (new combination, revision), 1930:6 (in checklist of Afrotropical Sphecidae); Schouteden, 1930:91 (Zaire). – **As *Liris bembesiana***: R. Bohart and Menke, 1976:244 (new combination, listed).

ssp. pseudocroesus Arnold

- Motes bembesiana* var. *pseudocroesus* Arnold, 1940:124, ♀. Holotype: ♀, Zimbabwe: Sabi Valley (SAM). – **As *Liris bembesiana pseudocroesus***: R. Bohart and Menke, 1976:244 (new combination, new status, listed).

41. *bengalensis* (Cameron)

- Notogonia bengalensis* Cameron, 1903b:123, ♀. Holotype or syntypes: ♀, India: Bengal: Barrackpore 20 km N Calcutta (OXUM). – Ramakrishna Aiyar, 1916:552 (in catalog of Indian aculeates described after Bingham, 1897). – **As *Liris bengalensis***: R. Bohart and Menke, 1976:244 (new combination, listed).

42. *bequaerti* Arnold

- Notogonidea bequaerti* Arnold, 1929c:394, ♀ (as *Bequaerti*, incorrect original capitalization). Holotype: ♀, Zaire: Zambi (MRAC). – Arnold, 1930:6 (in checklist of Afrotropical Sphecidae); Schouteden, 1930:91 (Zaire). – **As *Liris bequaerti***: R. Bohart and Menke, 1976:24. (new combination, listed).

43. *bicolor* (W.F. Kirby)

- Notogonia bicolor* W.F. Kirby, 1900:16, ♀. Holotype: ♀, Yemen: Sokotra Island: Adho Dimellus (BMNH). – W.F. Kirby, 1903:243 (Socotra, redescription); Kohl, 1906a:218 (original description copied). – **As *Liris bicolor***: R. Bohart and Menke, 1976:244 (new combination, listed).

44. *bidentatus* (Arnold)

Notogonidea bidentata Arnold, 1923b:240, ♀. Holotype: ♀, Zimbabwe: Bulawayo (SAM). – Arnold, 1930:6 (in checklist of Afrotropical Sphecidae). – **As *Liris bidentata***: R. Bohart and Menke, 1976:244 (new combination, listed). – **As *Liris bidentatus***: Dollfuss, 1993a:693 (Central African Republic: Kembe).

45. *biroi* Tsuneki

Liris biroi Tsuneki, 1983c:14, ♀ (subgenus *Leptolarra*). Holotype: ♀, New Guinea: Huon Golf: Satterberg (TMB). – Tsuneki, 1983c:31 (in key).

46. *bismarckanus* Tsuneki

Liris bismarckana Tsuneki, 1982a:15, ♀, incorrect original termination. Holotype: ♀, Bismarck Archipelago: New Ireland: Yalom (ZMK). – Tsuneki, 1982a:11 (in key).

47. *borneanus* Tsuneki

Liris borneanus Tsuneki, 1974b:610, ♂ (as *borneana*, incorrect original termination). Holotype: ♂, Borneo: Kota Kinabalu (K. Tsuneki coll.). – R. Bohart and Menke, 1976:629 (listed).

48. *bradleyi* (Maidl)

Notogonia bradleyi Maidl, 1925a:382, ♀, ♂. Syntypes: Indonesia: Sumatra: no specific locality (NHMW). – **As *Liris bradleyi***: R. Bohart and Menke, 1976:244 (new combination, listed); Dollfuss, 1989:10 (type material in NHMW).

49. *braueri* Kohl

Liris braueri Kohl, 1884a:356, ♀, ♂ (as *Braueri*, incorrect original capitalization). Syntypes: Egypt: Sinai Peninsula: Tor (NHMW). – Kohl, 1885a:257 (in revision of Palearctic Larrinae), 1892:228 and 229 (in key); Dalla Torre, 1897:664 (in catalog of world Hymenoptera); Kohl 1906a:221 (Arabian Peninsula: Makalla), 1908b:310 (Sri Lanka: Kandi); Balthasar, 1954b:270 (Palestine: Wadi el Kelt near Jericho); de Beaumont, 1961f:223 (in revision of Mediterranean *Liris*), 1970c:14 (Iran: Baluchistan); de Beaumont, Bytinski-Salz and Pulawski, 1973:4 (Israel); R. Bohart and Menke, 1976:244 (listed); Kazenas, 1978b:102, 103 (in key to Sphecidae of Kazakhstan and Central Asia); Roche and Zalut, 1994:115 (Egypt: Sinai Peninsula); Guichard, 1980:226 (Oman); Dollfuss, 1989:10 (type material in NHMW); T. Li, Cai, and Li, 2009a:117, 118 (in key to Palearctic *Liris*). – **As *Larra braueri***: Kohl, 1885a:242 (new combination, in checklist of world *Larra*).

50. *braunsi* (Arnold)

Notogonidea braunsi Arnold, 1923b:238, ♀ (as *Braunsi*, incorrect original capitalization). Holotype: ♀, Zimbabwe: Salisbury, now Harare (SAM). – Arnold, 1930:6 (in checklist of Afrotropical Sphecidae). – **As *Motes braunsi***: Guiglia, 1943c:76 (new combination, Ethiopia: Gamo Gofa: Sagan–Omo region, determination tentative), 1950:257 (Ethiopia: Caschei, determination tentative). – **As *Liris braunsi***: R. Bohart and Menke, 1976:244 (new combination, listed); Dollfuss, 1993a:693 (Central African Republic: Kembe).

51. *bredoi* Benoit

Liris bredoi Benoit, 1951:127, ♀ (as *Bredoi*, incorrect original capitalization). Holotype: ♀, Zaire: Albert Lake, now Lake Mobutu Sese Seko (MRAC). – R. Bohart and Menke, 1976:244 (listed).

52. *brunnipennis* Arnold

Liris brunnipennis Arnold, 1945:130, ♀, ♂. Syntypes: Madagascar: Bekily (MNHN). – R. Bohart and Menke, 1976:244 (listed); Madl, 1997:820 (Madagascar: Nosy Boraha Island), 821 (in checklist of Nosy Boraha Sphecidae); Pulawski, 2003b:796 (in checklist of Malagasy Sphecidae, as *brunneipennis*). – **As *Motes brunnipennis***: Leclercq, 1960a:97 (new combination, Madagascar), 1961d:115 (Madagascar).

53. caeruleipennis (Maidl)

Notogonia caeruleipennis Maidl, 1925a:383, ♀. Syntypes: ♀, Indonesia: Sumatra: no specific locality (NHMW). – **As *Liris caeruleipennis***: R. Bohart and Menke, 1976:244 (new combination, listed); Dollfuss, 1989:10 (type material in NHMW).

54. cameroni Tsuneki

Liris cameroni Tsuneki, 1976b:66, ♀. Holotype: ♀, Philippines: Mindanao: Sapamoro (ZMK). – Tsuneki, 1983a:46 (in key).

55. campestris (F. Smith)

Larrada campestris F. Smith, 1856:286, ♀. Holotype or syntypes: ♀, Brazil: Amazonas: Villa Nova, now Parintins (BMNH). – Taschenberg, 1870:2 (additional description); Strand, 1910a:158 (Paraguay); Schrottky, 1913a:231 (Argentina: Mendoza). – **As *Larra campestris***: Kohl, 1885a:242 (new combination, in checklist of world *Larra*); Dalla Torre, 1897:665 (new combination, in catalog of world Hymenoptera); Schrottky, 1903b:177 (in checklist of Hymenoptera of Argentina, Paraguay, and Uruguay); Jörgensen, 1912:291 (Argentina: Mendoza Province). – **As *Liris campestris***: R. Bohart and Menke, 1976:244 (new combination, listed); Amarante, 2002:40 (in catalog of Neotropical Crabronidae).

56. carinatus Tsuneki

Liris carinatus Tsuneki, 1976b:68, ♀ (as *carinata*, incorrect original termination). Holotype: ♀, Philippines: Palawan: Pinigisan (ZMK).

57. carolinensis Yasumatsu

Liris mindanaoensis carolinensis Yasumatsu, 1941:46, ♂. Holotype: ♂, Caroline Islands: Tol: Olej-Foup (Fukuoka). – **As *Liris carolinensis***: Krombein, 1950b:141 (new status), 142 (in key); R. Bohart and Menke, 1976:244 (listed).

58. cavicola Tsuneki

Liris cavicola Tsuneki, 1983a:39, ♀ (subgenus *Leptolarra*). Holotype: ♀, Philippines: Mindanao: Cagayan de Oro: Makambus Cave (originally K. Tsuneki coll., now USNM). – 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, 1995:45 (holotype in K. Tsuneki collection).

59. championi (Cameron)

Notogonia championi Cameron, 1889a:53, [♀]. Holotype or syntypes: ♀, Guatemala: Paraiso (BMNH). – **As *Larra championi***: Kohl in Dalla Torre, 1897:665 (new combination, in catalog of world Hymenoptera, as *championii*). – Ashmead, 1899d:249 (in checklist of North American Crabronidae). – **As *Liris championi***: R. Bohart and Menke, 1976:244 (new combination, listed); Krombein and Shanks Gingras, 1984:44 (redescription); Amarante, 2002:40 (in catalog of Neotropical Crabronidae); Ruiz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:664 (in checklist of Mexican Sphecidae).

60. cheesmanae Menke

Notogonidea nitida Cheesman, 1937:206, ♀, junior secondary homonym of *Liris nitidus* Cameron, 1913. Holotype: ♀, Vanuatu: Malekula (BMNH).

Liris cheesmanae Menke in Bohart and Menke, 1976:244. Substitute name for *Liris nitida* (Cheesman, 1937) Bohart and Menke, 1976:244.

61. chrysobaptus (F. Smith)

Larrada chrysobapta F. Smith, 1862:56, ♀. Holotype or syntypes: ♀, Indonesia: Sulawesi: Tondano (BMNH). – **As *Larra chrysobapta***: Kohl, 1885a:242 (new combination in checklist of world *Larra*); Dalla Torre, 1897:665 (in

catalog of world Hymenoptera). – **As *Liris chrysobapta***: R. Bohart and Menke, 1976:244 (new combination, listed).

62. *chrysonotus* (F. Smith)

Larrada chrysonota F. Smith, 1869:304, ♀. Holotype or syntypes: ♀, Australia: Western Australia: Champion Bay (BMNH). – Froggatt, 1892:219 (in catalog of Australian Hymenoptera). – **As *Larra chrysonota***: Kohl, 1885a:242 (new combination, in checklist of world *Larra*); W. Schulz, 1908:477 (Australia: Coolgardie, redescription); Dalla Torre, 1897:665 (in catalog of world Hymenoptera). – **As *Notogonia chrysonota***: R. Turner, 1908:475 (new combination, Australia), 1916e:283 (in revision of Australian *Liris*). – **As *Liris chrysonota***: R. Bohart and Menke, 1976:244 (new combination, listed); Cardale, 1985:235 (in catalog of Australian Sphecidae); Naumann, 1998:185 (Australia: northwest Queensland: Musselbrook area, approximately 18°40'S 138°23'E).

Larrada crassipes F. Smith, 1873c:294, ♀, ♂. Syntypes: South Australia: no specific locality (BMNH). Synonymized with *Notogonia chrysonota* by R. Turner, 1908:475. – Froggatt, 1892:218 (in catalog of Australian Hymenoptera). – **As *Larra crassipes***: Kohl, 1885a:242 (new combination, in checklist of world *Larra*); Dalla Torre, 1897:665 (in catalog of world Hymenoptera).

63. *ciliatus* (F. Smith)

Larrada ciliata F. Smith, 1856:283, ♀. Holotype or syntypes: ♀, South Africa: no specific locality (BMNH). – **As *Larra ciliata***: Kohl, 1885a:242 (new combination, in checklist of world *Larra*); Dalla Torre, 1897:665 (in catalog of world Hymenoptera). – **As *Notogonia ciliata***: R. Turner, 1920b:496 (new combination, South Africa: Cape Province; Namibia). – **As *Notogonidea ciliata***: Arnold, 1923b:234 (new combination, revision), 1930:6 (in checklist of Afrotropical Sphecidae), 1935a:498 (South Africa: Kalahari). – **As *Liris ciliata***: R. Bohart and Menke, 1976:244 (new combination, listed).

64. *claripennis* Tsuneki

Liris claripennis Tsuneki, 1982a:16, ♀. Holotype: ♀, Bismarck Archipelago: Dyaul Island: Sumuna (ZMK). – Tsuneki, 1982a:13 (in key).

65. *claviformis* T. Li, Cai, and Li

Liris claviformis T. Li, Cai, and Li, 2009a:112, ♀, ♂. Holotype: ♀, Cina: Yunnan: Jinping County: Mengla (ZIB). – T. Li, Cai, and Li, 2009a:117, 119 (in key to Palearctic *Liris*).

66. *cleopatra* de Beaumont

Liris cleopatra de Beaumont, 1961f:231, ♀, ♂. Holotype: ♀, Egypt: Ghiza (originally W. Pulawski coll., now CAS). – Pulawski, 1964:82 (Egypt: Luxor; diagnostic character); Osborn and Krombein, 1969:16 (nw Sudan: Gebel 'Uweinat: Wadi Ain el Brins); de Beaumont, Bytinski-Salz and Pulawski, 1973:5 (Israel); R. Bohart and Menke, 1976:244 (listed); T. Li, Cai, and Li, 2009a:117, 119 (in key to Palearctic *Liris*).

67. *clypeatus* (F. Smith)

Larrada clypeata F. Smith, 1873c:294, ♀. Holotype or syntypes: ♀, New Caledonia: no specific locality (BMNH). – **As *Larra clypeata***: Kohl, 1885a:242 (new combination, in checklist of world *Larra*); Dalla Torre, 1897:665 (in catalog of world Hymenoptera). – **As *Notogonia clypeata***: R. Turner, 1919b:239 (new combination; New Caledonia, Vanuatu: Api). – **As *Liris clypeata***: Cheesman, 1937:204 (new combination, description of ♂); F. Williams, 1945:442 (New Caledonia, diagnostic characters); R. Bohart and Menke, 1976:244 (listed).

68. *clypefoveolatus* T. Li, Cai, and Li

Liris clypefoveolatus T. Li, Cai, and Li, 2009a:113, ♂. Holotype: ♂, China: Yunnan: Luxi County: western outskirts of Fapa Taown in Luxi City (Yunnan Agricultural University, Kunming). – T. Li, Cai, and Li, 2009a:118 (in key to Palearctic *Liris*).

69. *clypeopunctatus* Tsuneki

Liris clypeopunctatus Tsuneki, 1974b:604, ♂, ♀ (as *clypeopunctata*, incorrect original termination). Holotype: ♂, Thailand: Sara Buri (originally T. Tano coll., Fukui, now USNM). – R. Bohart and Menke, 1976:629 (listed); Nuhn and Menke, 1994:25 (holotype in USNM).

70. *commixtus* (R. Turner)

Notogonia commixta R. Turner, 1908:480, ♀. Holotype or syntypes: ♀, Australia: Queensland: Cairns (BMNH). – R. Turner, 1916e:283 (in revision of Australian *Liris*). – **As *Liris commixta***: R. Bohart and Menke, 1976:244 (new combination, listed); Cardale, 1985:235 (in catalog of Australian Sphecidae).

71. *conjungens* (Walker)

Larrada conjungens Walker, 1871:21, ♀. Holotype or syntypes: ♀, Eritrea: Dahlak Island (destroyed). – **As *Larra conjungens***: Kohl in Dalla Torre, 1897:665 (new combination, in catalog of world Hymenoptera). – **As *Liris conjungens***: R. Bohart and Menke, 1976:244 (tentative new combination).

72. *consobrinus* Arnold

Liris consobrina Arnold, 1959:331, ♂, incorrect original termination. Holotype: ♂, Tanzania: Rukwa Valley (BMNH). – R. Bohart and Menke, 1976:245 (listed).

73. *conspicuus* (F. Smith)

Larrada conspicua F. Smith, 1856:276, ♀. Holotype: ♀, India: no specific locality (OXUM). – **As *Larra conspicua***: Kohl, 1885a:242 (new combination, in checklist of world *Larra*); Cameron, 1889c:125 (listed). – **As *Tachytes conspicuus***: Bingham, 1897:187 (new combination, redescription). – **As *Liris conspicua***: Pulawski, 1975a:319 (new combination); R. Bohart and Menke, 1976:245 (listed).

Notogonia pulchripennis Cameron, 1889c:129, sex not indicated. Holotype or syntypes: ♀, India: Orissa: Jeypore (OXUM). Synonymized with *Liris conspicua* by Pulawski, 1975a:319. – **As *Larra pulchripennis***: Kohl in Dalla Torre, 1897:672 (new combination, in catalog of world Hymenoptera).

Notogonia luteipennis Cameron, 1890:pl. IX fig 2, junior secondary homonym of *Liris luteipennis* (Cresson, 1869). Objective synonym of *Notogonia pulchripennis*. Synonymized with *Liris conspicua* by Pulawski, 1975a:319.

74. *corniger* F. Williams

Liris corniger F. Williams, 1936b:126, ♀. Holotype: ♀, Solomon Islands: Supaina: S. Mala (BMNH). – F. Williams, 1945:444 (holotype may be a teratological specimen); R. Bohart and Menke, 1976:245 (listed); Tsuneki, 1982a:12 (in key).

75. *coronalis* (F. Smith)

Larrada coronalis F. Smith, 1856:287, ♀. Syntypes: ♀, Brazil: Amazonas; Villa Nova, now Parintins (BMNH). – **As *Larra coronalis***: Kohl, 1885a:242 (new combination, in checklist of world *Larra*); Dalla Torre, 1897:665 (in catalog of world Hymenoptera). – **As *Liris coronalis***: R. Bohart and Menke, 1976:245 (new combination, listed); Amaranter, 2002:40 (in catalog of Neotropical Crabronidae).

76. *cowani* (W.F. Kirby)

Larrada cowani W.F. Kirby, 1883:200, sex not indicated (as *Cowani*, incorrect original capitalization). Syntypes: Madagascar: no specific locality (BMNH). – **As *Larra cowani***: Kohl, 1885a:242 (new combination, in checklist of world *Larra*); Dalla Torre, 1897:665 (in catalog of world Hymenoptera). – **As *Liris cowani***: R. Turner, 1916b:249 (new combination); R. Bohart and Menke, 1976:245 (listed); Pulawski, 2003b:796 (in checklist of Malagasy Sphecidae).

Liris jocositarsa de Saussure, 1887:18, ♂, incorrect original termination. Holotype or syntypes: ♂, Madagascar: no specific locality (MHNG). Synonymized with *Liris cowani* by ...– de Saussure, 1892:515 (Madagascar, redescription); Kohl, 1892:226 (♀), 227 (in key). – **As *Larra jocositarsa***: Kohl in Dalla Torre, 1897:669 (new combination,

in catalog of world Hymenoptera). – **As *Liris haemorrhoidalis* race *jocositarsa***: Arnold, 1945:117 (new status, Madagascar; redescription). – **As *Liris haemorrhoidalis jocositarsa***: Leclercq, 1960a:97 (new status, Madagascar), 1961d:112 (Madagascar); R. Bohart and Menke, 1976:245 (listed); Madl, Matyot, and Schödl, 1996:832 (Seychelles Islands)..

Liris pedestris de Saussure, 1892:517, ♀, ♂. Syntypes: Madagascar: Antananarivo and Anosibé in Tamatave Province (MHNG). Synonymized with *Liris cowani* by R. Turner, 1916b:249 and with *Liris haemorrhoidalis* var. *jocositarsa* by Arnold, 1945. – de Beaumont, 1961f:222 (valid name for *Liris haemorrhoidalis* race *jocositarsa* of Arnold, 1945). – **As *Larra pedestris***: Kohl in Dalla Torre, 1897:671 (new combination, in catalog of world Hymenoptera).

77. *crassicornis* (Maidl)

Notogonia crassicornis Maidl, 1925a:384, ♂. Holotype: ♂, Indonesia: Sumatra: no specific locality (NHMW). – **As *Liris crassicornis***: R. Bohart and Menke, 1976:245 (new combination, listed); Dollfuss, 1989:10 (type material in NHMW).

78. *crepitans* Leclercq

Liris crepitans Leclercq, 1967b:65, ♂. Holotype: ♂, Madagascar: Maevatanatoa (MNHN). – R. Bohart and Menke, 1976:245 (listed); Pulawski, 2003b:796 (in checklist of Malagasy Sphecidae).

79. *croesus* (F. Smith)

Larrada croesus F. Smith, 1856:284, ♀ (as *Croesus*, incorrect original capitalization). Holotype or syntypes: ♀, Gambia: no specific locality (BMNH). – **As *Larra croesus***: Kohl, 1885a:242 (new combination, in checklist of world *Larra*), 1894:300 (redescription, description of ♂); Dalla Torre, 1897:666 (in catalog of world Hymenoptera). – **As *Notogonia croesus***: W. Schulz, 1905b:9 (new combination, West Africa: Gobinda); R. Turner, 1917b:320 (East and West Africa, diagnostic characters). – **As *Notogonidea croesus***: Arnold, 1923b:235 (new combination, revision), 1930:6 (in checklist of Afrotropical Sphecidae); Schouteden, 1930:91 (Zaire, as *croesus*). – **As *Motes croesus***: Guiglia, 1943c:76 (new combination, Ethiopia: Gamo Gofa: Sagan – Omo region), 1950:257 (Ethiopia: Gamo Gofa: Gongabaino). – **As *Liris croesus***: Arnold, 1951:159 (new combination, Senegal: Diafarabé); R. Bohart and Menke, 1976:245 (listed); Dollfuss, 1993a:693 (Central African Republic: Kembe).

Motes liroides R. Turner, 1913:753, ♀. Holotype: ♀, Kenya: Witu (BMNH). Synonymized with *Notogonia croesus* by R. Turner, 1917b:320.

Notogonia pseudoliris R. Turner, 1913:750, ♀. Lectotype: ♀, Uganda: Entebbe (BMNH), designated by Pulawski, 1975a:319. Synonymized with *Liris croesus* by Pulawski, 1975a:318. – **As *Notogonidea pseudoliris***: Arnold, 1930:6 (new combination, in checklist of Afrotropical Sphecidae); Schouteden, 1930:92 (Zaire).

Motes deceptor R. Turner, 1916a:253, ♀. Holotype or syntypes: ♀, Nigeria: Offi (BMNH). Synonymized with *Notogonidea croesus* by Arnold, 1923b:235. – **As *Notogonia deceptor***: R. Turner, 1917b:320 (new combination, possibly a synonym of *Notogonia croesus*).

ssp. congoensis Arnold

Notogonidea croesus var. *congoensis* Arnold, 1932:2, ♀. Holotype: ♀, Zaire: Kambaye (SAM). – **As *Liris croesus congoensis***: R. Bohart and Menke, 1976:245 (new combination, listed).

80. *crux* Tsuneki

Liris crux Tsuneki, 1982a:16, ♀. Holotype: ♀, Bismarck Archipelago: New Ireland: Lemkamin (ZMK). – Tsuneki, 1982a:13 (in key).

81. cubitalis (de Saussure)

Notogonia cubitalis de Saussure, 1887:17, ♀. Holotype or syntypes: ♀, Mauritius: no specific locality (MHNG or MNHN). – de Saussure, 1892:513 (redescription). – **As *Larra cubitalis***: Dalla Torre, 1897:666 (new combination, in catalog of world Hymenoptera). – **As *Liris cubitalis***: R. Bohart and Menke, 1976:245 (new combination, listed).

82. cupreohirtus Tsuneki

Liris cupreohirta Tsuneki, 1976b:64, ♀, incorrect original termination. Holotype: ♀, Philippines: Palawan: Pinigisan (ZMK). – **As *Liris cupreohirtus***: Tsuneki, 1983a:42 (Philippines: Luzon), 45 (in key).

83. danus Tsuneki

Liris dana Tsuneki, 1982a:26, ♀, incorrect original termination. Holotype: ♀, Bismarck Archipelago: New Ireland: Lemkamin (ZMK). – Tsuneki, 1982a:18 (in key).

84. davaonis Tsuneki

Liris davaonis Tsuneki, 1983a:42, ♂ (subgenus *Leptolarra*). Holotype: ♂, Philippines: Mindanao: Davao: Matina Height (originally K. Tsuneki coll., now USNM). – Tsuneki, 1983a:48 (in key); Nuhn and Menke, 1994:27 (holotype not transferred to USNM, possibly returned to K Sabi, the collector); Menke, 1995:14 (type still in K. Tsuneki collection); Tano, 1995:45 (holotype in K. Tsuneki collection).

85. dejectus Arnold

Liris dejecta Arnold, 1945:129, ♀, ♂, incorrect original termination. Syntypes: Madagascar: Bekily (MNHN). – R. Bohart and Menke, 1976:245 (listed); Pulawski, 2003b:796 (in checklist of Malagasy Sphecidae). – **As *Motes dejecta***: Leclercq, 1960a:97 (new combination, Madagascar), 1961d:115 (Madagascar).

86. deliquus Krombein and Shanks Gingras

Liris deliquus Krombein and Shanks Gingras, 1984:66, ♂, ♀. Holotype: ♂, Mexico: Veracruz: Minatitlán (USNM). – Amarante, 2002:40 (in catalog of Neotropical Crabronidae); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:664 (in checklist of Mexican Sphecidae).

87. denticulatus (R. Turner)

Notogonia denticulata R. Turner, 1920b:496, ♀, incorrect original termination. Holotype or syntypes: ♀, South Africa: Natal: Durban, Stella Bush (SAMP). – **As *Notogonidea denticulata***: Arnold, 1923b:242 (new combination, original description copied), 1930:6 (in checklist of Afrotropical Sphecidae). – **As *Liris denticulata***: Arnold, 1951:160 (new combination, Ghana: Accra, Labadi); de Beaumont, 1967b:508 (South Africa: Natal); R. Bohart and Menke, 1976:245 (listed).

88. dentipes (R. Turner)

Notogonia dentipes R. Turner, 1917f:294, ♀. Holotype or syntypes: ♀, Ghana: Obuasi (BMNH). – **As *Notogonidea dentipes***: Arnold, 1923b:234 (new combination, original description copied), 1930:6 (in checklist of Afrotropical Sphecidae); Schouteden, 1930:91 (Zaire). – **As *Liris dentipes***: R. Bohart and Menke, 1976:245 (new combination, listed); Dollfuss, 1993a:693 (Central African Republic: Kembe).

spp. tanganyikae Arnold

Liris dentipes race *tanganyikae* Arnold, 1947:156, ♀. Holotype: ♀, Tanzania: Malonge (SAM). – **As *Liris dentipes tanganyikae***: R. Bohart and Menke, 1976:245 (new status, listed).

89. deplanatus (Kohl)

Notogonia deplanata Kohl, 1884a:358, ♀. Holotype or syntypes: ♀, Sri Lanka: no specific locality (NHMW). – Cameron, 1889c:130 (listed); Bingham, 1896a:442 (references), 1897:203 (redescription, Burma); Maidl, 1925a:381 (Indonesia: Sumatra); nec Tsuneki, 1964l:62 and 1964...:219 (= *Liris deplanata binghami*). – **As *Larra deplanata***: Kohl, 1885a:243 (new combination, in checklist of world *Larra*); Dalla Torre, 1897:665 (in catalog of world Hy-

- menoptera). – **As *Liris deplanata***: Tsuneki, 1976b:60 (new combination, Philippines; as *deplanata deplanata*), 1983a:46 (in key); Dollfuss, 1989:10 (type material in NHMW); Hua, 2006:280 (in list of Chinese insects, geographic distribution). – **As *Liris deplanatus***: Yamane, Ikudome, and Terayama, 1999:513 (in Identification Guide to Crabronidae of Nansei = Ryukyu Islands, Japan); T. Li, Cai, and Li, 2009a:117 (in key to Palearctic *Liris*).
- As *Liris haemorrhoidalis*: Cameron, 1889c:130 (India: Pune and Punjab) and Bingham, 1896a:443 (Sri Lanka: Pundaluoya), corrected to *Notogonia deplanata* by Bingham, 1897:203.
- Chrysolarra appendiculata* Cameron, 1901b:118, ♀, junior secondary homonym of *Liris appendiculatus* (Taschenberg, 1870) and *Liris appendiculatus* (Cameron, 1900). Holotype or syntypes: ♀, India: Assam: Khasia Hills (OXUM). Synonymized with *Liris deplanatus* by Tsuneki, 1983d:54. – Ramakrishna Aiyar, 1916:553 (in catalog of Indian aculeates described after Bingham, 1897). – **As *Liris appendiculata***: R. Bohart and Menke, 1976:244 (new combination, listed).
- Chrysolarra aureosericea* Cameron, 1901b:119, ♀. Syntypes: ♀, India: Assam: Khasia Hilla (OXUM). Synonymized with *Liris deplanatus* by Tsuneki, 1983d:54. – Ramakrishna Aiyar, 1916:553 (in catalog of Indian aculeates described after Bingham, 1897). – **As *Liris aureosericea***: R. Bohart and Menke, 1976:244 (new combination, listed).
- Chrysolarra japonica* Cameron, 1901b:120, ♀, junior secondary homonym of *Liris japonicus* (Kohl, 1884). Holotype or syntypes: ♀, Japan: no specific locality (BMNH). Synonymized with *Liris deplanatus* by Tsuneki, 1983d:54.
- Tachytes fulvopilosus* Cameron, 1904:297, ♀ (as *fulvo-pilosa*, incorrect original hyphenation and termination). Holotype (or syntypes?): ♀, India: Simla or Khasia (OXUM). Synonymized with *Liris deplanata* by Tsuneki, 1967a:1 and 1983d:55 (Pulawski's 1975 interpretation is incorrect). – Ramakrishna Ayyar, 1916:551 (in catalog of Indian aculeates described after Bingham, 1897).

ssp. *binghami* Tsuneki

- As *Notogonia deplanata* var.: Bingham, 1897:203.
- As *Motes* sp.: Tsuneki, 1962a:5 (Ryukyu Islands: Amami-Oshima Islands), corrected to *Liris deplanata binghami* by Tsuneki, 1967a:1.
- As *Liris deplanata* (corrected to *Liris deplanata binghami* by Tsuneki, 1967a:1): Tsuneki, 1964l:62 (Japan; key), 1964h:219 (Japan).
- Liris deplanata binghami* Tsuneki, 1967a:1, ♀, ♂. Holotype: ♀, Taiwan: Chiayi Prefecture: Fenchihu (originally K. Tsuneki coll., now USNM). – Tsuneki, 1967b:27 (Taiwan); Okumura, 1971:25 (Japan: Ryukyu Islands: Amami-Oshima Island; nesting habits); Tsuneki, 1971h:2 (Taiwan); Tano, 1972:23 (Japan: Ryukyu Islands); Murota, 1973a:101 (Japan: Ryukyu Islands: Amami-Oshima Islands), 1973b:118 (Taiwan); Tsuneki, 1974b:602 (Borneo); R. Bohart and Menke, 1976:245 (listed); Tsuneki, 1977j:268 (Taiwan), 1982e:27 (Taiwan), 1982g:59 (known from the Ryukyu archipelago, Japan); Nuhn and Menke, 1994:25 (holotype transferred to USNM); S. Gupta, 1995:86 (India: Uttar Pradesh); Wu and Zhou, 1996a:81 (in revision in Economic Insect Fauna of China); Porter, Stange, and Wang, 1999:7 (in checklist of Sphecidae of Taiwan); Hua, 2006:280 (in list of Chinese insects, geographic distribution); Haneda, Nozaka, Tano, Kurokawa, Murota, and Murota, 2007:53 (Japan: Kagoshima Prefecture: Amami Oshima Islands); T. Li, Cai, and Li, 2007:420, 422 (in key to *Liris* of China).

90. *diabolicus* (F. Smith)

- Larrada diabolica* F. Smith, 1873c:294, ♀. Syntypes: ♀, Sierra Leone and South Africa: Port Natal (BMNH). – **As *Larra diabolica***: Kohl, 1885a:243 (new combination, in checklist of world *Larra*); Dalla Torre, 1897:665 (in catalog of world Hymenoptera). – **As *Liris diabolica***: Bingham, 1902:209 (new combination, Malawi), 1903a:66 (South Africa); R. Turner, 1913:750 (synonymy), 1917d:42 (synonymy); Arnold, 1923b:252 (revision), 1930:7 (in checklist of Afrotropical Sphecidae); Schouteden, 1930:92 (Zaire); Guiglia, 1932:126 (Ethiopia: Harer; Somalia: Giumbo Plain), 1938a:186 (Somalia: Belet Amin in Jubba River area), 1939d:77 (Ethiopia: Sidamo: Neghelli, now Negele), 1943c:76 (Ethiopia: Gamo Gofa: Sagan – Omo region), 1950:258 (Ethiopia: Gamo Gofa: Caschei); R.

Bohart and Menke, 1976:245 (listed). – **As *Liris diabolicus***: Dollfuss, 1993a:693 (Central African Republic: Kembe).

Tachytes capitalis Radoszkowski, 1881:210, ♀. Holotype or syntypes: ♀, Angola: no specific locality (Kraków). Synonymized with *Liris diabolica* by R. Turner, 1917d:43. – Dalla Torre, 1897:688 (in catalog of world Hymenoptera).

Larra opipara Kohl, 1894:297, ♀. Syntypes: ♀, Sierra Leone: no specific locality (MRAC) and Zaire: Vista (?NHMW). Synonymized with *Liris diabolica* by R. Turner, 1913:750. – Dalla Torre, 1897:671 (in catalog of world Hymenoptera). – **As *Liris opipara***: von Schulthess, 1914:286 (new combination, Cameroon).

Liris violaceipennis Cameron, 1908a:285, ♀, ♂, junior primary homonym of *Liris violaceipennis* Cameron, 1889, and of *Liris violaceipennis* Cameron, 1904. Syntypes: Kenya: Mt. Meru and Usambara Mts. (NRS). Synonymized with *Liris diabolica* by R. Turner, 1913:750.

91. *difficilis* Tsuneki

Liris difficilis Tsuneki, 1983b:4, ♀, ♂. Holotype: ♂, Taiwan: Yangmingshan (originally K. Tsuneki coll., now USNM). – Nuhn and Menke, 1994:25 (holotype transferred to USNM); Yamane, Ikudome, and Terayama, 1999:513 (in Identification Guide to Crabronidae of Nansei = Ryukyu Islands, Japan); Hua, 2006:280 (in list of Chinese insects, geographic distribution); T. Li, Cai, and Li, 2007:421, 423 (in key to *Liris* of China), 2009a:118, 119 (in key to Palearctic *Liris*).

As *Liris subtessellata* (corrected to *Liris difficilis* by Tsuneki, 1983b:4 and 1983c:12): Tsuneki, 1963c:9 (Thailand), 1964l:62 (key), 1966g:2 (Taiwan, Ryukyu Islands), 1967b:32 (Taiwan), 1967i:389 (Taiwan); Haneda, 1971b:29 (Taiwan); Tsuneki, 1971h:6 (Taiwan); Haneda, 1972a:3 (Taiwan); Tano, 1972:23 (Japan: Ryukyu Islands); Murota, 1973b:118 (Taiwan); Tsuneki, 1974b:602 (Thailand, Malaysia, Borneo), 1976b:59 (Philippines), 1977j:268 (Taiwan), 1982a:19 (in key), 22 (Bismarck Archipelago: New Ireland), 1982g:58 (known from the Ryukyu archipelago).

As *Liris subtessellatus* (corrected to *Liris difficilis* by Tsuneki, 1983b:4): Tsuneki, 1982f:47 (Ryukyu Islands), 1983a:18 (legs red in Formosan specimens, but red or black in Philippine specimens; diagnostic characters discussed), 46, 48 (in key).

As *Notogonia laboriosa*: Matsumura and Uchida, 1926:43 (Okinawa), corrected to *Liris docilis* by Tsuneki, 1983a:15, and to *Liris difficilis* by Tsuneki, 1983c:12.

92. *distinguendus* (Spinola)

Larra distinguenda Spinola, 1841:112, ♀, ♂. Holotype: French Guiana: Cayenne (M. Spinola collection, TORINO). – Kohl, 1885a:243 (in checklist of world *Larra*); Dalla Torre, 1897:666 (in catalog of world Hymenoptera); Casolari and Casolari Moreno, 1980:112 (specimens in M. Spinola collection, Torino); Pagliano, 2008:544 (specimens in M. Spinola collection, Torino). – **As *Liris distinguendus***: R. Bohart and Menke, 1976:245 (new combination, listed); Amarante, 2002:40 (in catalog of Neotropical Crabronidae).

93. *dominganus* (Strand)

Notogonia domingana Strand, 1911a:154, ♀. Holotype: ♀, Ecuador: Santo Domingo de los Colorados (MNHN). – **As *Liris domingana***: R. Bohart and Menke, 1976:245 (new combination, listed). – **As *Liris dominganus***: Krombein and Shanks Gingras, 1984:64 (redescription); Amarante, 2002:40 (in catalog of Neotropical Crabronidae); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:664 (in checklist of Mexican Sphecidae).

94. *dominicanus* Evans

Liris dominicanus Evans, 1972b:12, ♀, ♂ (as *dominicana*, incorrect original termination). Holotype: ♂, Caribbeans: Dominica Island: Clarke Hall in Layou Valley (USNM). – R. Bohart and Menke, 1976:245 (listed); Amarante, 2002:40 (in catalog of Neotropical Crabronidae).

95. *ducalis* (F. Smith)

Larrada ducalis F. Smith, 1860a:84, ♀. Syntypes: ♀, Indonesia: Sulawesi: Makasar (BMNH). – **As *Notogonia ducalis***: Cameron, 1890c:314 (new combination). – **As *Larra ducalis***: Kohl, 1885a:243 (new combination, in checklist of world *Larra*); Dalla Torre, 1897:666 (in catalog of world Hymenoptera). – **As *Liris ducalis***: Kohl, 1892:224 (new combination, original description copied and discussed); Bingham, 1896a:44 (Sri Lanka: Pundaluoya), 1897:207 (redescription); nec R. Turner, 1910b:425 (= *Liris melanius*); Nurse, 1914:445 (India: Assam: Rotung, Sadiya); R. Bohart and Menke, 1976:245 (listed); Wu and Zhou, 1996a:81 (in revision in Economic Insect Fauna of China); Hua, 2006:280 (in list of Chinese insects, geographic distribution).

Notogonia nigripennis Cameron, 1889c:131, ♀, ♂. Syntypes: India: Bangalore (Calcutta Mus.) and Poona (OXUM). Synonymized with *Liris ducalis* by R. Turner, 1914b:257. – Bingham, 1897:206 (redescription, Burma) – **As *Larra nigripennis***: Kohl in Dalla Torre, 1897:670 (new combination, in catalog of world Hymenoptera). – **As *Liris nigripennis***: Giner Mari, 1945c:854 (new combination, India: Maharashtra: Bandra); Tsuneki, 1974b:599 (Thailand; redescription).

96. *dyscheirus* (de Saussure)

Notogonia dyscheira de Saussure, 1892:510, ♀. Holotype: ♀, Madagascar: Imerina Province: no specific locality (MHNG). – **As *Larra dyscheira***: Kohl in Dalla Torre, 1897:666 (new combination, in catalog of world Hymenoptera, as *dasycheira*); W. Schulz, 1906:212 (*dyscheira* is correct original spelling). – **As *Motes dyscheira***: Leclercq, 1960a:97 (new combination, Madagascar), 1961d:113 (unnecessary designation of lectotype). – **As *Liris dyscheira***: Arnold, 1945:123 (new combination, Madagascar, redescription; description of ♂, new combination); R. Bohart and Menke, 1976:245 (listed). – **As *Liris dyscheirus***: Pulawski, 2003b:796 (in checklist of Malagasy Sphecidae).

Larra dyschira W. Schulz, 1906:212. Unjustified emendation of *Notogonia dyscheira* de Saussure, 1892.

97. *elegans* (Bingham)

Larra elegans Bingham, 1897:197, ♀. Holotype or syntypes: ♀, Burma: Tenasserim: no specific locality (BMNH). – **As *Liris elegans***: R. Bohart and Menke, 1976:245 (new combination, listed).

98. *erythropus* (Cameron)

Notogonia erythropoda Cameron, 1890:pl. IX fig. 5). – **As *Larra erythropoda***: Kohl in Dalla Torre, 1897:666 (new combination, in catalog of world Hymenoptera); – **As *Liris erythropoda***: R. Bohart and Menke, 1976:245 (new combination, listed).

99. *erythropyga* (Arnold)

As *Notogonidea thysanomera*, race *usumbarensis* [sic]: Arnold, 1929c:396 (additional description), corrected to *Motes erythropyga* by Arnold, 1940:138.

Motes erythropyga Arnold, 1940:138, ♀, ♂. Syntypes: Zimbabwe: Bulawayo (SAM). – **As *Liris erythropyga***: R. Bohart and Menke, 1976:245 (new combination, listed).

100. *erythrotomus* (Cameron)

Notogonia erythrotoma Cameron, 1908a:286, ♀. Syntypes: ♀, Tanzania: Mt. Kilimanjaro: Kibonoto (NRS). – Arnold, 1923b:244 (as synonym of *Notogonidea sepulchralis*). – **As *Liris erythrotoma***: R. Bohart and Menke, 1976:245 (new combination, listed).

101. *esakii* Yasumatsu

Liris esakii Yasumatsu, 1941:46, ♀, ♂. Holotype: ♀, Caroline Islands: Yap: Rul-Nif (Fukuoka). – Krombein, 1949b:383 (in key to Sphecidae of Micronesia), 397 (Caroline Islands), 1950b:141 (correction to previous determination), 142 (in key); R. Bohart and Menke, 1976:245 (listed); Lomholdt, 1980a:31 (Papua New Guinea: Solomon Islands: Rennell Island); Tsuneki, 1982a:11, 12 (in key).

102. *evansi* Krombein and Shanks Gingras

Liris evansi Krombein and Shanks Gingras, 1984:24, ♂. Holotype: ♂, Mexico: Guerrero: 3 mi N Taxco (USNM). – Amarante, 2002:40 (in catalog of Neotropical Crabronidae); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:664 (in checklist of Mexican Sphecidae).

103. *extensus* (Walker)

Larrada extensa Walker, 1860:305, ♂. Holotype or syntypes: ♂, Sri Lanka: no specific locality (BMNH). – de Motschoulsky, 1863:24 (Sri Lanka, listed); Cameron, 1898b:23 (not included in Bingham, 1897). – **As *Larra extensa***: Kohl, 1885a:243 (new combination, in checklist of world *Larra*); Cameron, 1889c:125 (listed); Bingham, 1896a:442 (references); Dalla Torre, 1897:667 (in catalog of world Hymenoptera); Ramakrishna Aiyar, 1916:552 (omitted by Bingham, 1897). – **As *Liris extensa***: R. Bohart and Menke, 1976:245 (new combination, listed).

104. *facilis* (F. Smith)

Larrada facilis F. Smith, 1873b:56, ♀. Holotype or syntypes: ♀, Brazil: Amazonas: Ega, now Tefê (BMNH). – **As *Larra facilis***: Kohl, 1885a:243 (new combination, in checklist of world *Larra*); Dalla Torre, 1897:667 (in catalog of world Hymenoptera). – **As *Liris facilis***: R. Bohart and Menke, 1976:245 (new combination, listed); Amarante, 2002:40 (in catalog of Neotropical Crabronidae).

105. *fasciata* (F. Smith)

Larrada fasciata F. Smith, 1873b:55, ♀. Holotype or syntypes: ♀, Brazil: Amazonas: Sau Paulo (BMNH). – **As *Larra fasciata***: Kohl, 1885a:243 (new combination, in checklist of world *Larra*); Dalla Torre, 1897:667 (in catalog of world Hymenoptera). – **As *Liris fasciata***: R. Bohart and Menke, 1976:245 (new combination, listed). – **As *Liris fasciatus***: Amarante, 2002:40 (in catalog of Neotropical Crabronidae).

106. *ferrugineimarginalis* T. Li, Cai, and Li

Liris ferrugineimarginalis T. Li, Cai, and Li, 2007:423, ♀, ♂. Holotype: ♀, China: Guangdong: Huizhou: Xiangtuo Mountain (Zheizhang Univ.). – T. Li, Cai, and Li, 2007:420, 421 (in key to *Liris* of China).

107. *ferrugineipes* (Lepeletier de Saint Fargeau)

Tachytes ferrugineipes Lepeletier de Saint Fargeau, 1845:248, ♀. Holotype or syntypes: ♀, Senegal: no specific locality (originally Serville coll., now?). – **As *Larrada ferrugineipes***: F. Smith, 1856:283 (new combination, in catalog of Hymenoptera in British Museum). – **As *Larra ferrugineipes***: Kohl, 1885a:244 (new combination, in checklist of world *Larra*); Dalla Torre, 1897:667 (in catalog of world Hymenoptera, new combination); Magretti, 1906:15 (Eritrea, as *ferruginea*). – **As *Tachysphex ferrugineipes***: Cameron, 1908a:289 (new combination, Kenya: Mt. Meru lowlands; redescription). – **As *Notogonia ferrugineipes***: von Schulthess, 1914:285 (new combination, Cameroon). – **As *Liris ferrugineipes***: R. Bohart and Menke, 1976:245 (new combination, listed).

Larrada pallipes F. Smith, 1856:282, ♂. Holotype or syntypes: ♂, Africa: no specific locality (BMNH). Tentatively synonymized with *Liris ferrugineipes* by R. Bohart and Menke, 1976:245. – **As *Larra pallipes***: Kohl, 1885a:246 (new combination, in checklist of world *Larra*); Dalla Torre, 1897:671 (in catalog of world Hymenoptera, as *Larra pallidipes*); Magretti, 1906:15 (Eritrea); Arnold, 1930:6 (in checklist of Afrotropical Sphecidae, as *Larra pallidipes*).

108. *festinans* (F. Smith)

Larrada festinans F. Smith, 1858b:17, ♀, ♂. Syntypes: Indonesia: Celebes, now Sulawesi: no specific locality (BMNH). – **As *Larra festinans***: Kohl, 1885a:244 (new combination, in checklist of world *Larra*); Dalla Torre, 1897:667 (in catalog of world Hymenoptera). – **As *Liris festinans***: van der Vecht in Bohart and Menke, 1976:245 (new combination, listed, species status); Lomholdt, 1980a:31 (Papua New Guinea: Solomon Islands: Rennell and Bellona Islands); Tsuneki, 1982a:18 (in key), 19 (Bismarck Archipelago, Solomon Islands), 1982e:27 (Ryukyu Islands: Iriomote Island), 1982f:47 (Ryukyu Islands), 1982g:59 (known from the Ryukyu archipelago), 1983a:30

(Philippines; taxonomic comments), 47, 48 (in key), 1983c:20 (New Guinea; taxonomic comments), 30 (in key), 1984a:3 (Ogasawara = Bonin Islands); Cardale, 1985:235 (in catalog of Australian Sphecidae); Naumann, 1990a:23 (Norfolk and Philip Islands), 1993:185 (Australia: Queensland: Heathlands area in Cape York); Takahashi 1993:3 (Japan: Hachijo-Jima Island); Kami and Miller, 1998:57 (in checklist of Samoan insects); Yamane, Ikudome, and Terayama, 1999:514 (in Identification Guide to Crabronidae of Nansei = Ryukyu Islands, Japan); Hua, 2006:280 (in list of Chinese insects, geographic distribution); Haneda, Nozaka, Tano, Kurokawa, Murota, and Murota, 2007:53 (Japan: Kagoshima Prefecture: Amami Oshima Islands, as *festinans festinans*).

Liris trifasciatus Tsuneki, 1974b:607, ♂ (as *trifasciata*, incorrect original termination), junior secondary homonym of *Liris trifasciatus* (F. Smith, 1856). Holotype: ♂, Thailand: Bangkok (T. Tano coll., Fukui). Synonymized with *Liris festinans* by Tsuneki, 1983c:20. – R. Bohart and Menke, 1976:629 (listed).

Liris bangkokensis Tsuneki, 1977i:4. Substitute name for *Liris trifasciatus* Tsuneki, 1977.

ssp. japonicus (Kohl)

Notogonia japonica Kohl, 1884a:357, ♀. Lectotype: ♀, Japan: Kyoto (NHMW), designated by de Beaumont, 1961f:237. – Kohl, 1885a:254 (in revision of Palearctic Larrinae). – **As *Larra japonica***: Kohl, 1885a:244 (new combination, in checklist of world *Larra*); Dalla Torre, 1897:668 (in catalog of world Hymenoptera). – **As *Notogonidea japonica***: Piel, 1935a:165 (new combination, nesting habits). – **As *Motes japonicus***: Tsuneki, 1962a:5 (new combination, Ryukyu Islands: Amami-Oshima Islands). – **As *Liris japonica***: de Beaumont, 1961f:237 (new combination, relationships to *Liris praetermissa*); Tsuneki and Shimoyama, 1963:48 (Japan: Towada Prefecture); Tano, 1964:38 (Japan: Kyushu: Yakushima Island); Tsuneki, 1964h:221 (synonyms: *Larrada nigricans* F. Smith and *Larra nigricolor* Dalla Torre; actually these names belong in *Tachysphex*), 1964l:62 (key), 1966g:8 (Taiwan, Ryukyu Islands; discussion), 1967b:34 (Taiwan), 1967i:389 (Taiwan); Haneda, 1968a:43 (Japan); Nishino, 1968:25 (Japan); Itami, 1969:48 (Japan: Niigata Prefecture); Tsuneki, 1969c:13 (nesting habits), 1969e:25 (Japan), 1969i:59 (Japan: Fukui Prefecture: Taichôdzi temple); Haneda, 1971b:29 (Taiwan); Yamada, 1971:35 (Japan: Aichi Prefecture); Tsuneki, 1971h:7 (Taiwan); Haneda, 1972a:4 (Taiwan); Tano, 1972:24 (Japan: Ryukyu Islands); Tsuneki, 1972c:3 (Taiwan; variation); Murota, 1973a:102 (Japan: Ryukyu Islands: Amami-Oshima Islands), 1973b:118 (Taiwan); Tsuneki, 1974a:363 (Korea), 1974b:612 (Thailand); Nambu, 1975b:61 (Japan: Saitama Prefecture); Tsuneki, 1991:200 (Korea); Wu and Zhou, 1996a:76 (in revision in Economic Insect Fauna of China); Li and He, 2004:1098 (in hymenopterous fauna of Zhejiang Province, China). – **As *Liris festinans japonica***: van der Vecht in R. Bohart and Menke, 1976:245 (new status, listed); Tsuneki, 1982b:15 (known from Korea); Hua, 2006:280 (in list of Chinese insects, geographic distribution); Ohkusa, 2007:34 (Japan: central Honshu: Aichi Prefecture); Okusa and Tajima, 2008:74 (Japan: central Honshu: Aichi Prefecture). – **As *Liris festinans japonicus***: Tsuneki, 1982g:59 (known from the Ryukyu archipelago); Porter, Stange, and Wang, 1999:8 (in checklist of Sphecidae of Taiwan); Haneda, 2003:4 (Japan: Nagasaki Prefecture: Tsushima); Kurokawa, 2003:61 (Japan: city of Fukui: Egamichou); Tano, Kurokawa, Murota, and Nozaka, 2003:31 (Japan: Nagasaki Prefecture: Tsushima); Haneda, Nosaka, Tano, Kurokawa, and Murota, 2004:32 (Japan: Gifu Prefecture); Suda, 2004:40 (Japan: Yamanashi Prefecture); Haneda, Inoue, Nozaka, Tano, Kurokawa, and H. and T. Murota, 2005:65 (Japan: Fukui Prefecture: Mount Monju); Haneda, Nozaka, Tano, Kurokawa, and Murota, 2005:46 (Japan: Gifu Prefecture); Negoro, Haneda, and Tano, 2005:45 (Japan: Toyama Prefecture); Haneda, Nozaka, Tano, Kurokawa and Murota, 2006:22 (Japan: Toyama Prefecture); T. Li, Cai, and Li, 2007:419, 422 (in key to *Liris* of China), 2009a:117, 118 (in key to Palearctic *Liris*).

ssp. manilae (Ashmead)

Notogonia manilae Ashmead, 1904d:130, ♀, ♂. Holotype: ♀, Philippines: Manila (USNM). – Ashmead, 1904d:150 (Philippines); R. Brown, 1906:687 (in catalog of Philippine Hymenoptera); Swezey, 1942:184 (Guam); F. Williams, 1945:444 (...), 1947:318 and 333 (Fiji). – **As *Notogonidea manilae***: F. Williams, 1928:75 (new combination, revision), 1936b:125 (Solomon Islands); Swezey, 1942:184 (Guam Island); F. Williams, 1945:444 (New

Caledonia; prey in Philippines: gryllid *Nemobius histrio* de Saussure); Fullaway, 1957:279 (in checklist of Hymenoptera of Fiji); Kami and Miller, 1998:57 (in checklist of Samoan insects). – **As *Motes manilae***: Yasumatsu, 1941:44 (new combination, Marianas, Palaus); Krombein, 1949b:382 (in key to Sphecidae of Micronesia), 395 (Mariana and Caroline Islands), 1950b:140 (illustration of male genitalia); Baltazar, 1966:331 (in catalog of Hymenoptera of Philippines). – **As *Liris manilae***: Tsuneki, 1967b:35 (new combination, synonymized with *Liris japonica*). – **As *Liris japonica manilae***: Tsuneki, 1976b:71 (new status, redescription, Philippines), 1977j:269 (Taiwan). – **As *Liris festinans manilae***: T. Li, Cai, and Li, 2007:420, 422 (new subspecific combination, in key to *Liris* of China)

Notogonia retiaria R. Turner, 1908:479, ♀. Holotype: ♀, Australia: Western Australia: Perth (BMNH). Synonymized with *Notogonidea manilae* by F. Williams, 1945:444. – R. Turner, 1916e:281 (in revision of Australian *Liris*), 1917b:320 (diagnostic characters), 1919a:338 (Fiji); Perkins and Cheesman, 1928:5 (listed from Samoa); F. Williams, 1928c:33 (Samoa, illustration of male genitalia); Cheesman, 1937:206 (Vanuatu). – **As *Notogonidea retiaria***: Kami and Miller, 1998:57 (new combination, in checklist of Samoan insects).

Notogonidea williamsi Rohwer, 1919:9, ♀. Holotype: ♀, Philippines: Luzon: Los Baños (USNM). Synonymized with *Notogonidea manilae* by F. Williams, 1928a:75. – F. Williams, 1919d:134 (Philippines: Luzon: Los Baños: nesting habits); G. Carpenter, 1930b:299 (nest closure).

***ssp. praetermissus* (Richards)**

Notogonia praetermissa Richards, 1928a:361, ♀, ♂. Holotype: ♂, France: Var: Ile de Porquerolles (BMNH). – Richards, 1928b:219 (in key). – **As *Leptolarra praetermissa***: de Beaumont, 1940a:18 (new combination, Egypt). – **As *Liris praetermissa***: de Beaumont, 1950f:405 (new combination, Algeria); Bytinski-Salz, 1956:226 (Turkey: Aydin); Ceballos, 1956:375 (in catalog of Hymenoptera of Spain); Pulawski, 1958a:178 (Bulgaria: Sandanski); Suárez, 1959:56 (Spain: Almería Province; as *praetermissus*); de Beaumont, 1960a:14 (Greece: Rhodes Island), 1961f:236 (in revision of Mediterranean *Liris*); Ceballos, 1964:90 (in supplement to catalog of Spanish Sphecidae); Diniz, 1964a:7 (Portugal: Cascais, Lagoa de Albufeira, Pegões, Vale de Gaio); de Beaumont, 1965a:45 (Greece), 1967a:330 (Turkey), 1970a:400 (Afghanistan); Balthasar, 1972:301 (in Sphecid Fauna of Czechoslovakia: can be expected in the country); de Baumont, Bytinski-Salz and Pulawski, 1973:5 (Israel); R. Bohart and Menke, 1976:247 (listed); Kazenas, 1978b:102, 103 (in key to Sphecidae of Kazakhstan and Central Asia); Pulawski, 1978:214 (in key to Sphecidae of European part of former USSR); Guichard, 1980:227 (Oman); Pagliano, 1980:127 (Italy: Campania); Gayubo, 1982a:99 (N Spain: Sierra de Béjar), 1982f:250 (Spain: Cádiz Province: Conil de la Frontera, Palmones, Puente Mayorga); , 1984b:96 (Spain: previously recorded from Salamanca Province), 1984c:362 (Portugal: El Algarve Province); Gayubo and Tormos, 1984:14 (Spain: Valencia); Gayubo, 1987a:111 (Spain: Ciudad Real Province); Gayubo and Mingo, 1988:74 (Spain); Pagliano, 1990:102 (in catalog of Italian Sphecidae); Schembri, 1991:179 (first record from Malta); Torregrosa, Gayubo, Tormos, and Asís, 1993:18 (Spain: Alicante Province; as *praetermissus*); Negrisoló in Minelli, Ruffo, and La Posta, 1995b:9 (in catalog of Italian fauna, as *praetermissus*); Pagliano and Negrisoló, 2005:352 (in Sphecid Fauna of Italy, as *praetermissus*); Pagliano, 2009:183 (Italy: Sicilia: Island of Lampedusa: Valle Imbriacola, as *praetermissus*). – **As *Liris japonica praetermissa***: Tsuneki, 1964h:221 (new status). – **As *Liris festinans praetermissus***: K. Schmidt and Bitsch in Bitsch et al., 2001:203 (new subspecific combination, in Sphecid Fauna of Western Europe); Schmid-Egger, 2003:754 (Italy: Sicilia: Castelammare); Cruz-Sánchez, Gayubo, González, and Torres, 2005:220 (Spain: Salamanca: San Martín del Castañar); Magdalou, 2006b:109 (France: Pyrénées-Orientales: Mas Larrieu Nature Reserve near Argelès-sur-Mer); Gayubo, González, Tormos, and Asís, 2008:138 (Spain: Salamanca: Parque Natural de Las Batuecas – Sierra de Francia); Ljubomirov and Yildirim, 2008:192 (in catalog of Crabronidae of Turkey); González, Gayubo, Asís, and Tormos, 2009:623 (Spain: Salamanca and Zamora provinces: Arribes del Duero Natural Park); T. Li, Cai, and Li, 2009a:117, 118 (in key to Palearctic *Liris*).

As *Notogonia sculpturata*: Antiga and Bofill, 1904:10 (Spain: Cataluña Province), present correction; Mercet, 1910b:165 (listed from Spain), present correction; Berland, 1921:533 (Greece), present correction; Bernard, 1934a:62, 1935:64, and 1936b:168 (France: Var: Fréjus area; as valid name for *Notogonia praetermissa*), present correction; Nouvel and Ribaut, 1958:13 (France: Pyrénées-Orientales: Banyuls-sur-Mer area), present correction.

Leptolarra schulthessi Giner Marí, 1942a:70 and 75, ♀, ♂. Syntypes: Spain: Valencia: Torrente (MNCN). Synonymized with *Notogonia praetermissa* by de Beaumont, 1949c:346. – Giner Marí, 1943a:125 (in Sphecid Fauna of Spain); de Andrade, 1949:13 (Portugal: Évora, Vale de Gaio); Diniz, 1959:29 (Portugal: Évora, Vale de Gaio).

109. *flavinervus* (Cameron)

Leptolarra flavinerva Cameron, 1900a:30, ♀. Holotype or syntypes: ♀, India: Bengal: Barrackpore 20 km N Calcutta (OXUM). – Ramakrishna Aiyar, 1916:553 (in catalog of Indian aculeates described after Bingham, 1897). – As *Liris flavinervus*: R. Bohart and Menke, 1976:245 (new combination, listed).

110. *flavipennis* (F. Williams)

Notogonidea flavipennis F. Williams, 1928:81, ♀, ♂. Holotype: ♀, Philippines: Luzon: Los Baños (BISHOP). – As *Motes flavipennis*: – Baltazar, 1966:330 (new combination, in catalog of Hymenoptera of Philippines, new combination). – As *Liris flavipennis*: R. Bohart and Menke, 1976:245 (new combination, listed); Tsuneki, 1976b:59 (Philippines), 1983a:10 (Philippines; taxonomic comments).

111. *flavitinctus* (Arnold)

Motes flavitincta Arnold, 1940:141, ♀, ♂. Syntypes: Zimbabwe: Bulawayo, Matopos, and Matetsi (SAM). – As *Liris flavitincta*: Arnold, 1951:160 (new combination, Ghana: Accra); R. Bohart and Menke, 1976:245 (listed).

112. *formosus* Amarante

Notogonia bella Rohwer, 1911b:584, ♀, junior secondary homonym of *Liris bellus* (Lepelletier de Saint Fargeau, 1845). Holotype: ♀, Panama: Canal Zone: Tabernilla (USNM). – As *Liris bella*: R. Bohart and Menke, 1976:244 (new combination, listed; Panama, Costa Rica).

Liris formosus Amarante, 2002:40. Substitute name for *Liris bellus* (Rohwer, 1911).

113. *foveiscutis* (Cameron)

Notogonia foveiscutis Cameron, 1913b:81, ♂. Holotype or syntypes: ♂, Indonesia: Irian Jaya (New Guinea): Moluccas: Saonek Island near Waigeo (ZMA). – As *Liris foveiscutis*: R. Bohart and Menke, 1976:245 (new combination, listed).

114. *fulvipes* Fabricius

Liris fulvipes Fabricius, 1804:227, sex not indicated. Holotype: ♀, South America: no specific locality (ZMK). – van der Vecht, 1961a:21 (redescription of type); R. Bohart and Menke, 1976:245 (listed); Amarante, 2002:41 (in catalog of Neotropical Crabronidae). – As *Larra fulvipes*: Kohl in Dalla Torre, 1897:667 (new combination, in catalog of world Hymenoptera).

Larrada angustata Taschenberg, 1870:6, ♀. Holotype: ♀, Brazil: Minas Gerais: Lagoa Santa (Halle). Synonymized with *Liris fulvipes* by Menke in Bohart and Menke, 1976:245. – As *Larra angustata*: Kohl, 1885a:241 (new combination, in checklist of world *Larra*); Dalla Torre, 1897:663 (new combination, in catalog of world Hymenoptera).

Motes anticus var. *rufithorax* Ducke, 1908a:49, ♂. Syntypes: Brazil: Pará: Belém and Mazagão; Minas Gerais: Barbacena (depository?). Synonymized with ... by ... – Nascimento and Overall, 1979:9 (listed).

Tachysphex longiventris Cameron, 1912a:434, ♀. Holotype or syntypes: ♀, Guyana: Demerara: no specific locality (BMNH). Synonymized with *Liris fulvipes* by Menke in Bohart and Menke, 1976:245.

115. *fulviventris* (Guérin-Ménéville)

Lyrops fulviventris Guérin-Ménéville, 1844:440, sex not indicated. Holotype or syntypes: Cuba: no specific locality (Genova). – Cresson, 1862:238 (in catalog of North American Hymenoptera); Guiglia, 1948b:179 (type in Genova)

Mus.); Guiglia and Pasteels, 1961:19 (type material in Geneva Mus.). – **As *Larrada fulviventr***: F. Smith, 1856:286 (new combination, in catalog of Hymenoptera in British Museum); Cresson, 1865a:137 (Cuba). – **As *Larra fulviventr***: Kohl, 1885a:244 (new combination, in checklist of world *Larra*); W. Fox, 1891d:342 (Jamaica); Dalla Torre, 1897:667 (in catalog of world Hymenoptera); Stadelmann, 1897:255 (new combination); Ashmead, 1900:226 (Lesser Antilles: St. Vincent Island), 306 (in checklist of Caribbean Hymenoptera, as *fulvipennis*). – **As *Motes fulviventr***: Ashmead, 1899d:249 (new combination, in checklist of North American Crabronidae); Ducke, 1908a:50 (diagnostic characters). – **As *Liris fulviventr***: Alayo Dalmau, 1973:178 (new combination, in catalog of Cuban Hymenoptera), 1976:22 (in checklist of Cuban Sphecidae); R. Bohart and Menke, 1976:245 (listed); Nascimento and Overal, 1980:6 (Cuba); de Zayas, 1981:76 (Cuba); Amarante, 2002:41 (in catalog of Neotropical Crabronidae); Portuendo and Fernández, 2004:134 (Cuba: Sierra Maestra); Genaro, 2006:56 (in checklist of Cuban Sphecidae and Crabronidae; also: Jamaica, St. Vincent Island).

116. *fuliginosus* (Dahlbom)

Larra fuliginosa Dahlbom, 1843:138, ♀, ♂. Lectotype: ♀, Cuba: no specific locality (LUND), designated by Krombein, 1976b:334. – Dahlbom, 1845:472 (in key); Cresson, 1862:237 (in catalog of North American Hymenoptera); Kohl, 1885a:244 (in checklist of world *Larra*); Dalla Torre, 1897:667 (in catalog of world Hymenoptera); Ashmead, 1900:306 (in checklist of Caribbean Hymenoptera). – **As *Larrada fuliginosa***: F. Smith, 1856:288 (new combination, in catalog of Hymenoptera in British Museum); Cresson, 1865a:137 (Cuba); Wolcott, 1951:842 (Puerto Rico; as *fuliginosa* Dahlberg). – **As *Notogonia fuliginosa***: Stadelmann, 1897:255 (new combination, study of type, new combination). – **As *Motes fuliginosa***: Krombein, 1958f:188 (new combination, Florida, Cuba). – **As *Liris fuliginosa***: Evans, 1972b:9 (new combination, Caribbeans: Dominica Island); Alayo Dalmau, 1973:178 (in catalog of Cuban Hymenoptera), 1976:23 (in checklist of Cuban Sphecidae); R. Bohart and Menke, 1976:245 (as valid name for *Liris dahlbomi*); de Zayas, 1981:76 (Cuba). – **As *Liris fuliginosus***: Amarante, 2002:40 (in catalog of Neotropical Crabronidae); Genaro, 2004a:18 (nesting habits); Amarante, 2005:11 (is a subspecies of *Liris luctuosus*); Genaro, 2006:56 (in checklist of Cuban Sphecidae and Crabronidae; also: Florida, Mexico to Guatemala, Isla de la Juventud, Jamaica, Guana Island, Puerto Rico, St. Vincent, Grenada, Dominica).

Larrada vinulenta Cresson, 1865a:138, sex not indicated. Lectotype: sex not indicated, Cuba: no specific locality (ANSP), designated by Cresson, 1916:96. Synonymized with *Liris fuliginosa* by Krombein, 1976b:335. – Cresson, 1873:214 (Texas); Dewitz, 1881:203 (Puerto Rico). – **As *Larra vinulenta***: Kohl, 1885a:248 (new combination, in checklist of world *Larra*); Cresson, 1887:277 (in catalog of North American Hymenoptera); W. Fox, 1891d:342 (Jamaica); Dalla Torre, 1897:675 (in catalog of world Hymenoptera); Ashmead, 1900:225 (Lesser Antilles: St. Vincent Island), 306 (in checklist of Caribbean Hymenoptera). – **As *Notogonia vinulenta***: Stadelmann, 1897:255 (new combination); Holland, 1917:295 (Cuba: Isla de Pinos, now Isla de la Juventud: Los Indios and Nueva Gerona). – **As *Ancistromma vinulenta***: Ashmead, 1899d:249 (new combination, in checklist of North American Crabronidae, generic placement tentative). – **As *Notogonidea vinulenta***: Wolcott, 1951:842 (new combination, Puerto Rico). – **As *Liris vinulenta***: Alayo Dalmau, 1973:178 (new combination, in catalog of Cuban Hymenoptera), 1976:23 (in checklist of Cuban Sphecidae); R. Bohart and Menke, 1976:248 (listed). – **As *Liris vinulentus***: Amarante, 2002:41 (in catalog of Neotropical Crabronidae), 2005:11 (is a synonym of *Liris luctuosus fuliginosus*).

Larrada dahlbomi Cresson, 1865a:139, ♀, conditional substitute name for *Larrada vinulenta* (as *Dahlbomi*, incorrect original capitalization). Lectotype: ♀, Cuba (ANSP), designated by Krombein, 1976b:334. – Dalla Torre, 1897:667 (as a tentative synonym of *Larra fuliginosa*). – **As *Liris dahlbomi***: R. Bohart and Menke, 1976:245 (new combination, as synonym of *Liris fuliginosa*). – **As *Liris luctuosa dahlbomi***: Krombein, 1976b:335 (new status), 1979b:1619 (in catalog of North American Hymenoptera); Krombein and Shanks Gingras, 1984:35 (revision); Snelling, 1992:14 (Virgin Islands: Guana Island); Snelling, 1993:18 (British Virgin Islands: Guana Island).

117. *funereus* (F. Smith)

Larrada funerea F. Smith, 1863a:34, ♀. Holotype or syntypes: ♀, New Guinea: Waigeo (BMNH). – Tsuneki, 1983c:28 (listed), 29 (taxonomic comments). – **As *Larra funerea***: Kohl, 1885a:244 (new combination, in checklist of world *Larra*); Dalla Torre, 1897:668 (in catalog of world Hymenoptera). – **As *Liris funerea***: R. Bohart and Menke, 1976:245 (new combination, listed).

118. *fuscatus* Tsuneki

Liris fuscatus Tsuneki, 1971h:2, ♂ (as *fuscata*, incorrect original termination). Holotype: ♂, Taiwan: Chiayi Prefecture: Kuanghua (originally K. Tsuneki coll., now USNM). – Nuhn and Menke, 1994:25 (holotype in USNM); Porter, Stange, and Wang, 1999:8 (in checklist of Sphecidae of Taiwan); Hua, 2006:281 (in list of Chinese insects, geographic distribution); T. Li, Cai, and Li, 2007:423 (in key to *Liris* of China).

119. *fuscinervus* (Cameron)

Notogonia fuscinerva Cameron, 1905c:224, ♀. Holotype or syntypes: ♀, India: Assam: Khasia Hills (OXUM). – Ramakrishna Aiyar, 1916:552 (in catalog of Indian aculeates described after Bingham, 1897). – **As *Cratolarra fuscinerva***: Tsuneki, 1963:9 (new combination, Thailand; discussion); Iwata, 1964b:371 (nesting habits in Thailand); Tsuneki, 1966g:8 (Taiwan; synonymy). – **As *Liris fuscinerva***: R. Bohart and Menke, 1976:245 (new combination, listed); Porter, Stange, and Wang, 1999:8 (in checklist of Sphecidae of Taiwan). – **As *Liris fuscinervus***: Hua, 2006:281 (in list of Chinese insects, geographic distribution); T. Li, Cai, and Li, 2007:419 (in key to *Liris* of China).

120. *fuscistigma* (Cameron)

Notogonia fuscistigma Cameron, 1903:122, ♀. Holotype or syntypes: ♀, India: Bengal: Barrackpore 20 km N Calcutta (OXUM). – Ramakrishna Aiyar, 1916:552 (in catalog of Indian aculeates described after Bingham, 1897). – **As *Liris fuscistigma***: R. Bohart and Menke, 1976:245 (new combination, listed).

121. *ganahlia* (Dalla Torre)

Notogonia rufipes de Saussure, 1892:511, ♀. Holotype: ♀, Madagascar: Antananarivo (MHNG). – Stadelmann, 1897:255 (valid name for the species). – **As *Motes rufipes***: Leclercq, 1961d:116 (new combination, Madagascar). – **As *Liris rufipes***: Arnold, 1945:133 (new combination, Madagascar).
Larra ganahlia Dalla Torre, 1897:668 (as *Ganahlia*, incorrect original capitalization). Substitute name for *Larra rufipes* (de Saussure, 1892) Dalla Torre, 1897, junior secondary homonym of *Larra rufipes* (F. Smith, 1858). – **As *Liris ganahlia***: R. Bohart and Menke, 1976:245 (new combination, listed); Pulawski, 2003b:797 (in checklist of Malagasy Sphecidae).

122. *gibbosus* Kohl

Liris gibbosa Kohl, 1892:222, ♀, incorrect original termination. Holotype or syntypes: ♀, "Arabia" (NHMW). – Kohl, 1892:228 (in key); Dalla Torre, 1897:668 (in catalog of world Hymenoptera); de Beaumont, 1961f:224 (in revision of Mediterranean *Liris*); R. Bohart and Menke, 1976:245 (listed); Dollfuss, 1989:10 (type material in NHMW); T. Li, Cai, and Li, 2009a:117 (in key to Palearctic *Liris*).

123. *gowdeyi* (R. Turner)

Notogonia gowdeyi R. Turner, 1913:751, ♀, ♂. Syntypes: Uganda: Entebbe (BMNH). – **As *Notogonidea gowdeyi***: Arnold, 1923b:231 (new combination, revision, description of ♀, Uganda: Entebbe, as *Gowdeyi*), 1930:6 (in checklist of Afrotropical Sphecidae). – **As *Liris gowdeyi***: R. Bohart and Menke, 1976:245 (new combination, listed).

124. *gracilicornis* (Arnold)

Notogonidea gracilicornis Arnold, 1923b:250, ♀. Holotype: ♀, Zimbabwe: Bulawayo (SAM). – Arnold, 1929c:397 (description of ♂), 1930:6 (in checklist of Afrotropical Sphecidae), 1945:132 (Madagascar). – **As *Liris gracilicornis***

nis: Arnold, 1951:160 (new combination, Ghana: Labadi); R. Bohart and Menke, 1976:245 (listed); Dollfuss, 1993a:693 (Central African Republic: Kembe); Pulawski, 2003b:797 (in checklist of Malagasy Sphecidae).

125. *gryllicida* Evans

Liris gryllicida Evans, 1972b:11, ♂, ♀. Holotype: ♂, Caribbeans: Dominica Island: Clarke Hall in Layou Valley (USNM). – R. Bohart and Menke, 1976:245 (listed); Amarante, 2002:40 (in catalog of Neotropical Crabronidae).

126. *haemorrhoidalis* (Fabricius)

Pompilus haemorrhoidalis Fabricius, 1804:198, sex not indicated. Holotype: ♀, Guinea: no specific locality (ZMK). –

As *Larrada haemorrhoidalis*: F. Smith, 1856:280 (new combination, in catalog of Hymenoptera in British Museum); Taschenberg, 1870:7 (Sudan: Khartum); Walker, 1871:20 (Egypt: Cairo); Girard, 1879:954 (recognition); Magretti, 1884a:250 (Sudan), 1884c:583 (Sudan, Ethiopia, Eritrea); W. Schulz, 1911b:187 (Magretti's specimen is a *Liris* s.s.); Innes Bey, 1912:111 (specimens recorded by Walker, 1871, now destroyed by dermestids, were collected in unknown locality). – **As *Tachytes hoemorrhoidalis* [sic]**: Radoszkowski, 1881:210 (new combination, Angola). – **As *Larra haemorrhoidalis*** Kohl, 1885a:244 (new combination, new combination, in checklist of world *Larra*); Dalla Torre, 1897:668 (in catalog of world Hymenoptera); Magretti, 1898:50 (Somalia: Gubala-Ginda); Casolari and Casolari Moreno, 1980:112 (specimens in M. Spinola collection, Torino); Pagliano, 2008:545 (specimens in M. Spinola collection, Torino). – **As *Lyrops haemorrhoidalis***: Guérin-Méneville, 1844:439 (new combination, synonymy); Casolari and Casolari Moreno, 1980:112 (specimen in M. Spinola collection, Torino); Pagliano, 2008:545 (specimen in M. Spinola collection, Torino). – **As *Liris haemorrhoidalis***: Gerstaecker in Peters, 1858:510 (new combination, Mozambique, new combination); Gerstaecker, 1862:477 (Mozambique: Tette); Kohl, 1885a:256 (new combination, in revision of Palearctic *Larrinae*); nec Cameron, 1889c:130 (= *Liris deplanata*); Schletterer, 1889b:1128 (Canary Islands: Santa Cruz Island); Kohl, 1883e:183 (Tanzania: Pongue), 1892:227 and 229 (in key to world *Liris* s.s.), 1894:342 (Mozambique: no specific locality); Fox, 1896e:553 (Ethiopia: Bale Province: Sheikh Husein, now Shek Husen); Bingham, 1897:207 (redescription), 1898a:104 (Yemen: Aden, as *hoemorrhoidalis*), 1902:209 (South Africa, Malawi); Kohl, 1906a:221 (Yemen: Aden, Socotra Island); Cameron, 1908a:285 (Kenya: Mt. Meru, Usambara Mts.), 1910:133 (South Africa: Transvaal: Kranspoort); Mercet, 1910b:164 (listed from Spain); Bischoff, 1913c:71 (Zimbabwe: Bulawayo); von Schulthess, 1914:286 (Cameroon); Morice, 1921:823 (Iraq: Amara); Arnold, 1923b:251 (revision); Maidl, 1924:239 (Sudan: Sennar); Alfken, 1925:71 (description of ♂); G. Carpenter, 1929:7 (mimicked by *Hoplistomerus serripes* F., a dasypogonid); Arnold, 1930:7 (in checklist of Afrotropical Sphecidae); Schouteden, 1930:92 (Zaire); Guiglia, 1932:126 (Eritrea: Cheren), 1932b:100 (Libya: Fezzan: Brak); Nadig, 1933:85 (Morocco: Marakech); Guiglia, 1934b:302 (Libya: bibliography and summary of locality records); Arnold, 1935a:498 (South Africa: Kalahari); Guiglia, 1936:6 (Libya: Fezzan: Brak); Giordani Soika, 1939a:169 (Eritrea: Tessenei), 1939c:101 (Eritrea: Asmara); Guiglia, 1939a:202 (Ethiopia: Gonder), 1939c:189 (Libya: Fezzan: Techertiba, Tunin), 1940d:200 (Somalia), 1940e:293 (Eritrea: Tessenei), 1942b:233 (Libya); Arnold, 1943:81 (Zaire); Giner Marí, 1943a:122 (in Sphecidae Fauna of Spain); Guiglia, 1943c:76 (Ethiopia: Gamo Gofa: Sagan – Omo region); Giner Marí, 1947:25 (Western Sahara); de Beaumont, 1950d:14 (Egypt: Siwa oasis); Guiglia, 1950:258 (Ethiopia: Gamo Gofa, Caschei); Balthasar, 1954b:270 (Palestine: Jerusalem, Tiberias); de Beaumont, 1954b:3 (Canary Islands), 1955a:170 (Morocco); Ceballos, 1956:374 (in catalog of Hymenoptera of Spain); de Beaumont, 1956a:195 (Libya), 1956d:2 (Cabo Verde Islands); Guiglia, 1956:308 (Somalia: Mijertins: Bogha Aled); de Beaumont, 1961e:4 (Iraq: Abu Ghuraib, Kufa), 1961f:222 (in revision of Mediterranean *Liris*); van der Vecht, 1961a:19 (study of holotype); Ceballos, 1964:89 (in supplement to catalog of Spanish Sphecidae); de Beaumont, 1968a:260 (Canary Islands; citation); I. Robertson, 1969:480 (Tanzania: Ukiriguru); Simon Thomas, 1969a:120 (Canary Islands: Tenerife); de Beaumont, 1970a:399 (Afghanistan), 1970c:14 (Iran: Baluchistan); de Beaumont, Bytinski-Salz and Pulawski, 1973:4 (Israel); R. Bohart and Menke, 1976:245 (listed); Al-Ali, 1977:100 (Iraq: Baghdad); Kazenas, 1978b:102, 103 (in key to Sphecidae of Kazakhstan and Central Asia); Guichard, 1980:226 (Oman); Wolf, 1980:72 (Canary

Islands); Pagliano, 1990:102 (in catalog of Italian Sphecidae: recorded from Sicily by Guiglia, 1932); Dollfuss, 1993a:693 (Central African Republic: Kembe); Hohmann, La Roche, Ortega, and Barquín, 1993:219 (detailed locality records from Canary Islands); Simon Thomas and Wiering, 1993:404 (Cape Verde Islands); Negrisolo *in* Minelli, Ruffo, and La Posta, 1995b:9 (in catalog of Italian fauna: Sicily); nec Melo, 2000:105 (= *Liris magnificus*); K. Schmidt and Bitsch *in* Bitsch et al., 2001:203 (in Sphecid Fauna of Western Europe); Ebrahimi, 2005:125 (in key to selected Iranian Sphecidae); Pagliano and Negrisolo, 2005:350 (in Sphecid Fauna of Italy); T. Li, Cai, and Li, 2009a:117, 118 (in key to Palearctic *Liris*).

Lyrops auriventris Guérin-Méneville, 1835:pl. 70, Fig. 9, ♂. Holotype: ♂, origin unknown (depository?). Synonymized with *Lyrops haemorrhoidalis* by Guérin-Méneville, 1844:440.

Lyrops savignyi Spinola, 1839:476, ♀ (as *Savignyi*, incorrect original capitalization). Lectotype: ♀, Egypt: no specific locality (M. Spinola collection, TORINO), designated by de Beaumont, 1952e:47. Synonymized with *Liris haemorrhoidalis* by ..., synonymy confirmed by de Beaumont, 1952e:47. – **As *Tachytes savignyi***: Radoszkowski, 1876b:135 (new combination, Egypt). – **As *Larra savignyi***: Casolari and Casolari Moreno, 1980:112 (new combination, specimens in M. Spinola collection, Torino); Pagliano, 2008:544 (specimens in M. Spinola collection, Torino). – **As *Liris savignyi***: Dahlbom, 1845:471 (new combination, in key, as *savignyi* Fabricius).

Liris orichalcea Dahlbom, 1843:135, ♂. Holotype: Guinea: no specific locality (LUND). Synonymized with *Liris savignyi* by Dahlbom, 1845:471.

Tachytes illudens Lepelletier de Saint Fargeau, 1845:249, ♀. Syntypes: ♀, Egypt: no specific locality; and Africa: Galam (originally Serville coll, now?). Synonymized with *Liris haemorrhoidalis* by ...

Larrada haemorrhoidalis var. *parva*: Magretti, 1884a:250, ♀, ♂. Syntypes: Sudan: no specific locality (MSNG).

Liris rubricans Pérez, 1895a:196, ♀. Holotype or syntypes: ♀, Canary Islands: Gran Canaria: no specific locality (MNHN). Synonymized with *Liris haemorrhoidalis* by Kohl, 1906a:221 – Báez and Ortega, 1978:192 (Canary Islands). – **As *Larra rubricans***: Kohl *in* Dalla Torre, 1897:673 (new combination, in catalog of world Hymenoptera).

127. *hanedai* Tsuneki

As *Liris* sp.: Haneda, 1971:30 (Taiwan), corrected to *Liris hanedai* by Tsuneki, 1971h:4.

Liris hanedai Tsuneki, 1971h:4, ♂. Holotype: ♂, Taiwan: Chiayi Prefecture: Chuchi (originally K. Tsuneki coll., now Hyogo Mus.). – Haneda, 1972a:3 (Taiwan); Tsuneki, 1983a:48 (in key), 109 (comparison with *Liris robustoides*); Tano, 1995:43 (holotype in K. Tsuneki collection); Hashimoto and Nakanishi, 1997:17 (holotype transferred to Hyogo Mus.); Porter, Stange, and Wang, 1999:8 (in checklist of Sphecidae of Taiwan); Hua, 2006:281 (in list of Chinese insects, geographic distribution); T. Li, Cai, and Li, 2007:423 (in key to *Liris* of China).

128. *huonensis* Tsuneki

Liris huonensis Tsuneki, 1983c:15, ♀ (subgenus *Leptolarra*). Holotype: ♀, New Guinea: Huon Golf: no specific locality (TMB). – Tsuneki, 1983c:30 (in key).

129. *inca* Amarante

Tachytes peruanus Brèthes, 1926:45, sex not indicated, junior secondary homonym of *Liris peruanus* (Brèthes, 1924).

Holotype or syntypes: Peru: Cuzco (Buenos Aires). – **As *Liris peruana***: R. Bohart *in* Bohart and Menke, 1976:247 (new combination, listed); Genise, 1990:27 (type material in MACN).

Liris inca Amarante, 2002:40. Substitute name for *Liris peruanus* (Brèthes, 1924).

130. *incertus* Arnold

Liris incerta Arnold, 1945:127, ♀, incorrect original termination. Syntypes: ♀, Madagascar: Behara, Bekily, Ranomafana, Rogez (MNHN). – R. Bohart and Menke, 1976:246 (listed). – **As *Motes incerta***: Leclercq, 1960a:97 (new combination, Madagascar), 1961d:113 (Madagascar; comparison with *Liris dejectus*). – **As *Liris incertus***: Pulawski, 2003b:797 (in checklist of Malagasy Sphecidae).

131. *indicus* (Cameron)

Notogonia indica Cameron, 1903b:120, ♀. Holotype or syntypes: ♀, India: Bengal: Barrackpore 20 km N Calcutta (OXUM). – Ramakrishna Aiyar, 1916:552 (in catalog of Indian aculeates described after Bingham, 1897). – **As *Liris indica***: R. Bohart and Menke, 1976:246 (new combination, listed).

132. *infrunitus* Krombein and Shanks Gingras

Liris infrunitus Krombein and Shanks Gingras, 1984:69, ♂. Holotype: ♂, Mexico, Morelos: 3 mi. N Alpuyecá (USNM). – Amarante, 2002:40 (in catalog of Neotropical Crabronidae); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:664 (in checklist of Mexican Sphecidae).

133. *inopinatus* de Beaumont

Liris inopinatus de Beaumont, 1961f:246, ♀, ♂ (as *inopinata*, incorrect original termination). Holotype: ♀, Cyprus: Zakaki (Lausanne). – de Beaumont, 1965a:46 (Greece); de Beaumont, Bytinski-Salz and Pulawski, 1973:5 (Israel); R. Bohart and Menke, 1976:246 (listed). – **As *Liris inopinatus***: K. Schmidt and Bitsch in Bitsch et al., 2001:204 (in Sphecid Fauna of Western Europe); T. Li, Cai, and Li, 2009a:117, 119 (in key to Palearctic *Liris*).

134. *insularis* (de Saussure)

Larrada insularis de Saussure, 1867:73, ♀. Holotype or syntypes: India: Nicobar Islands: Tellushong (NHMW). – Cameron, 1900b:77 (not included in Bingham, 1897); Ramakrishna Aiyar, 1916:552 (in catalog of Indian aculeates described after Bingham, 1897). – **As *Larra insularis***: Kohl, 1885a:244 (new combination, in checklist of world *Larra*); Dalla Torre, 1897:669 (in catalog of world Hymenoptera). – **As *Liris insularis***: R. Bohart and Menke, 1976:246 (new combination, listed); Dollfuss, 1989:10 (type material in NHMW).

135. *intermedius* (Cameron)

Notogonia intermedia Cameron, 1903b:118, ♀. Holotype or syntypes: ♀, India: Bengal: Barrackpore 20 km N Calcutta (OXUM). – Ramakrishna Aiyar, 1916:552 (in catalog of Indian aculeates described after Bingham, 1897). – **As *Liris intermedia***: R. Bohart and Menke, 1976:246 (new combination, listed). – **As *Liris intermedius***: Hua, 2006:281 (in list of Chinese insects, geographic distribution).

136. *iridipennis* (Maidl) (preoccupied)

Notogonia iridipennis Maidl, 1925a:385, ♀, ♂, junior secondary homonym of *Liris iridipennis* (Cameron, 1900). Syn-types: Indonesia: Sumatra: no specific locality (NHMW). – **As *Liris iridipennis***: R. Bohart and Menke, 1976:246 (new combination, listed); Dollfuss, 1989:10 (type material in NHMW).

137. *iriomotensis* Tsuneki

Liris iriomotensis Tsuneki, 1972b:17, ♂. Holotype: ♂, Ryukyu Islands: Iriomote Island (originally K. Tsuneki coll., now Hyogo Mus.). – Tsuneki, 1982e:26 (Ryukyu Islands: Iriomote Island), 1982g:59 (known from the Ryukyu archipelago); R. Bohart and Menke, 1976:246 (listed); Tano, 1994a:5 (holotype in K. Tsuneki collection); Hashimoto and Nakanishi, 1997:17 (holotype transferred to Hyogo Mus.); Yamane, Ikudome, and Terayama, 1999:514 (in Identification Guide to Crabronidae of Nansei = Ryukyu Islands, Japan); T. Li, Cai, and Li, 2009a:119 (in key to Palearctic *Liris*).

138. *irroratus* (F. Smith)

Larrada irrorata F. Smith, 1856:284, ♀. Holotype or syntypes: ♀, Senegal: no specific locality (BMNH). – **As *Larra irrorata***: Kohl, 1885a:245 (new combination, in checklist of world *Larra*); Dalla Torre, 1897:669 (in catalog of world Hymenoptera). – **As *Notogonia irrorata***: R. Turner, 1917b:320 (new combination; Senegal to Uganda). – **As *Notogonidea irrorata***: Arnold, 1923b:233 (new combination, revision), 1930:6 (in checklist of Afrotropical Sphecidae); Schouteden, 1930:91 (Zaire). – **As *Liris irrorata***: R. Bohart and Menke, 1976:246 (new combination, listed).

Larra fraudulenta Kohl, 1894:303, ♀. Holotype or syntypes: ♀, Sierra Leone: no specific locality (MRAC). Synonymized with *Notogonia irrorata* by R. Turner, 1917b:320. – Dalla Torre, 1897:667 (in catalog of world Hymenoptera).

ssp. tibialis Arnold

Notogonidea irrorata var. *tibialis* Arnold, 1932:1, ♀. Holotype: ♀, Zaire: Ubangi District: Libenge (Zool. Mus. Hamburg). – As *Liris irrorata tibialis*: R. Bohart and Menke, 1976:246 (new combination, new status, listed).

139. ituriensis Benoit

Liris ituriensis Benoit, 1951:128, ♀. Holotype: ♀, Zaire: Ituri, Geti (MRAC). – R. Bohart and Menke, 1976:246 (listed).

140. jaculator (F. Smith)

Larrada jaculator F. Smith, 1856:279, ♀. Holotype: ♀, India: North Bengal: no specific locality (BMNH). – As *Larra jaculator*: Kohl, 1885a:244 (new combination, in checklist of world *Larra*); Dalla Torre, 1897:668 (in catalog of world Hymenoptera). – As *Notogonia jaculator*: Cameron, 1889c:129 (new combination, redescription; India: Barrackpore, Pune); Bingham, 1896a:442 (Sri Lanka: Pundaluoya), 1897:203 (redescription, as *jaculatrix*); Cameron, 1905k:64 (Java, as *jaculatrix*); Giner Mari, 1945c:85s4 (India: Maharashtra: Khandala; as *jaculatrix*). – As *Motes jaculator*: Chhotani and Ray, 1975:27 (new combination, India: Rajasthan: Devdyani). – As *Liris jaculator*: Pulawski, 1975a:319 (new combination, diagnostic characters); R. Bohart and Menke, 1976:246 (listed); S. Gupta, 1995:86 (India: Uttar Pradesh);

Notogonia Chapmani Cameron, 1900a:25, ♀, incorrect original capitalization. Holotype or syntypes: ♀, India: Himalayas: no specific locality (BMNH). Synonymized with *Liris jaculator* by Pulawski, 1975a:319. – Ramakrishna Aiyar, 1916:552 (in catalog of Indian aculeates described after Bingham, 1897).

141. jucundus Arnold

Liris jucunda Arnold, 1959:329, ♀, incorrect original termination. Holotype: ♀, Tanzania: Rukwa Valley (BMNH). – R. Bohart and Menke, 1976:246 (listed).

142. kalilianus Tsuneki

Liris kaliliana Tsuneki, 1982a:17, ♀, incorrect original termination. Holotype: ♀, Bismarck Archipelago: New Ireland: Kalili Bay: Danu (ZMK). – Tsuneki, 1982a:13 (in key).

143. karnyi (Maidl)

Notogonidea karnyi Maidl, 1927:409, ♀. Holotype: ♀, Sumatra: Wai Lima: Lampongs (NHMW). – As *Liris karnyi*: R. Bohart and Menke, 1976:246 (listed).

144. keiseri (Leclercq)

Motes keiseri Leclercq, 1961d:114. Holotype: ♀, Madagascar: Tamatave Province: Fampanambo (MHNB). – As *Liris*: R. Bohart and Menke, 1976:246 (new combination, listed); Pulawski, 2003b:797 (in checklist of Malagasy Sphecidae).

145. khasianus (Cameron)

Notogonia khasiana Cameron, 1905c:225, ♀. Holotype or syntypes: ♀, India: Assam: Khasia Hills (OXUM). – Ramakrishna Aiyar, 1916:552 (in catalog of Indian aculeates described after Bingham, 1897). – As *Liris khasiana*: R. Bohart and Menke, 1976:246 (new combination, listed).

146. krombeini Menke

Liris williamsi Krombein, 1949b:398, ♀, junior secondary homonym of *Liris williamsi* (Rohwer, 1919). Holotype: ♀, Micronesia: Palau Islands: Koror Island (USNM). – Krombein, 1949b:383 (in key to Sphecidae of Micronesia), 1950b:142 (in key); Tsuneki, 1982a:13 (in key).

Liris krombeini Menke in Bohart and Menke, 1976:246. Substitute name for *Liris williamsi* Krombein.

147. *kuchingensis* (Cameron)

Notogonia kuchingensis Cameron, 1909a:73, ♂. Holotype or syntypes: ♂, Malaysia: Sarawak (in Borneo): Kuching (BMNH). – **As *Liris kuchingensis***: R. Bohart and Menke, 1976:246 (new combination, listed).

148. *labiatus* (Fabricius)

Sphex labiatus Fabricius, 1793:211, sex not indicated (as *labiata*, incorrect original combination). Lectotype: ♀, Caribbean Islands: no specific locality (ZMK), designated by van der Vecht, 1961a:22. – **As *Pompilus labiatus***: Fabricius, 1798:247 (new combination, redescription), 1804:191 (redescription); Dahlbom, 1845:XIX (specimens in collection Fabricius are *Tachytes murinus*). – **As *Tachytes labiatus***: Dahlbom, 1845:469 (new combination, in key); F. Smith, 1856:306 (new combination, in catalog of Hymenoptera in British Museum); A. Costa, 1862a:17 (specimen from Brazil in Museo Zoologico di Napoli); Dalla Torre, 1897:691 (in catalog of world Hymenoptera). – **As *Liris labiata***: van der Vecht, 1961a:22 (new combination, redescription, description of ♂); Evans, 1972b:11 (Caribbeans: Dominica Island); Alayo Dalmau, 1976:23 (in checklist of Cuban Sphecidae); R. Bohart and Menke, 1976:246 (listed). – **As *Liris labiatus***: Amarante, 2002:40 (in catalog of Neotropical Crabronidae); Genaro, 2006:56 (in checklist of Cuban Sphecidae and Crabronidae; also: Hispaniola, Guana Island, Puerto Rico, Dominica, Barbados).

Larrada ignipennis F. Smith, 1856:288, ♀, ♂. Syntypes: Dominican Republic: no specific locality (BMNH). Synonymized with *Liris labiata* by Evans, 1972b:11. – Cresson, 1862:237 (in catalog of North American Hymenoptera), 1865a:137 (Cuba); Dewitz, 1881:203 (Puerto Rico). – **As *Larra ignipennis***: Kohl, 1885a:244 (new combination, in checklist of world *Larra*); Dalla Torre, 1897:669 (in catalog of world Hymenoptera); Ashmead, 1900:306 (in checklist of Caribbean Hymenoptera). – **As *Notogonia ignipennis***: Stadelmann, 1897:255 (new combination); W. Schulz, 1903:479 (Haiti), redescription; Wolcott, 1923:44 (Puerto Rico); Viereck, 1925:11 (Barbados). – **As *Motes ignipennis***: Wolcott, 1951:842 (new combination, Puerto Rico). – **As *Liris ignipennis***: Alayo Dalmau, 1973:178 (new combination, in catalog of Cuban Hymenoptera); Snelling, 1992:14 (Virgin Islands: Guana Island); Snelling, 1993:18 (British Virgin Islands: Guana Island).

149. *laboriosus* (F. Smith)

Larrada laboriosa F. Smith, 1856:278, ♀. Syntypes: ♀, Philippines: no specific locality (BMNH). – **As *Larra laboriosa***: Kohl, 1885a:245 (new combination, in checklist of world *Larra*); Cameron, 1889c:125 (new combination, listed); Dalla Torre, 1897:669 (in catalog of world Hymenoptera). – **As *Notogonia laboriosa***: Cameron, 1890c:314 (new combination, as *laborosa*); Bingham, 1896a:442 (references), 1897:204 (redescription, Burma); Ashmead, 1904a:6 (Philippines), 1904d:150 (Philippines); Bingham, 1905:43 (Malaysia: Cape Patani); R. Brown, 1906:687 (in catalog of Philippine Hymenoptera); nec Matsumura and Uchida, 1926:... (= *Liris difficilis*). – **As *Notogonidea laboriosa***: F. Williams, 1928a:73 (new combination, Philippines, revision), 1936b:125 (Solomon Islands). – **As *Motes laboriosus***: Krombein, 1949b:383 (new combination, in key to Sphecidae of Micronesia), 394 (new combination, Mariana Islands); new combination, Baltazar, 1966:330 (in catalog of Hymenoptera of Philippines). – **As *Liris laboriosa***: Tsuneki, 1967b:30 (new combination, Taiwan), 1971h:4 (Taiwan); Murota, 1973b:118 (Taiwan); Tsuneki, 1974b:602 (Thailand); R. Bohart and Menke, 1976:246 (listed); Tsuneki, 1976b:64 (Philippines; redescription), 1977j:268 (Taiwan), 1982a:17, 18 (in key), 1982e:27 (Taiwan), 1983a:14 (Philippines; taxonomy), 45, 48 (in key), 1983b:5 (study of holotype); S. Gupta, 1995:86 (India: Uttar Pradesh); Porter, Stange, and Wang, 1999:8 (in checklist of Sphecidae of Taiwan); Ohl and Linde, 2003:150 (number of ovarioles). – **As *Liris laboriosus***: T. Li, Cai, and Li, 2007:420, 422 (in key to *Liris* of China).

Notogonia crawfordi Rohwer, 1910c:659, ♀. Holotype: ♀, Philippines: Luzon: Manila (USNM). Synonymized with *Liris laboriosus* by F. Williams, 1928a:73.

As *Liris* sp.: Haneda, 1971:30 (Taiwan), corrected to *Liris laboriosus* by Tsuneki, 1971h:4.

150. *larriformis* (F. Williams)

Notogonidea larriformis F. Williams, 1928a:73, ♀, ♂. Holotype: ♀, Philippines: Luzon: Los Baños (BISHOP). – **As *Motes larriformis***: – Iwata, 1965:107 (new combination, number of oocytes); Baltazar, 1966:331 (in catalog of Hymenoptera of Philippines). – **As *Liris larriformis***: Iwata and Yoshikawa, 1961:399 (new combination, Thailand), 405 (prey); Tsuneki, 1966g:4 (Taiwan), 1967b:34 (Taiwan), 1967i:389 (Taiwan); R. Bohart and Menke, 1976:246 (listed); Tsuneki, 1983a:15 (Philippines; taxonomic comments), 45, 48 (in key); Porter, Stange, and Wang, 1999:8 (in checklist of Sphecidae of Taiwan); Ohl and Linde, 2003:150 (number of ovarioles); T. Li, Cai, and Li, 2007:420 (in key to *Liris* of China).

151. *larroides* (F. Williams)

Motes larroides F. Williams, 1928:69, ♀, ♂. Holotype: ♀, Philippines: Luzon: Los Baños (BISHOP). – Baltazar, 1966:331 (in catalog of Hymenoptera of Philippines); Tsuneki, 1974b:599 (Thailand). – **As *Liris larroides***: R. Bohart and Menke, 1976: 245 (new combination, as tentative synonym of *Liris flavinervus*), 246 (listed); Tsuneki, 1983a:9 (Philippines).

ssp. *taiwanus* (Tsuneki)

Motes larroides taiwanus Tsuneki, 1967b:25, ♀, ♂. Holotype: ♀, Taiwan: Ilan Prefecture: Tsukeng (originally K. Tsuneki coll., now USNM). – Tsuneki, 1971h:2 (Taiwan); Haneda, 1972a:3 (Taiwan); Murota, 1973b:118 (Taiwan). – **As *Liris larroides taiwanus***: R. Bohart and Menke, 1976:246 (new combination, listed); Tsuneki, 1977j:268 (Taiwan); Nuhn and Menke, 1994:26 (holotype transferred to USNM); Wu and Zhou, 1996a:82 (in revision in Economic Insect Fauna of China); Porter, Stange, and Wang, 1999:8 (in checklist of Sphecidae of Taiwan); Hua, 2006:281 (in list of Chinese insects, geographic distribution); T. Li, Cai, and Li, 2007:418, 421 (in key to *Liris* of China).

152. *laterisetosus* (Spinola)

Larra laterisetosa Spinola, 1851b:42, ♀. Holotype: ♀, Brazil: Pará: Belém (Torino). – Kohl, 1885a:245 (in checklist of world *Larra*); Dalla Torre, 1897:669 (in catalog of world Hymenoptera); Casolari and Casolari Moreno, 1980:113 (specimens in M. Spinola collection, Torino). – **As *Larrada laterisetosa***: F. Smith, 1856:289 (new combination, in catalog of Hymenoptera in British Museum). – **As *Liris laterisetosa***: Menke in Bohart and Menke, 1976:246 (new combination, listed). – **As *Liris laterisetosus***: Amarante, 2002:40 (in catalog of Neotropical Crabronidae).

Larra laterisetosa Spinola, 1853:58. Objective synonym of *Larra laterisetosa* Spinola, 1851.

153. *lemkamin* Tsuneki

Liris lemkamin Tsuneki, 1982a:16, ♀. Holotype: ♀, Bismarck Archipelago: New Ireland: Lemkamin (ZMK). – Tsuneki, 1982a:12 (in key).

154. *ligulatus* (F. Williams)

Notogonidea ligulata F. Williams, 1928a:75, ♂. Holotype: ♂, Philippines: Mindanao: Kolambugan (BISHOP). – **As *Motes ligulata***: Baltazar, 1966:331 (new combination, in catalog of Hymenoptera of Philippines). – **As *Liris ligulata***: R. Bohart and Menke, 1976:246 (new combination; listed). – **As *Liris ligulatus***: Tsuneki, 1983a:31 (Philippines; taxonomic comments), 48 (in key).

155. *limpidipennis* (F. Smith)

Larrada limpidipennis F. Smith, 1873b:57, ♀. Holotype or syntypes: ♀, Brazil: Pará: no specific locality (BMNH). – **As *Larra limpidipennis***: Kohl, 1885a:245 (new combination, in checklist of world *Larra*); Dalla Torre, 1897:669 (in catalog of world Hymenoptera). – **As *Liris limpidipennis***: R. Bohart and Menke, 1976:246 (new combination, listed); Amarante, 2002:40 (in catalog of Neotropical Crabronidae).

156. *liparus* Krombein and Shanks Gingras

Liris liparus Krombein and Shanks Gingras, 1984:60, ♂, ♀. Holotype: ♂, Mexico: Morelos: Canyon de Lobos, Yau-tepec (USNM). – Amarante, 2002:40 (in catalog of Neotropical Crabronidae); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:664 (in checklist of Mexican Sphecidae); Horta Vega, Pinson Domínguez, Barrientos Lozano, and Correa Sandoval, 2007: 45 (Mexico: Tamaulipas).

157. *liriformis* (F. Williams)

Notogonidea liriformis F. Williams, 1947:332, ♀. Holotype: ♀, Fiji: Viti Levu: Nandarivatu (BISHOP MUS.). – F. Williams, 1947:318 (listed from Fiji); Fullaway, 1957:279 (in checklist of Hymenoptera of Fiji). – **As *Liris liriformis***: R. Bohart and Menke, 1976:24 (new combination, listed).

158. *litoralis* Tsuneki

Liris litoralis Tsuneki, 1963c:10, ♀. Holotype: ♀, Thailand: Chantaburi (Sasayama). – R. Bohart and Menke, 1976:246 (listed).

159. *longicornis* (Cameron)

Larra longicornis Cameron, 1900a:27, ♀. Holotype or syntypes: ♀, India: Bengal: Barrackpore 20 km N Calcutta (OXUM). – Ramakrishna Aiyar, 1916:552 (in catalog of Indian aculeates described after Bingham, 1897). – **As *Liris longicornis***: R. Bohart and Menke, 1976:246 (new combination, listed).

160. *longitarsis* (Cameron)

Leptolarra longitarsis Cameron, 1900a:31, ♀. Holotype or syntypes: ♀, India: Bengal: Barrackpore 20 km N Calcutta (OXUM). – Ramakrishna Aiyar, 1916:553 (in catalog of Indian aculeates described after Bingham, 1897). – **As *Liris longitarsis***: R. Bohart and Menke, 1976:246 (new combination, listed).

161. *luctuosus* (F. Smith)

Larrada luctuosa F. Smith, 1856:289, ♀. Syntypes: Santo Domingo, Brazil: no specific localities (BMNH). – Cresson, 1862:237 (in catalog of North American Hymenoptera); Taschenberg, 1870:5 (additional description). – **As *Larra luctuosa***: Kohl, 1885a:245 (new combination, in checklist of world *Larra*); Dalla Torre, 1897:669 (in catalog of world Hymenoptera). – **As *Liris luctuosa***: R. Bohart and Menke, 1976:246 (new combination, listed); Krombein, 1976:335 (Dominica; as *luctuosa luctuosa*), 1979:1919 (listed; as *luctuosa luctuosa*). – **As *Liris luctuosus***: Krombein and Shanks Gingras, 1984:33 (redescription); Amarante, 2002:40 (in catalog of Neotropical Crabronidae); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:664 (in checklist of Mexican Sphecidae).

162. *luteipennis* (Cresson)

Larrada luteipennis Cresson, 1869:293, ♂. Lectotype: ♂, Cuba: no specific locality (ANSP), designated by Cresson, 1916:95. – Wolcott, 1951:842 (Puerto Rico). – **As *Larra luteipennis***: Kohl, 1885a:245 (new combination, in checklist of world *Larra*); Dalla Torre, 1897:669 (in catalog of world Hymenoptera); Ashmead, 1899d:249 (in checklist of North American Crabronidae, as *interpennis*), 1900:225 (Lesser Antilles: St. Vincent and Grenada Islands), 306 (in checklist of Caribbean Hymenoptera). – **As *Liris luteipennis***: Alayo Dalmau, 1973:178 (new combination, in catalog of Cuban Hymenoptera), 1976:23 (in checklist of Cuban Sphecidae); R. Bohart and Menke, 1976:246 (listed); Amarante, 2002:40 (in catalog of Neotropical Crabronidae); Genaro, 2006:56 (in checklist of Cuban Sphecidae and Crabronidae; also: Puerto Rico, St. Vincent, Grenada).

163. *lutusator* (F. Williams)

Notogonidea lutusator F. Williams, 1928a:166, ♀, ♂. Holotype: ♀, Ecuador, Oriente Province: Tena (BISHOP). – F. Williams, 1928a:99 (collects mud on forest trails). – **As *Liris lutusator***: R. Bohart and Menke, 1976:246 (new combination, listed); Hanson and Menke, 1995:639 (known from Costa Rica); Amarante, 2002:40 (in catalog of Neotropical Crabronidae).

164. *magnificus* Kohl

Liris magnificus Kohl, 1884a:356, ♀ (as *magnifica*, incorrect original termination). Holotype or syntypes: ♀, northern Australia: no specific locality (NHMW). – Kohl, 1892:228 (in key to world *Liris* s.s.); R. Turner, 1908:473 (as new synonym of *Liris haemorrhoidalis*); Dollfuss, 1989:10 (type material in NHMW); Pulawski, 2007b:293 (full species status, diagnostic characters). – **As *Larra magnifica***: Kohl, 1885a:245 (new combination, in checklist of world *Larra*); Dalla Torre, 1897:669 (in catalog of world Hymenoptera). – **As *Liris haemorrhoidalis magnifica***: F. Williams, 1928a:49 (new status, nesting habits); R. Bohart and Menke, 1976:245 (as tentative subspecies of *Liris haemorrhoidalis*); Cardale, 1985:235 (in catalog of Australian Sphecidae); Naumann, 1993:185 (Australia: Queensland: Heathlands area in Cape York), 1998:185 (Australia: northwest Queensland: Musselbrook area, approximately 18°40'S 138°23'E).

As *Liris haemorrhoidalis*: Melo, 2000:105 (use of one nest by more than one female, referring to *Liris haemorrhoidalis magnificus* of Williams, 1928a).

165. *maidli* (Arnold)

Notogonia minima Maidl, 1924:237, ♂, junior primary homonym of *Notogonia minima* Arnold, 1923. Holotype: ♂, Sudan: El Obeid (NHMW).

Notogonidea maidli Arnold, 1929:397. Substitute name for *Notogonia minima* Maidl. – **As *Liris maidli***: de Beaumont, 1961f:250 (new combination, in revision of Mediterranean *Liris*); R. Bohart and Menke, 1976:246 (listed); T. Li, Cai, and Li, 2009a:119 (in key to Palearctic *Liris*).

166. *makiling* Tsuneki

Notogonidea silvicola F. Williams, 1928:76, ♂ only, corrected to *Liris makiling* by Tsuneki, 1983a:29.

Liris makiling Tsuneki, 1983a:29, ♂. Holotype: ♂, Philippines: Mindanao: Mt. Makiling, allotype of *Notogonidea silvicola* F. Williams, 1928 (USNM). – Tsuneki, 1983a:47 (in key); Nuhn and Menke, 1994:26 (holotype in USNM).

167. *mandibularis* Menke

Liris intermedia F. Williams, 1928a:83, ♂, ♀, incorrect original termination, junior secondary homonym of *Liris intermedius* (Cameron, 1903) and of *Liris intermedius* (Arnold, 1923). Holotype: ♂, Philippines: Luzon: Los Baños (BISHOP). – Baltazar, 1966:334 (in catalog of Hymenoptera of Philippines); Tsuneki, 1982a:13 (in key).

Liris mandibularis Menke in Bohart and Menke, 1976:246. Substitute name for *Liris intermedia* F. Williams, 1928. – Tsuneki, 1983a:6 (Philippines; redescription).

168. *manusanus* Tsuneki

Liris manusana Tsuneki, 1982a:15, ♀, incorrect original termination. Holotype: ♀, Bismarck Archipelago: Manus Island: Lorengau (ZMK). – Tsuneki, 1982a:11, 12 (in key).

169. *melanius* R. Turner

As *Liris ducalis*: R. Turner, 1910b:425 (Australia: Cairns), corrected to *Liris melania* by R. Turner, 1916b:248.

Liris melania R. Turner, 1916b:248, ♀, incorrect original termination. Holotype or syntypes: ♀, Australia: Queensland: Cairns area (BMNH). – F. Williams, 1928a:84 (comparison with *Liris mindanaoensis* = *mandibularis*), 1936b:125 (Solomon Islands); R. Bohart and Menke, 1976:246 (listed); Tsuneki, 1982:10, 12 (in key); Cardale, 1985:234 (in catalog of Australian Sphecidae).

170. *melanopterus* Tsuneki

Liris melanoptera Tsuneki, 1982a:29, ♀, incorrect original termination. Holotype: ♀, Bismarck Archipelago: New Ireland: Lemkamin (ZMK). – Tsuneki, 1982a:18 (in key).

171. *memnonius* (F. Smith)

Larrada memnonia F. Smith, 1856:281, ♀ (as *Memnonia*, incorrect original capitalization). Syntypes: ♀, Egypt, Senegal: no specific locality (BMNH). – **As *Larra memnonia***: Kohl, 1885a:245 (new combination, in checklist of world *Larra*); Dalla Torre, 1897:670 (in catalog of world Hymenoptera); Arnold, 1923b:226 (original description copied), 1930:6 (in checklist of Afrotropical Sphecidae). – **As *Notogonia memnonia***: Richards, 1928a:361 (new combination, in revision of Mediterranean species). – **As *Leptolarra memnonia***: nec de Beaumont, 1940a:17 (new combination, = *Liris subfasciatus*). – **As *Liris memnonia***: de Beaumont, 1950d:14 (new combination, Egypt: Siwa oasis; as *memnonia*), 1955a:170 (Morocco), 1956a:195 (Libya), 1958b:60 (Algeria: Tassili des Ajjer), 1961f:226 (in revision of Mediterranean *Liris*); Pulawski, 1964:82 (Egypt: Aswan); de Beaumont, 1970a:399 (Afghanistan); R. Bohart and Menke, 1976:246 (listed); Guichard, 1980:227 (Oman). – **As *Liris memnonius***: T. Li, Cai, and Li, 2009a:118 (in key to Palearctic *Liris*).

Larrada semiargentea Taschenberg, 1870:3 ♀. Holotype or syntypes: ♀, "Amer. Merid.", in error (HALLE). Synonymized with *Liris memnonius* by Menke in Bohart and Menke, 1976:246. – **As *Larra semiargentea***: Kohl, 1885a:247 (new combination, in checklist of world *Larra*); Dalla Torre, 1987:674 (in catalog of world Hymenoptera).

Tachytes funebris Radoszkowski, 1876b:135, ♀. Syntypes: ♀, Egypt: no specific locality (Kraków?). Synonymized with *Liris memnonius* by de Beaumont, 1961f:226. – Kohl, 1885a:395 (original description copied); Dalla Torre, 1897:667 (in catalog of world Hymenoptera); de Beaumont, 1936b:621 (specimens in coll. Radoszkowski, Kraków). – **As *Larrada funebris***: Magretti, 1884c:585 (new combination; Eritea, Ethiopia, Sudan); W. Schulz, 1911b:187 (Magretti's specimen is a *Larra*, redescription).

Larrada obscura Magretti, 1884c:585, ♂. Syntypes: ♂, Ethiopia: Metemma; Ethiopia, Eritrea, or Sudan: Doka and Kor Gergabb (MSNG). Synonymized with *Liris memnonius* by de Beaumont, 1961f:226. – **As *Larra obscura***: Gribodo, 1894c:133 (new combination, Mozambique: no specific locality; new combination); Dalla Torre, 1897:671 (in catalog of world Hymenoptera); Schulz, 1911b:188 (redescription); Arnold, 1923b:226 (unrecognizable species). – **As *Notogonidea obscura***: Guiglia, 1947b:120 (new combination, redescription).

Motes setigera Arnold, 1940:123, ♂ (nec ♀, which = ...). Syntypes: Zimbabwe: no specific locality (SAM). Synonymized with *Liris memnonius* by de Beaumont, 1961f:226. – **As *Liris setigera***: Arnold, 1951:160 (new combination, Mali: Tillembeya).

As *Notogonidea sepulchralis*: Arnold, 1923b:244 (revision) and 1935a:498 (South Africa: Kalahari), corrected to *Liris radialis* by Arnold, 1929:394 and to *Liris memnonia* by de Beaumont, 1961f:226.

As *Notogonia radialis*: Arnold, 1929:394 (...), corrected to *Liris setigera* by Arnold, 1940:123, and to *Liris memnonia* by de Beaumont, 1961f:226.

As *Leptolarra* aff. *memnonia*: de Beaumont, 1940a:17, corrected to *Liris memnonia* by de Beaumont, 1961f:225 and 226.

ssp. *coloripes* Arnold

Motes radialis coloripes Arnold, 1940:123, sex not indicated. Syntypes: Madagascar: no specific locality (SAM). – **As *Motes setigera coloripes***: Leclercq, 1961d:115 (new subspecific combination, Madagascar). – **As *Liris setigera coloripes***: Arnold, 1945:129 (new subspecific combination, Madagascar: Behara, redescription); Leclercq, 1961d:115 (Madagascar). – **As *Liris memnonia coloripes***: R. Bohart and Menke, 1976:246 (new subspecific combination, listed). – **As *Liris memnonius coloripes***: Pulawski, 2003b:797 (in checklist of Malagasy Sphecidae).

172. *menkei* Tsuneki

Liris intermedius Tsuneki, 1972c:2, ♂ (as *intermedia*, incorrect original termination), junior primary homonym of *Liris intermedius* F. Williams, 1928, and junior secondary homonym of *Liris intermedius* (Cameron, 1903) and of *Liris intermedius* (Arnold, 1923). Holotype: ♂, Taiwan: Hualien Prefecture: Tientian (K. Tsuneki coll.).

Liris menkei Tsuneki, 1976e:434. Substitute name for *Liris intermedius* Tsuneki, 1972. – T. Li, Cai, and Li, 2007:423 (in key to *Liris* of China).

173. *mescalero* (Pate)

Motes mescalero Pate, 1943i:200, ♂. Holotype: ♂, New Mexico: Otero County: Alamogordo (ANSP). – G. Bohart in Muesebeck et al., 1951:954 (in revision of North American Hymenoptera); Krombein, 1954b:16 (in key), 1958f:188 (Texas, Mexico); H. Allen, 1995:15 (type in ANSP). – **As *Liris mescalero***: R. Bohart and Menke, 1976:246 (new combination, listed); Krombein, 1979b:1619 (in catalog of North American Hymenoptera); Krombein and Shanks Gingras, 1984:19 (redescription; as *mescalero mescalero*); Rust, Menke, and Miller, 1985:46 (California: Channel Islands); Frommer, 1988:94 (California: Riverside County: Deep Canyon); Amarante, 2002:40 (in catalog of Neotropical Crabronidae); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:664 (in checklist of Mexican Sphecidae); Horta Vega, Pinson Domínguez, Barrientos Lozano, and Correa Sandoval, 2007: 45 (Mexico: Tamaulipas, as *mescalero mescalero*).

ssp. latus Krombein and Shanks Gingras

Liris mescalero latus Krombein and Shanks Gingras, 1984:21, ♂, ♀. Holotype: ♂, California: Orange County: Corona del Mar (USNM). – Parks, 1986:34 (California: Torrey Pine State Reserve); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:664 (in checklist of Mexican Sphecidae).

174. *mexicanus* Krombein and Shanks Gingras

Liris mexicanus Krombein and Shanks Gingras, 1984:51, ♂, ♀. Holotype: ♂, Mexico: Nayarit: San Blas (CAS). – Amarante, 2002:40 (in catalog of Neotropical Crabronidae); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:664 (in checklist of Mexican Sphecidae); Horta Vega, Pinson Domínguez, Barrientos Lozano, and Correa Sandoval, 2007: 45 (Mexico: Tamaulipas).

175. *mindanaoensis* F. Williams

Liris mindanaoensis F. Williams, 1928a:83, ♀, ♂. Holotype: ♀, Philippines: Mindanao: Zamboanga (BISHOP). – F. Williams, 1936b:126 (Solomon Islands); Baltazar, 1966:334 (in catalog of Hymenoptera of Philippines); Tsuneki, 1982a:10, 12 (in key), 1983a:110 (study of holotype and allotype), 1983c:8 (New Guinea).

176. *minimus* (Arnold)

Notogonidea minima Arnold, 1923b:249, ♀, ♂. Holotype: sex not indicated, Zimbabwe: Bulawayo or Hopefontain (SAM). – Arnold, 1929c:397 (description of ♂), 1930:6 (in checklist of Afrotropical Sphecidae), 1945:132 (Madagascar). – **As *Liris minima***: R. Bohart and Menke, 1976:246 (new combination, listed). – **As *Liris minimus***: Pulawski, 2003b:797 (in checklist of Malagasy Sphecidae).

ssp. lacustris Arnold

Liris minima lacustris Arnold, 1947:156, sex not indicated. Holotype or syntypes: Zambia: Lake Mweru District: Mukupa (SAM). – R. Bohart and Menke, 1976:246.

177. *miscophoides* (Arnold)

Notogonidea miscophoides Arnold, 1923b:248, ♀. Holotype: ♀, Zimbabwe: Bulawayo (SAM). – Arnold, 1929c:397 (description of ♂), 1930:6 (in checklist of Afrotropical Sphecidae). – **As *Liris miscophoides***: de Beaumont, 1961f:243 (new combination, in revision of Mediterranean *Liris*); R. Bohart and Menke, 1976:246 (listed); Dollfuss, 1993a:693 (Central African Republic: Kembe; as *miscophoides*); T. Li, Cai, and Li, 2009a:117, 119 (in key to Palearctic *Liris*).

ssp. aegyptiacus de Beaumont

As *Leptolarra ? miscophoides*: de Beaumont, 1940a:18 (Egypt).

Liris miscophoides aegyptiaca de Beaumont, 1961f:244, ♂, ♀, incorrect original termination. Holotype: ♀, Egypt: Ghiza (originally W.J. Pulawski coll., now CAS). – de Beaumont, Bytinski-Salz and Pulawski, 1973:5 (Israel); R. Bohart and Menke, 1976:246 (listed); Guichard, 1980:226 (Oman).

178. *modestus* (F. Smith)

Larrada modesta F. Smith, 1859a:159, ♀, ♂. Syntypes: ♀, Indonesia: Maluku: Aru Island (OXUM). – F. Smith, 1860b:123 (listed), 1863a:34 (Indonesia), 1865:84 (Indonesia: Irian Jaya = New Guinea: Salawati Island); Maindron, 1879:179 (nesting habits, use of spiders as prey recorded, most likely in error; the species observed is likely to be a *Pison*). – Tsuneki, 1983c:28 (listed), 29 (taxonomic comments). – **As *Larra modesta***: Kohl, 1885a:245 (new combination, in checklist of world *Larra*); Dalla Torre, 1897:670 (in catalog of world Hymenoptera). – **As *Notogonia modesta***: Cameron, 1890c:314 (new combination), 1906d:223 (New Guinea: Irian Jaya: Merauke). – **As *Liris modesta***: R. Bohart and Menke, 1976:246 (new combination, listed).

Larrada vindex F. Smith, 1860b:123, ♀. Holotype or syntypes: ♀, Indonesia: Moluccas: Batjan: no specific locality (OXUM). Synonymized with *Liris modesta* by van der Vecht in R. Bohart and Menke, 1976:246. – Cameron, 1906a:57 (New Guinea: Irian Jaya: Kwatisoré); Tsuneki, 1983c:29 (listed; taxonomic comments; probably good species). – **As *Larra vindex***: Kohl, 1885a:248 (new combination, in checklist of world *Larra*); Dalla Torre, 1897:674 (in catalog of world Hymenoptera).

179. *molestus* Krombein and Shanks Gingras

Liris molestus Krombein and Shanks Gingras, 1984:64, ♀. Holotype: ♀, Mexico: Morelos: Cuernavaca (USNM). – Amarante, 2002:40 (in catalog of Neotropical Crabronidae); Ruiz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:664 (in checklist of Mexican Sphecidae).

180. *montivagus* (Cameron)

Notogonia montivaga Cameron, 1908a:286, ♂. Holotype or syntypes: ♂, Tanzania: Mt. Kilimanjaro: Kibonoto (NRS). – **As *Notogonidea montivaga***: Arnold, 1927:117 (new combination, original description copied), 1930:6 (in checklist of Afrotropical Sphecidae). – **As *Liris montivaga***: R. Bohart and Menke, 1976:246 (new combination, listed).

181. *mordax* Kohl

Liris mordax Kohl, 1892:223, ♀. Holotype or syntypes: ♀, Borneo: no specific locality (NHMW). – R. Bohart and Menke, 1976:246 (listed); Dollfuss, 1989:10 (type material in NHMW). – **As *Larra mordax***: Kohl in Dalla Torre, 1897:670 (new combination, in catalog of world Hymenoptera).

182. *morio* Kohl

Liris morio Kohl, 1892:225, ♂. Holotype or syntypes: ♂, ? Sikkim: no specific locality (NHMW). – Kohl, 1892:229 (in key); W. Schulz, 1906:205 (omitted by Bingham, 1897); R. Bohart and Menke, 1976:246 (listed); Dollfuss, 1989:10 (type material in NHMW). – **As *Larra morio***: Kohl in Dalla Torre, 1897:670 (new combination, in catalog of world Hymenoptera).

183. *morobensis* Tsuneki

Liris morobensis Tsuneki, 1983c:23, ♂ (subgenus *Leptolarra*). Holotype: ♂, New Guinea: Huon Gulf, Satterberg (TMB). – Tsuneki, 1983c:30 (in key).

184. *morrae* (Strand)

Notogonia morrae Strand, 1910a:161, ♀. Holotype: ♀, Paraguay: Asunción: Villa Morra (ZMHU). – Bischoff and von Schulthess, 1937:168 (Argentina: Lapango). – **As *Liris morrae***: R. Bohart and Menke, 1976:246 (new combination, listed); Amarante, 2002:40 (in catalog of Neotropical Crabronidae).

185. *muspa* (Pate)

Motes muspa Pate, 1943i:201, ♂. Holotype: ♂, USA, Florida: Sarasota County: Miakha River State Park (ANSP). – G. Bohart in Muesebeck et al., 1951:954 (in catalog of North American Hymenoptera); H. Allen, 1995:14 and 15 (type in ANSP). – **As *Motes vinulenta muspa***: Krombein, 1954b:14 (new status, morphological characteristics); Krombein and Evans, 1954:233 (Florida: Arcadia), 1955:232 (Florida); Krombein, 1958...:188 (Florida, ?Texas). – **As *Liris vinulenta muspa***: R. Bohart and Menke, 1976:248 (new combination, listed). – **As *Liris fuliginosa muspa***: Krombein, 1976:334 (new subspecific combination,), 1979:1919 (in catalog of North American Hymenoptera). – **As *Liris muspa***: Alayo Dalmau, 1973:179 (new combination, in catalog of Cuban Hymenoptera), 1976:23 (in checklist of Cuban Sphecidae); Krombein and Shanks Gingras, 1984:36 (redescription); Hook, 1998:250 (Texas: Val Verde County: Dolan Falls Preserve); Amarante, 2002:40 (in catalog of Neotropical Crabronidae); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:664 (in checklist of Mexican Sphecidae); Genaro, 2006:56 (in checklist of Cuban Sphecidae and Crabronidae; also: Florida, Texas); Horta Vega, Pinson Domínguez, Barrientos Lozano, and Correa Sandoval, 2007: 45 (Mexico: Tamaulipas).

186. *mussauanus* Tsuneki

Liris mussauana Tsuneki, 1982a:24, ♂, incorrect original termination. Holotype: ♂, Bismarck Archipelago: Mussau Island: Talumalaus (ZMK). – Tsuneki, 1982a:18 (in key).

187. *naguilianus* Tsuneki

Liris naguilianus Tsuneki, 1983a:40, ♂. Holotype: ♂, Philippines: Luzon: Naguilian: near Baguio (originally K. Tsuneki coll., now USNM). – Tsuneki, 1983a:48 (in key); Nuhn and Menke, 1994:27 (holotype not transferred to USNM, possibly returned to C. Nozaka, the collector); Menke, 1995:14 (type still in K. Tsuneki collection); Tano, 1995:45 (holotype in K. Tsuneki collection).

188. *nearcticus* Krombein and Shanks Gingras

Liris nearcticus Krombein and Shanks Gingras, 1984:57, ♀, ♂. Holotype: ♀, Mexico: Guerrero: Acapulco (USNM). – Amarante, 2002:40 (in catalog of Neotropical Crabronidae, as *nearcticus*); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:664 (in checklist of Mexican Sphecidae); Horta Vega, Pinson Domínguez, Barrientos Lozano, and Correa Sandoval, 2007: 45 (Mexico: Tamaulipas).

189. *neavei* (R. Turner)

Notogonia neavei R. Turner, 1917f:294, ♀. Holotype or syntypes: ♀, Malawi: Mlanje (BMNH). – **As *Notogonidea neavei***: Arnold, 1923b:242 (new combination, original description copied), 1930:6 (in checklist of Afrotropical Sphecidae). – **As *Liris neavei***: R. Bohart and Menke, 1976:246 (new combination, listed).

190. *negrosensis* (F. Williams)

Notogonidea negrosensis F. Williams, 1928:74, ♂. Holotype: ♂, Philippines: Negros Island: Cuernos Mts. (BISHOP). – **As *Motes negrosensis***: Baltazar, 1966:332 (new combination, in catalog of Hymenoptera of Philippines, new combination). – **As *Liris negrosensis***: Tsuneki, 1974b:613 (new combination, Thailand; ♀; type species of subgenus *Colloliris*); R. Bohart and Menke, 1976:246 (listed); Tsuneki, 1983a:16 (Philippines; taxonomic comments), 45 (in key).

191. *nielseni* Tsuneki

Liris nielseni Tsuneki, 1976b:65, ♀. Holotype: ♀, Philippines: Mindanao: Sapamoro (ZMK). – Tsuneki, 1983a:46 (in key).

192. *niger* (Fabricius)

Sphex niger Fabricius, 1775:350, sex not indicated (as *nigra*, incorrect original termination). Holotype or syntypes: Europe: no specific locality (lost, see van der Vecht, 1961a:19). Neotype: ♀, France: Vaucluse: Carpentras (ZMK, Fabricius coll.), designated by van der Vecht and Menke, 1968:122, designation confirmed by International Com-

mission on Zoological Nomenclature, 1973:25 (Opinion 997). – Fabricius, 1781:448 (redescription). – **As Larra nigra**: Latreille, [1805]:295 (new combination, redescription, authorship attributed to Linnaeus); Spinola, 1806:73 (Italy: Liguria); Kohl, 1885a:245 (in checklist of world *Larra*). – **As Tachytes nigra**: Vander Linden, 1829:25 (new combination, bibliographic references, Italy: Bologna, Spain, redescription); Brullé, 1839:91 (Canary Islands); Lepelletier de Saint Fargeau, 1845:242 (in revision of world Hymenoptera); Lucas, 1849:248 (Algeria: Oran according to Lepelletier de Saint Fargeau, 1845); Fabre, 1856a:139 (France: Vaucluse: Avignon area); Marquet, 1881:179 (southern France); Fabre, 1886:230 (preying on crickets, overwintering as imago); De Stefani Perez, 1895:226 (in catalog of Sicilian Hymenoptera, as *niger*); Acloque, 1897:93 (in Sphecid Fauna of France and Algeria). – **As Larrada nigra**: F. Smith, 1856:275 (new combination, in catalog of Hymenoptera in British Museum); Dours, 1874:140 (in catalog of Hymenoptera of France); Girard, 1879:954 (example of *Larrada*). – **As Notogonia nigra**: A. Costa, 1867b:82 and 1867c:26 (new combination, in revision of Italian Sphecidae), 1883:57 (Italy: Sardegna: Simaxis); Kohl, 1883e:671 (Switzerland); Magretti, 1884b:106 (Italy: Firenze area), 1884c:588 (Eritrea or Sudan: Khor Gergabb, Bahr el Salaam); De Stefani Perez, 1894:216 (Italy: Sicilia), 1895:226 (in catalog of Sicilian Hymenoptera); Coulon, 1925:121 (France:); Casolari and Casolari Moreno, 1980:112 (specimen in M. Spinola collection, Torino); Pagliano, 2008:541 (specimen in M. Spinola collection, Torino). – **As Notogonidea nigra**: Balthasar, 1948:142 (new combination, Slovakia: Parkan); Balthasar, Hrubant, and Hrubant, 1967:172 (Bulgaria: Slanchev Bryag near Nessebar). – **As Leptolarra nigra**: Zavadil in Zavadil and Šnoflak, 1948:155 (new combination, in key to Sphecidae of Czechoslovakia). – **As Liris nigra**: Nouvel and Ribaut, 1953:179 (new combination, France: Haute-Garonne: Saint-Béat); Ceballos, 1956:374 (in catalog of Hymenoptera of Spain); Bajári, 1957a:49 (in key to Hungarian Sphecidae); Steiner, 1957a:1259 (nesting activities), 1957b:1818 (nesting activities), 1957c: 970 (reaction to various body parts of prey), 2105 (prey capture and paralyzing); Nouvel and Ribaut, 1958:12 (France: Pyrénées-Orientales: Banyuls-sur-Mer area); Pulawski, 1958a:178 (Bulgaria: Aitos, Akhtopol, Sozopol, Sandanski); Steiner, 1958:3526 (prey paralyzing), 1958b (effects of paralyzing on prey); Grandi, 1959b:287 (Italy: Bologna: Monte Cavallo); Noskiewicz and Puławski, 1960:126 (in key to Polish Sphecidae); Evans, 1963a:149 (reference to Steiner's observations); Ceballos, 1964:90 (in supplement to catalog of Spanish Sphecidae); Diniz, 1964a:7 (Portugal: fifteen localities); Evans, 1964b:289 (*Liris nigra* and not *Motes pompiliformis* is the correct name for the species); Myartseva, 1965:79 (Turkmenistan: Akibay); Gauss, 1967:553 (Germany: Baden-Württemberg: Kaiserstuhl); Scobiola-Palade, 1968b:142 (Romania: Island of Letea in delta of Danube), 1968c:384 (Romania: Alexandria, Brănești, București, Budești, Cernica, Domneacă, Moara, Nanov, Pasărea); Gauss and Perraudin, 1970:360 (Germany: Baden-Württemberg: Kiechlingsbergen in Kaiserstuhl); Oehlke, 1970:711 (records from Democratic Germany doubtful); Balthasar, 1972:300 (in Sphecid Fauna of Czechoslovakia); Scobiola-Palade, 1972a:151 (Romania: delta of Danube: Caraorman); Kazenas, 1974b:110 (feeding on flowers of *Euphorbia* spp., Euphorbiaceae, in Kazakhstan), 1978b:103, 104 (in key to Sphecidae of Kazakhstan and Central Asia); Pulawski, 1978:214 (in key to Sphecidae of European part of former USSR); Pagliano, 1980:126 (Italy: Piemonte); Gayubo, 1982a:97 (N Spain: Sierra de Béjar), 1982f:250 (Spain: Cádiz Province), 1983a:122 (prey: nymph of *Gryllus campestris* Linnaeus), 1984b:83 (Spain: Salamanca Province), 1984c:361 (Portugal: El Algarve Province); Gayubo and Tormos, 1984:14 (Spain: Valencia); Gayubo, 1985a:486 (prey: *Gryllus campestris* (Linnaeus)); Józán, 1985b:57 (Hungary S Lake Balaton), 83 (ecological and zoogeographic characteristics); Scobiola-Palade, 1985:96 (Romania: delta of Danube); Gayubo, 1986c:32 (Spain: Zamora Province); Gayubo and Heras, 1986:38 (Spain: Segovia Province); Gayubo and Sanza, 1986:42 (Spain: Burgos); Gayubo and Tormos, 1986a:12 (Spain: Castellón de la Plana); Islamov, 1986:524 (Uzbekistan: Tashkent Oblast'); Józán, 1986:370 (Hungary: Kiskunság National Park); Gayubo, 1987a:111 (Spain: Ciudad Real Province); Scobiola-Palade, 1987:65 (Romania: Dobrogea); Tormos and Jiménez, 1987a:124 (Spain: Valencia); Asis and Jiménez, 1988:271 (Spain: Castellón Province); Gayubo and Mingo, 1988:74 (Spain); Pádr in Šedivý, 1989a:167 (in checklist of Czechoslovakian Sphecidae); Scobiola-Palade, 1989:87 (Romania: delta of Danube); Pagliano, 1990:102 (in catalog of Italian Sphecidae); Day, 1991:xvi (listed in European Endangered Hymenoptera Lists); Gayubo, Borsato, and Osella, 1991:401 (Italy: Veneto, Lazio); Gayubo and Torres, 1991:Table I

(Spain: Salamanca; effects of urban pressure); Guichard, 1991a:339 (Jordan); Kazenas and Nasyrova, 1991:38 (Kazakhstan: preying on *Modicogryllus frontalis* (Fieb.); Schembri, 1991:179 (first record from Malta); Józán, 1992c:289 (Hungary: Zselic Hills); Negrisolo and Pagliano, 1993:94 (Italy: Sardegna); Ebmer, Gusenleitner, and Gusenleitner, 1994:402 (first record from Austria: Steiermark: Therme Loipersdorf); Minoranskiy and Shkuratov, 1996:81 (Russia: Rostov Oblast'); Wu and Zhou, 1996a:82 (in revision in Economic Insect Fauna of China); Celary, 1997:58 (in checklist of Animals of Poland); Dollfuss, Gusenleitner, and Bregant, 1998:514 (Austria: summary of collecting records from Burgenland); Shkuratov, 2000:57 (Russia: Rostov Oblast': Vëshenskaya village area at 49°37'N 41°45'E); Kazenas, 2001:26 (in checklist of Sphecidae of Kazakhstan and Central Asia), 149 (review of known biology); Kazenas and Esenbekova, 2001:134 (Kazakhstan: Almatinskiy Nature Reserve); Shkuratov, 2002b:140 (Russia: Rostov Oblast': Rostovskiy Nature Reserve at 46°27'N 42°41'E); Kazenas, 2004b:102 (Kazakhstan: western Tien Shan); Nazarova, 2004:106 (Tajikistan: Badakhshan Region: villages Langar and Dasht in Shakh dara River valley); Skibińska in Bogdanowicz, Chudzicka, Pilipiuk, and Skibińska, 2004:356 (in catalog of Polish Crabronidae); Nazarova, 2005:93 (alfalfa fields in southwestern Tajikistan). – **As *Liris niger***: Westrich and Schmidt, 1985b:111 (Germany: endangered in Baden-Württemberg); Jacobs, 1989:11 (Germany: Mecklenburg-Vorpommern); Gayubo, Asís, and Tormos, 1990a:16 (Spain); Jacobs and Oehlke, 1990:122 and 162 (occurrence in Democratic Germany questionable); Dollfuss, 1991:98 (in key to Sphecidae of North and Central Europe); Gayubo and Torres, 1991:Table I (Spain: Salamanca; effects of urban pressure); Torregrosa, Gayubo, Tormos, and Asís, 1993:18 (Spain: Alicante Province); Gayubo and Borsato, 1994:207 (Italy: Lombardia, Emilia); Gusenleitner, 1995:161 (first record Austria: Burgenland); Negrisolo in Minelli, Ruffo, and La Posta, 1995b:9 (in catalog of Italian fauna); Gusenleitner, 1996b:811 (Austria: Steiermark); Schmid-Egger, Schmidt, and Doczkal, 1996:377 (Germany: Baden-Württemberg: last collected in 1967); Schmidt and Schmid-Egger, 1997:17 (in checklist of German Sphecidae), Anton and Gnatzy, 1998:671 (prey specificity and close-range prey recognition); Gayubo, García, Torres, and González, 1999:89 (Spain: Soria Province); Gonzáles, Gayubo, and Torres, 1999:355 (Spain: Valladolid: Viana de Cega); Blösch, 2000:224 (in Sphecid Fauna of Germany); Gayubo, González, and Torres, 2000:185 (Spain: Salamanca Province); Gnatzy and Volkmand, 2000:271 (venom gland: morphology, ultrastructure, age-related changes, biochemical aspects); Ljubomirov, 2000:10 (Bulgaria, specimens in N. Nedelkov collection); Ferber, Hörner, Cepok, and Gnatzy, 2001:107 (neurobiological mechanisms causing total prey paralysis); Gnatzy, 2001:125 (female-prey interaction); Ljubomirov, 2001b:48 (Bulgaria: Mount Vitosha near Sofia); Ohl et al., 2001:139 (distribution in Germany by provinces); K. Schmidt and Bitsch in Bitsch et al., 2001:204 (in Sphecid Fauna of Western Europe); Kazenas, 2002a:61 (geographic distribution, collecting localities in Kazakhstan); Gayubo, Özbek, and Yıldırım, 2003:87 (Turkey: Adana, Artvin, Burdur, Erzurum, İcel, Malatya, and Şanlıurfa Provinces); Generani, Pagliano, Scaramozzino, and Strumia, 2003:65 (Italy: Arcipelago Toscano); Protsenko, 2003:68, 69 (first record from Ukraine: Odessa Oblast': Malyi Tataru island in Danube delta at 45.21°N 29.00°E); Schmid-Egger, 2003:754 (Italy: Sicilia: Castelammare, Madonie); Gnatzy, Volkmandt, and Schulz, 2004:125 (Dufour gland: structure, development, biochemical aspects); Stolle et al., 2004:372 (Germany: Sachsen-Anhalt: last collected before 1866); Wiśniowski, 2004:44 and 59 (in checklist of Polish Sphecidae: mistakenly reported from Poland by Meyer, 1919); Zettel, 2004:4 (Austria: Niederösterreich: Oberweiden, Prellenkirchen); Zettel, 2004:4 (Austria: Niederösterreich: Mödling, Prellenkirchen); Ebrahimi, 2005:125 (in key to selected Iranian Sphecidae); Pagliano and Negrisolo, 2005:351 (in Sphecid Fauna of Italy); Shorengo, 2005:163 (Ukraine: Crimea), 2005b:98 (Ukraine: Crimea: Karadagh Nature Reserve); Yildirim and Ljubomirov, 2005:1797 (Turkey: Erzurum: Dumlu, Şenkaya); Gnatzy and Jatho, 2006:417 (eight types of antennal sensillae found in both sexes: sensilla trichodea type 1, sensilla trichodea type 2, sensilla trichodea type 3, sensilla basiconica, sensillae placodea, sensillae ampullacea, sensillae coeloconica, and sensillae coelocapitula); Hua, 2006:281 (in list of Chinese insects, geographic distribution); Magdalou, 2006a:7, 10 (France: Pyrénées-Orientales: Réserve Naturelle de la Massane), 2006b:109 (France: Pyrénées-Orientales: Mas Larrieu Nature Reserve near Argelès-sur-Mer); Standfuss and Standfuss, 2006b:96 (Greece: Thessalia: Magnissia Peninsula at 39°N 23°E); Jacobs, 2007:93 (in key to Crabronidae of Ger-

many); T. Li, Cai, and Li, 2007:419, 421 (in key to *Liris* of China); Vepřek and Straka, 2007:202 (in catalog of Sphecidae of Czech Republic and Slovakia, known only from Slovakia); Gayubo, González, Tormos, and Asís, 2008:138 (Spain: Salamanca: Parque Natural de Las Batuecas – Sierra de Francia); Kazenas, 2008b:112 (Kazakhstan: foothills of Zailiskiy Alatau: occurring among others on loess cliffs); Ljubomirov and Yildirim, 2008:192 (in catalog of Crabronidae of Turkey); Gayubo, González, Tormos, and Asís, 2009:363 (Spain: Valladolid: Reserva Natural Riberas de Castronuño – Vega del Duero); González, Gayubo, Asís, and Tormos, 2009:623 (Spain: Salamanca and Zamora provinces: Arribes del Duero Natural Park); Pagliano, 2009:183 (Italy: Abruzzo: Moscuto; Molise: Mafalda); T. Li, Cai, and Li, 2009a:117, 119 (in key to Palearctic *Liris*); Ghazi-Soltani, Ebrahimi, Irani-pour, and Pour Abad, 2010:799 (Iran: East Azarbaijan: Marand: Yam); Schmid-Egger, 2010a:16 (in red list of Aculeata of Germany: extinct, last collected in 1967).

Larra pompiliformis Panzer, [1806-1809]:.... junior primary homonym of *Larra pompiliformis* Panzer, 1804 (now in *Tachysphex*). Synonymized with ... by ... – de Gaulle, 1908:121 (in catalog of French Hymenoptera); Coulon, 1925:121 (Morocco: Mogador, Tanger); Friese, 1926:162 (in key to Sphecidae of Central Europe, short morphological and biological characteristics); Myartseva, 1963b:58 (Turkmenistan: lower Murgab River). – **As *Tachytes pompiliformis***: Radoszkowski, 1876b:135 (new combination, Egypt). – **As *Notogonia pompiliformis***: Kohl, 1885a:250 (new combination, in revision of Palearctic Larrinae); Gasperini, 1887:15 (Dalmatia: Spalato, now Croatia: Split), 1889:69 (Dalmatia, now Croatia); Kohl and Handlirsch, 1889:278 (Turkmenistan: Tahta Bazar); F. Morawitz, 1891a:207 (Russia: Astrakhan Government); A. Costa, 1893b:5 (Tunisia); F. Morawitz, 1893b:409 (Uzbekistan: Samarkand); Dalla Torre, 1897:672 (in catalog of world Hymenoptera); Mocsáry, 1897:77 (Kingdom of Hungary, including localities from today's Croatia and Romania); Bingham, 1898a:104 (Yemen: Aden); Ferton, 1901a:98 (nesting habits); Adlerz, 1904:137 (known prey: immature gryllids); Antiga and Bofill, 1904:10 (Spain: Cataluña Province); E. Saunders, 1904c:603 (Spain: Mayorca); W. Schulz, 1904b:102 (Italy: Canonica d'Adda; Spain: Granada); Ferton, 1905:67 (amputation of prey legs); Mantero, 1905:72 (Italy: Toscana: Isola del Giglio); W. Schulz, 1905b:44 (Algeria: Biskra); Zavattari, 1905b:5 (Middle East: no specific locality); Graeffe, 1906:455 (Tunisia: Tunis area); Móczár and Henter, 1907:205 (Hungary: Tiszaalpár); Schmiedeknecht, 1907:234 (in key to Hymenoptera of Central Europe); Ferton, 1910:152 (difference in prey size); Mercet, 1910b:165 (listed from Spain); Mantero, 1911:74 (Italy: Sardegna: Isola dell'Asinara); Zavattari, 1912:3 (Italy: Sardegna: Isola di San Pietro); O. Meyer, 1919:155 (Germany: Posen Province, now Poland: Poznań Region, record not confirmed by subsequent authors); Morice, 1911:97 (Algeria: Alger, Biskra, Bône); Ferton, 1912a:359 (Algeria, prey hunting); Smits van Burgst, 1913a:319 (Tunisia); Torka, 1913:35 (Germany: Provinz Posen, now Poland: Poznań Region, record not confirmed by subsequent authors); Berland, 1921:533 (Greece); Lauterborn, 1922:244 (Germany: Baden-Württemberg: Kaiserstuhl); Ferton, 1923:169 (nesting habits), 296 (easily finds nest when carrying prey); Maidl, 1924:239 (Sudan: El Obeid); Roth, 1924:123 (Algeria: Nemours, now Ghazaouet); Berland, 1925b:43 (nesting habits, tachinid parasites), 1925d:113 (in Sphecid Fauna of France); Coulon, 1925:121 (Spain; Turkey: Istanbul); Berland, 1926a:43 (nesting, prey); von Schulthess, 1926b:213 (Tunisia); Kuznetsov-Ugamskij, 1927:249 (Uzbekistan: Min-Bulak 65 km NE Tashkent, Khumsan); Grandi, 1928d:289 (nest and prey), 292 (description of egg and larva); Richards, 1928a:359 (in revision of Mediterranean species), 1928b:218, 219 (in key); Berland, 1929a (use of abandoned nests of other aculeates); G. Carpenter, 1930b:299 (nest closure); Grandi, 1930:316 (using preexisting cavities for nest), 341 (Italy: Toscana: Maremma); Schmiedeknecht, 1930:695 (in keys to Hymenoptera of North and Central Europe); Dusmet y Alonso, 1931:7 (Portugal: Mitra, Monte das Flores); Giordani Soika, 1932a:22 (Italy: Lido di Venezia); Guiglia, 1932d:473 (Libya: Gialo); Bernard, 1933:62 (France: Drôme: Dieulefit); Gussakovskij, 1933b:277 (Iran); Nadig, 1933:85 (Morocco); E. Nielsen, 1933:295 (summary of nesting habits); Bernard, 1934b:249 (gryllid prey: *Achaeta campestris* and *bimaculata*, *Gryllomorpha uclensis* Panzer); Grandi, 1934:129 (Italy: Lazio: Acilia); Guiglia, 1934b:302 (Libya: bibliography and summary of locality records); Gussakovskij, 1934a:9 (Mongolia); Nadig, 1934:32 (Italy: Sardegna: Cagliari); Bernard, 1935:64 (France: Var: Fréjus area); Grandi, 1935a:110 (Italy); Gussakovskij, 1935:426 (Tajikistan); Zavadil, 1937a:73 (eastern Slovakia);

- Zavadil, Šusterka, and Bat'a, 1937:203 (in catalog of Sphecidae of Czechoslovakia); Móczár, 1939:4 (Hungary: Jászberény); Giner Marí, 1943a:125 (in Sphecid Fauna of Spain); Deleurance, 1946b:63 (visiting thistles), 67 (France: Bouche-du-Rhône: Camargue: Bois des Rièges); Scobiola, 1950:20 (first record from Romania: several localities); Cleu, 1953:50 (France: Ardèche River basin); Hertzog, 1954:101 (France: Bouches-du-Rhône: Camargue); Lehrer, 1955:263 (Romania: cited from Munternia and Dobrogea Provinces by Scobiola, 1950); Vogrin, 1955:37 (Yugoslavia); Giner Marí, 1959:388 (Morocco: Fès); Roberti, Frilli, and Pizzaghi, 1965:110 (Italy: Emilia-Romagna: Piacenza). – **As *Notogonidea pompiliformis***: Giner Marí, 1934:133 (new combination, Spain). – **As *Motes pompiliformis***: Guiglia, 1943b:71 (new combination, Albania: Kopluku), 1944b:25 (Italy); Ceballos, 1956:375 (in catalog of Hymenoptera of Spain). – **As *Leptolarra pompiliformis***: de Andrade, 1949:13 (new combination, Portugal); Diniz, 1959:29 (Portugal: 11 localities).
- As *Tachytes nigra* Vander Linden, 1829:23 (who actually did not described a new species, but transferred to *Tachytes* the *Larra nigra* of Latreille, 1805:295 = *Sphex nigra* Fabricius, see above). – **As *Notogonia nigra***: Magretti, 1881:107 (new combination, Italy: Lombardia), 270 (listed); Baldini, 1894:62 (Italy: Modena area); R. Turner, 1917e:196 (India; synonymy); Guiglia, 1934b:302 (Libya: bibliography and summary of locality records). – **As *Liris nigra***: de Beaumont, 1947b:390 (new combination, Cyprus), 1950f:404 (Algeria); Pittioni, 1950:24 (Cyprus); de Beaumont, 1954a:54 (Italy), 1954e:90 (Italy); Grandi, 1954:178 (nesting habits), 238 (Italy); de Beaumont, 1955a:170 (Morocco); Steiner, 1955:138 (France: Dordogne); Bytinski-Salz, 1956:226 (Turkey: Aydın, Kalkan, Tarabya); de Beaumont, 1956a:195 (Libya); Grandi, 1957:389 (Libya: Tripolitania: Wadi Kaam); Pulawski, 1958a:178 (Bulgaria); de Beaumont, 1959a:26 (Italy); Suárez in Giner Marí, 1959:400 (*Liris nigra* is the correct name for *Notogonia pompiliformis* in Giner Marí, 1959:388); Suárez, 1959:57 (Spain: Almería Prov.); Wolf, 1959b:24 (known from Germany, but not from Nassau); de Beaumont, 1960a:14 (Greece: Rhodes Island), 1960b:237 (Libya), 1961b:275 (Afghanistan), 1961c:49 (Greece: Crete Island), 1961e:4 (Iraq), 1961f:239 (in revision of Mediterranean *Liris*); Grandi, 1961:190 (nesting habits), 495 (description of larva); de Beaumont, 1962b:25 (Spain); Grandi, 1962:96 (Italy); de Beaumont, 1965a:56 (Greece), Scobiola-Palade, 1965:112 (Romania); de Beaumont, 1967a:330 (Turkey); Scobiola-Palade, 1967a:162 (Romania: Constanța District: Băneasa, Hagieni), 1967b:42 (Romania), 1968b:142 (Romania), 1968c:384 (Romania); de Beaumont, 1969:90 (Turkey), 1970a:400 (Afghanistan), 1970c:14 (Iran: Baluchistan); Kazenas, 1972b:165 (Kazakh SSR); Myartseva, 1972b:80 (Turkmen SSR); Scobiola-Palade, 1972a:151 (Romania), 1972b:253 (Romania); Tsuneki, 1972e:381 (Mongolia); de Beaumont, Bytinski-Salz and Pulawski, 1973:5 (Israel); Georghiou, 1977:190 (Cyprus).
- Anoplus uniocellatus* Dufour, 1833:483, sex not indicated. Syntypes: France: Landes: Saint-Sever (lost?). Synonymized with *Liris niger* by van der Vecht, 1961a:20, synonymy confirmed by de Beaumont, 1961f:239, 240.
- As *Tachytes unicolor*: Radoszkowski, 1877:27 (Uzbekistan: Samarkand and Zaravshan valley), corrected to *Larra unicolor* by Radoszkowski, 1886:29, and to *Larra confusa* by Radoszkowski, 1887b:96. – **As *Tachytes unicolor***: Pagliano, 2008:542 (specimens in M. Spinola collection, Torino). – **As *Larra unicolor***: Pagliano, 2008:542, 543 (specimens in M. Spinola collection, Torino)
- Larra confusa* Radoszkowski, 1887b:96, ♀, ♂. Syntypes: Transcaspiya and Caucasus: no specific locality (Kraków). Synonymized with *Notogonia pompiliformis* by de Beaumont, 1936b:621. – Radoszkowski, 1892:590 (reference to Radoszkowski, 1887); Dalla Torre, 1897:665 (in catalog of world Hymenoptera).
- Larra nigriventris* Cameron, 1889c:127, sex not indicated. Syntypes: India: Allahabad, Barrackpore, Pune, and Tirhoot (OXUM). Synonymized with *Notogonia nigra* by R. Turner, 1917e:196. – Bingham, 1897:201 (redescription); Dalla Torre, 1897:671 (in catalog of world Hymenoptera); S. Gupta, 1995:86 (India: Uttar Pradesh).
- Tachytes germabensis* Radoszkowski, 1893b:490, ♂, ♀. Syntypes: Turkmenistan: Germab w. Askhabad and Firyuza, now seemingly abandoned (Kraków). – de Beaumont, 1936b:620 (probable holotype in coll. Radoszkowski, Kraków). Synonymized with *Notogonidea pompiliformis* by de Beaumont, 1936b:521. – **As *Tachysphex germabensis***: Dalla Torre, 1897:680 (new combination, in catalog of world Hymenoptera).

Larra nana Bingham, 1897:200, ♀. Holotype: ♀, Burma: Tenasserim (BMNH). Synonymized with *Notogonia nigra* by R. Turner, 1917e:196. – Bingham, 1905:43 (Malaysia: Bukit Besar, Gedong); Yasumatsu, 1940b:97 (Botel Tobago Islands).

Larra iridipennis Cameron, 1900a:26, ♀. Holotype or syntypes: ♀, India: Bengal: Barrackpore 20 km N Calcutta (OXUM). Synonymized with *Notogonia nigra* by R. Turner, 1917e:196. – Ramakrishna Aiyar, 1916:552 (in catalog of Indian aculeates described after Bingham, 1897).

Notogonidea baguenai Giner Marí, 1934:133 and 141, ♀. Holotype: ♀, Spain: Madrid (MNCN). Synonymized with *Liris nigra* by de Beaumont, 1949c:346. – Giner Marí, 1943a:126 (in Sphecid Fauna of Spain); Martin Albaladeo and Izquierdo Moya, 2006:117 (type in Museo Nacional de Ciencias Naturales).

As *Leptolarra agilis* (corrected to *Liris nigra* by de Beaumont, 1961f:239): Richards, 1935:164 (...); de Beaumont, 1940a:17 (Egypt).

As *Larra nitida*: Pagliano, 2008:542 (specimens in M. Spinola collection, Torino).

spp. namana (Bischoff)

Notogonia pompiliformis namana Bischoff, 1913b:121, ♀. Holotype or syntypes: ♀, South Africa: Northern Cape Province: Steinkopf (ZMHU). – As *Liris nigra namana*: R. Bohart and Menke, 1976:246 (new combination, new subspecific combination, listed).

193. nigricans (Walker)

Larrada nigricans Walker, 1871:21, ♀, ♂. Syntypes: Egypt: Cairo, and Sudan: Hor Tamanib (BMNH). – Innes Bey, 1912:111 (specimens recorded by Walker, 1871, now destroyed by dermestids, were collected in Horr Tamanib near Cairo). – As *Larra nigricans*: Kohl, 1885a:246 (new combination, in checklist of world *Larra*); Dalla Torre, 1897:670 (in catalog of world Hymenoptera). – As *Notogonia nigricans*: R. Turner, 1917b:319 (new combination; one syntype in BMNH; Egypt, Gibraltar, Cabo Verde Islands); Richards, 1928a:362 (in revision of Mediterranean species); Gussakovskij, 1938:7 (China: Kiangsu Province); Giner Marí, 1947:25 (Western Sahara), 1959:388 (Morocco: Fès; determination?). – As *Notogonidea nigricans*: Arnold, 1930:6 (new combination, in checklist of Afro-tropical Sphecidae). – As *Leptolarra nigricans*: Guiglia, 1937:186 (new combination, Libya: Cyrenaica: Barce; redescription); de Beaumont, 1940a:18 (Egypt). – As *Motes nigricans*: Guiglia, 1942b:233 (new combination, Libya); Ceballos, 1956:375 (in catalog of Hymenoptera of Spain). – As *Liris nigricans*: de Beaumont, 1947b:390 (new combination, Cyprus), 1950d:14 (Egypt: Siwa oasis); Pittioni, 1950:24 (Cyprus); de Beaumont, 1955a:171 (Morocco), 1956a:196 (Libya; Chad: Tibesti), 1956d:2 (Cabo Verde Islands), 1958b:60 (Algeria: Tassili des Ajjer); Suárez in Giner Marí, 1959:400 (*Liris nigricans* is the correct name for *Notogonia nigricans* of Giner Marí, 1959:388); de Beaumont, 1960b:237 (Libya), 1961e:4 (Iraq), 1961f:234 (in revision of Mediterranean *Liris*), 1967a:330 (Turkey), 1968a:261 (Canary Islands: Gran Canaria); Simon Thomas, 1969a:120 (Canary Islands: Tenerife); de Beaumont, 1970a:400 (Afghanistan); de Beaumont, Bytinski-Salz and Pulawski, 1973:5 (Israel); R. Bohart and Menke, 1976:246 (listed); Georghiou, 1977:190 (Cyprus); Báez and Ortega, 1978:192 (Canary Islands); Guichard, 1978:271 (first record from Greece); Kazenas, 1978b:102, 103 (in key to Sphecidae of Kazakhstan and Central Asia); Pulawski, 1978:214 (in key to Sphecidae of European part of former USSR); Guichard, 1980:227 (Oman); Wolf, 1980:72 (Canary Islands); Islamov, 1986:524 (Uzbekistan: Tashkent Oblast'); Gayubo and Mingo, 1988:74 (Spain); Dollfuss, 1993a:693 (Central African Republic: Kembe); Hohmann, La Roche, Ortega, and Barquín, 1993:220 (detailed locality records from Canary Islands); Simon Thomas and Wiering, 1993:404 (listed); Torregrosa, Gayubo, Tormos, and Asís, 1993:18 (Spain: Alicante Province); Madl, 1997:820 (Madagascar: Nosy Boraha Island), 821 (in checklist of Nosy Boraha Sphecidae); Nazarova, 1998:40 (Tajikistan: Tigrovaya Balka Nature Reserve); Kazenas, 2001:26 (in checklist of Sphecidae of Kazakhstan and Central Asia); K. Schmidt and Bitsch in Bitsch et al., 2001:205 (in Sphecid Fauna of Western Europe); Kazenas, 2002a:61 (geographic distribution, collecting localities in Kazakhstan); Pulawski, 2003b:797 (in checklist of Malagasy Sphecidae); T. Li, Cai, and Li, 2007:419, 421 (in key to *Liris* of China); Kazenas, 2008a:101 (Southeastern Kazakhstan);

Ili River valley: near Bakanas, 11 km S Zharkent, 30 km SW Koktal); Ljubomirov, 2008:256 (known from La Palma, Canary Islands); Ljubomirov and Yildirim, 2008:193 (in catalog of Crabronidae of Turkey); T. Li, Cai, and Li, 2009a:117, 118 (in key to Palearctic *Liris*).

Notogonia argyropyga A. Costa, 1875:16, ♀ (nec ♂ which = ?). Holotype (or syntypes?): Egypt (Napoli). Synonymized with *Liris nigricans* by de Beaumont, 1961f:235. – Richards, 1928a:361 (as synonym of *Notogonia memnonia*). – **As *Larra argyropyga***: Kohl, 1885a:241 (new combination, in checklist of world *Larra*), 259 (original description copied); Dalla Torre, 1897:663 (in catalog of world Hymenoptera)

Notogonia sculpturata Kohl, 1892:221, ♂. Holotype: ♂, Egypt: no specific locality (NHMW). Synonymized with *Notogonia nigricans* by R. Turner, 1917b:319. – nec Antiga and Bofill, 1904:10, Mercet, 1910b:165, Berland, 1921, Bernard, 1934a:62, and Nouvel and Ribaut, 1958:13 (= *Liris festinans praetermissa*); Graeffe, 1906:455 (Tunisia: Tunis area); Morice, 1911:97 (Algeria: Alger, Biskra), 1921:824 (Iraq: Amara); Dollfuss, 1989:10 (type material in NHMW). – **As *Larra sculpturata***: Kohl in Dalla Torre, 1987:673 (new combination, in catalog of world Hymenoptera).

Notogonia reticulata de Saussure, 1892:512, ♀, ♂. Lectotype: ♀, Madagascar: Antananarivo or Anosibé in Bezanozano Province, or Imerina Province (MHNG), designated by Leclercq, 1961d:116 (specific locality not mentioned). Synonymized with ... – R. Turner, 1911b:370 (Seychelles Islands). – **As *Larra reticulata***: Kohl in Dalla Torre, 1897:673 (new combination, in catalog of world Hymenoptera). – **As *Motes nigricans reticulata***: Leclercq, 1960a:97 (Madagascar), 1961d:116 (Madagascar). – **As *Liris nigricans reticulata***: Arnold, 1945:132 (new combination, new status, Madagascar: Bekily). – **As *Liris nigricans var. reticulata***: Arnold, 1951:160 (new status, Ethiopia: Dilla).

Larra jugurthae Gribodo, 1894b:22, ♂, ♀ (as *Jugurthae*, incorrect original capitalization). Lectotype: ♂, "Algeria: Boghari, Biskra", correctly: Tunisia: Tunis (Genova), designated by de Beaumont, 1950e:263. Synonymized with *Liris nigricans* by Guiglia, 1937:186. – de Beaumont, 1950e:263 (synonymy confirmed).

Larra palumbula Kohl, 1894:304, ♂. Holotype or syntypes: ♂, Cameroon: no specific locality (TMP). Synonymized with *Notogonia nigricans* by Richards, 1928a:362, and with *Notogonia reticulata* by Arnold, 1944:23. – Dalla Torre, 1897:671 (in catalog of world Hymenoptera). – **As *Notogonia palumbula***: Kohl, 1906a:219 (new combination, Yemen: Socotra Island); R. Turner, 1917b:319 (merely the tropical race of *nigricans*). – **As *Notogonidea nigricans, race palumbula***: Arnold, 1923b:243 (new combination, new status, revision), 1930:6 (in checklist of Afrotropical Sphecidae); Schouteden, 1930:91 (Zaire).

Notogonia mahensis Cameron, 1907e:78, ♂. Holotype: ♂, Seychelles Islands: Mahé (BMNH), a headless specimen. Synonymized with *Notogonia reticulata* by R. Turner, 1911b:370.

Notogonia punctipleura Cameron, 1908a:285, ♂. Holotype or syntypes: ♂, Tanzania: Mt. Kilimanjaro: Kibonoto (NRS). Synonymized with *Notogonidea nigricans palumbula* by R. Turner, 1917b:319.

spp. reticuloides (Richards)

Leptolarra reticulata Cameron, 1900a:31, ♀, junior secondary homonym of *Liris reticulatus* (de Saussure, 1892). Holotype or syntypes: ♀, India: Bengal: Barrackpore 20 km N Calcutta (OXUM). – Ramakrishna Aiyar, 1916:553 (in catalog of Indian aculeates described after Bingham, 1897). – **As *Notogonia reticulata***: R. Turner, 1917b:319 (new combination, an Indian subspecies of *Notogonia nigricans*); Richards, 1928a:362 (as synonym of *Notogonia nigricans*); Sonan, 1940d:375 (Okinawa, as *reticulatum*). – **As *Notogonia nigricans reticulata*** R. Turner, 1917e:196 (new status; India: Barrackpore 20 km N Calcutta, Matheran, Chapra).

Leptolarra nigricans reticuloides Richards, 1935:164. Substitute name for *Leptolarra reticulata* Cameron, 1900 (as new status). – **As *Liris nigricans reticuloides***: R. Bohart and Menke, 1976:246 (new combination, listed).

Liris nigricans indica Arnold, 1945:132, junior secondary homonym of *Liris indicus* (Cameron, 1903). Substitute name for *Leptolarra reticulata* Cameron, 1900, new status..

194. *nigripes* (de Saussure)

Larrada nigripes de Saussure, 1867:74, ♀. Holotype or syntypes: ♀, Australia: Tasmania: no specific locality (NHMW). – Froggatt, 1892:218 (in catalog of Australian Hymenoptera); Schulz, 1911:191 (redescription). – **As *Larra nigripes***: Kohl, 1885a:246 (new combination, in checklist of world *Larra*); Dalla Torre, 1897:670 (in catalog of world Hymenoptera, unreplaced junior secondary homonym of *Larra nigripes* (Fabricius, 1793)). – **As *Tachytes nigripes***: W. Schulz, 1911b:191 (tentative new combination, additional description); R. Turner, 1916c:30 (questionable member of *Tachytes*). – **As *Liris nigripes***: R. Bohart and Menke, 1976:247 (tentative new combination); Cardale, 1985:236 (in catalog of Australian Sphecidae).

195. *nigrispinus* Krombein and Shanks Gingras

Liris nigrispinus Krombein and Shanks Gingras, 1984:59, ♂. Holotype: ♂, Mexico: Chiapas: Ixtapa (UCD). – Amaranter, 2002:40 (in catalog of Neotropical Crabronidae); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:664 (in checklist of Mexican Sphecidae).

196. *nitens* (Arnold)

Notogonidea nitens Arnold, 1929c:394♂. Holotype: ♂, Zaire: Coquilhatville, now Mbandaka (MRAC). – Arnold, 1930:6 (in checklist of Afrotropical Sphecidae) Schouteden, 1930:91 (Zaire). – **As *Liris nitens***: R. Bohart and Menke, 1976:247 (new combination, listed).

197. *novaguineanus* Tsuneki

Liris novaguineanus Tsuneki, 1983c:16, ♂ (subgenus *Leptolarra*). Holotype: ♂, New Guinea: Huon Golf: Satterberg (TMB). – Tsuneki, 1983c:29 (in key).

198. *nugax* (Kohl)

Larra nugax Kohl, 1894:302, ♂. Holotype or syntypes: ♂, South Africa: Port Natal (TMP). – Dalla Torre, 1897:671 (in catalog of world Hymenoptera). – **As *Notogonidea nugax***: Arnold, 1923b:232 (new combination, revision), 1930:6 (in checklist of Afrotropical Sphecidae). – **As *Liris nugax***: Arnold, 1951:159 (new combination, Ethiopia: Didessa River, Dilla); R. Bohart and Menke, 1976:247 (listed).

Notogonia dixeyi Bingham, 1912:377, ♀. Holotype: ♀, South Africa: Natal: The Bluff near Durban (OXUM). Synonymized with *Notogonidea nugax* by Arnold, 1923b:232.

Notogonia pilosifrons R. Turner, 1916c:252, ♀. Holotype or syntypes: ♀, Malawi: Mlanje (BMNH). Synonymized with *Notogonidea nugax* by Arnold, 1923b:232.

199. *obliquetruncatus* (R. Turner)

Notogonia obliquetruncata R. Turner, 1908:479, ♀. Holotype or syntypes: ♀, Australia: Northern Territory: Darwin (BMNH). – R. Turner, 1916e:283 (in revision of Australian *Liris*). – **As *Liris obliquetruncata***: R. Bohart and Menke, 1976:247 (new combination, listed); Cardale, 1985:236 (in catalog of Australian Sphecidae); Naumann, 1993:185 (Australia: Queensland: Heathlands area in Cape York), 1998:186 (Australia: northwest Queensland: Musselbrook area, approximately 18°40'S 138°23'E).

200. *obtusdentatus* (Maidl)

Notogonia obtusdentata Maidl, 1925a:387, ♀. Holotype: ♀, Indonesia: Sumatra: no specific locality (NHMW). – **As *Liris obtusdentata***: R. Bohart and Menke, 1976:247 (new combination, listed); Dollfuss, 1989:10 (type material in NHMW).

201. *odontophorus* (Kohl)

Larra odontophora Kohl, 1894b:298, ♀. Holotype or syntypes: ♀, Guinea: Conacry (TMP). – Dalla Torre, 1897:671 (in catalog of world Hymenoptera). – **As *Motes odontophora***: Kohl, 1897:351 (new combination). – **As *Notogonidea odontophora***: Arnold, 1923b:240 (new combination, revision), 1930:6 (in checklist of Afrotropical Sphecidae). – **As *Liris odontophora***: R. Bohart and Menke, 1976:247 (new combination, listed).

202. *opalipennis* (Kohl)

Notogonia opalipennis Kohl, 1898b:98, ♀. Syntypes: ♀, Algeria: Oran and Biskra. – Morice, 1911:97 (Algeria: Biskra); Richards, 1928:360 (in revision of Mediterranean species). – **As *Liris opalipennis***: de Beaumont, 1950d:15 (new combination, Egypt: Siwa oasis; new combination, redescription, description of ♂), 1961f:241 (in revision of Mediterranean *Liris*); Myartseva, 1972a:80 (Turkmenistan); Kazenas, 1978b:103, 104 (in key to Sphecidae of Kazakhstan and Central Asia); Nazarova, 1998:40 (Tajikistan: Tigrovaya Balka Nature Reserve); Kazenas, 2001:26 (in checklist of Sphecidae of Kazakhstan and Central Asia); T. Li, Cai, and Li, 2009a:117, 119 (in key to Palearctic *Liris*).

ssp. *cypricus* de Beaumont

Liris opalipennis cyprica de Beaumont, 1961f:241, ♀, ♂, incorrect original termination. Holotype: ♀, Cyprus: Akrotiri Bay (RMNH). – R. Bohart and Menke, 1976:247 (listed).

203. *ordinarius* Arnold

Notogonidea ordinaria Arnold, 1932:2, ♂. Holotype: ♂, Zaire: Ubangi District: Libenge (Zool. Mus. Hamburg). – **As *Liris ordinaria***: R. Bohart and Menke, 1976:247 (new combination, listed).

204. *ornatitarsis* (Cameron)

Notogonia ornatitarsis Cameron, 1911:200, [♀]. Holotype or syntypes: ♀, New Guinea: Bivak Island (RMNH). – Tsuneki, 1983c:29 (listed, taxonomic comments). – **As *Liris ornatitarsis***: R. Bohart and Menke, 1976:247 (new combination, listed).

205. *pacificatrix* (R. Turner)

Larra pacificatrix R. Turner, 1908:474, ♀. Holotype or syntypes: ♀, Vanuatu: no specific locality (OXUM). – **As *Liris pacificatrix***: Cheesman, 1937:205 (new combination, Vanuatu, description of ♂); R. Bohart and Menke, 1976:247 (listed).

206. *palawanus* Tsuneki

Liris palawana Tsuneki, 1976b:62, ♀, incorrect original termination. Holotype: ♀, Philippines: Palawan: Tagembung (ZMK). – Tsuneki, 1983a:46 (in key).

207. *panamensis* (Cameron)

Notogonia panamensis Cameron, 1889a:59, ♂. Syntypes: ♂, Panama: Bugaba and Volcán de Chiriquí (BMNH). – Ashmead, 1899d:249 (in checklist of North American Crabronidae). – **As *Larra panamensis***: Kohl in Dalla Torre, 1897:671 (new combination, in catalog of world Hymenoptera). – **As *Liris panamensis***: R. Bohart and Menke, 1976:247 (new combination, listed); Krombein, 1979:1619 (in catalog of North American Hymenoptera, as *panamensis panamensis*); Krombein and Shanks Gingras, 1984:53 (redescription; as *panamensis panamensis*); Hanson and Menke, 1995:639 (known from Panama); Amarante, 2002:40 (in catalog of Neotropical Crabronidae); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:664 (in checklist of Mexican Sphecidae); Horta Vega, Pinson Domínguez, Barrientos Lozano, and Correa Sandoval, 2007: 45 (Mexico: Tamaulipas, as *panamensis panamensis*).

Notogonidea sternalis Rohwer, 1914:519, ♂. Holotype: ♂, Guatemala: Gualan (USNM). Synonymized with *Liris panamensis* by Krombein, 1979:1619. – **As *Liris sternalis***: R. Bohart and Menke, 1976:248 (new combination, listed); Hanson and Menke, 1995:639 (known from Costa Rica).

ssp. *muesebecki* Krombein

Motes muesebecki Krombein, 1954b:15, ♂, ♀. Holotype: ♂, USA: Florida: Dade County: Miami (USNM). – Krombein, 1954b:16 and 17 (in key), 1958...:188 (?Texas). – **As *Liris muesebecki***: Krombein and Evans, 1954:233 (new combination, Florida), 1955:232 (Florida); R. Bohart and Menke, 1976:246 (listed); Kurczewski, 1976:330 (nest,

prey). – **As *Liris panamensis muesebecki***: Krombein, 1979:1619 (new status, in catalog of North American Hymenoptera); Krombein and Shanks Gingras, 1984:56 (redescription).

208. *papuanus* Tsuneki

Liris papuanus Tsuneki, 1983c:8, ♀ (subgenus *Liris* s. s.). Holotype: ♀, New Guinea: Erima, Astrolabe Bay (TMB).

209. *papuensis* Tsuneki

Liris papuensis Tsuneki, 1983c:26, ♂ (subgenus *Leptolarra*). Holotype: ♂, New Guinea: Friedrichwilhelmshafen (TMB). – Tsuneki, 1983c:30 (in key).

210. *partitus* Krombein and Shanks Gingras

Liris partitus Krombein and Shanks Gingras, 1984:47, ♀. Holotype: ♀, Texas: Hidalgo County: Bentsen Rio Grande State Park (USNM). – Hook, 1998:250 (Texas: Austin); Amarante, 2002:41 (in catalog of Neotropical Crabronidae); Ruiz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:664 (in checklist of Mexican Sphecidae); Horta Vega, Pinson Domínguez, Barrientos Lozano, and Correa Sandoval, 2007: 45 (Mexico: Tamaulipas).

211. *parvulus* Schrottky

Larra parvula Schrottky, 1903a:42, ♀. Holotype or syntypes: ♀, Brazil: São Paulo: Jundiahy (depository?). – R. Bohart and Menke, 1976:238 (listed). – **As *Liris parvulus***: Menke, 1992d:175 (new combination); Amarante, 2002:41 (in catalog of Neotropical Crabronidae).

212. *parvus* (Cameron) (preoccupied)

Notogonia parva Cameron, 1903b:119, ♀, junior secondary homonym of *Liris parva* Magrett, 1884. Holotype or syntypes: ♀, India: Bengal: Barrackpore 20 km N Calcutta (OXUM). – Ramakrishna Aiyar, 1916:552 (in catalog of Indian aculeates described after Bingham, 1897). – **As *Liris parva***: R. Bohart and Menke, 1976:247 (new combination, listed).

213. *peruanus* (Brèthes)

Notogonia peruana Brèthes, 1924:15, ♂. Holotype: ♂, Peru: ?Lima (Buenos Aires). – **As *Liris peruana***: R. Bohart and Menke, 1976:247 (new combination, listed); Genise, 1990:26 (type material in MACN). – **As *Liris peruanus***: Amarante, 2002:41 (in catalog of Neotropical Crabronidae).

214. *peterseni* Tsuneki

Liris peterseni Tsuneki, 1976b:60, ♀. Holotype: ♀, Philippines: Tawi Tawi: Tarawakan (ZMK). – Tsuneki, 1983a:45 (in key).

215. *philippinicus* Tsuneki

Notogonidea liroides F. Williams, 1928:72, ♀, ♂, junior secondary homonym of *Liris liroides* (R. Turner, 1913) = *Liris croesus* F. Smith. Holotype: ♀, Philippines: Luzon: Los Baños (BISHOP). – **As *Motes liroides***: – Baltazar, 1966:331 (new combination, in catalog of Hymenoptera of Philippines). – **As *Liris liroides***: R. Bohart and Menke, 1976:248 (new combination, listed, as tentative synonym of *Liris thaianus*).

Liris philippinica Tsuneki, 1982a:21 (as *philippinica*, incorrect original termination). Substitute name for *Notogonidea liroides* F. Williams, 1928. – **As *Liris philippinicus***: Tsuneki, 1983a:11 (Philippines; taxonomic comments), 45, 48 (in key).

***ssp. yalomensis* Tsuneki**

Liris philippinica yalomensis Tsuneki, 1982a:21, ♀, ♂. Holotype: ♀, Bismarck Archipelago: New Britain: Yalom (ZMK). – Tsuneki, 1982a:18 (in key).

216. *picipes* (Cameron)

Notogonia picipes Cameron, 1903b:125, ♀. Holotype or syntypes: ♀, India: Bengal: Barrackpore 20 km N Calcutta (OXUM). – Ramakrishna Aiyar, 1916:552 (in catalog of Indian aculeates described after Bingham, 1897). – **As *Liris picipes***: R. Bohart and Menke, 1976:247 (new combination, listed).

217. *pictipennis* (Maidl)

Notogonia pictipennis Maidl, 1924:238, ♀, ♂. Syntypes: Sudan: El Obeid (NHMW). – **As *Liris pictipennis***: de Beaumont, 1961f:249 (new combination; recognition characters); R. Bohart and Menke, 1976:247.

218. *piliventris* (Cameron)

Notogonia piliventris Cameron, 1903b:118, ♀. Holotype or syntypes: ♀, India: Bengal: Barrackpore 20 km N Calcutta (OXUM). – Ramakrishna Aiyar, 1916:552 (in catalog of Indian aculeates described after Bingham, 1897). – **As *Liris piliventris***: R. Bohart and Menke, 1976:247 (new combination, listed).

219. *pilosus* (Cameron)

Notogonia pilosa Cameron, 1903:125, ♂. Holotype or syntypes: ♂, India: Bengal: Barrackpore 20 km N Calcutta (OXUM). – Ramakrishna Aiyar, 1916:552 (in catalog of Indian aculeates described after Bingham, 1897). – **As *Liris***: R. Bohart and Menke, 1976:247 (new combination, listed).

220. *pitamawa* (Rohwer)

Cratolarra pitamawa Rohwer, 1919:7, ♀. Holotype: ♀, Philippines: Luzon: Los Baños (USNM). Synonymized with *Cratolarra fuscinerua* by Tsuneki, 1966g:8, but used as valid name in his subsequent papers. – F. Williams, 1919d:136 (Philippines: Luzon: Los Baños: nesting habits); G. Carpenter, 1930b:299 (nest closure). – **As *Notogonidea pitamawa***: F. Williams, 1928a:80 (new combination, revision). – **As *Motes pitamawa***: Baltazar, 1966:332 (new combination, in catalog of Hymenoptera of Philippines, new combination). – **As *Liris pitamawa***: Tsuneki, 1967b:41 (new combination, Taiwan; taxonomy); Haneda, 1971b:29 (Taiwan); Tsuneki, 1971h:2 (Taiwan); Haneda, 1972a:3 (Taiwan); Murota, 1973b:118 (Taiwan); Tsuneki, 1974b:612 (Thailand); R. Bohart and Menke, 1976:247 (listed); Tsuneki, 1976b:59 (Philippines), 1977j:269 (Taiwan), 1982e:26 (Taiwan; type species of subgenus *Pitaliris*), 1983a:9 (Philippines; taxonomic comments); Wu and Zhou, 1996a:79 (in revision in Economic Insect Fauna of China); Porter, Stange, and Wang, 1999:8 (in checklist of Sphecidae of Taiwan).

221. *plebeja* (Taschenberg)

Larrada plebeja Taschenberg, 1870:4, ♀, ♂ Lectotype: ♂, Brazil: Minas Gerais: Lagoa Santa (Halle), designated by Menke in Bohart and Menke, 1976:247. – **As *Larra plebeja***: Kohl, 1885a:246 (new combination, in checklist of world *Larra*); Dalla Torre, 1897:672 (in catalog of world Hymenoptera). – **As *Liris plebeja***: Menke in Bohart and Menke, 1976:247 (new combination, listed); Amarante, 2002:41 (in catalog of Neotropical Crabronidae).

222. *pluto* (F. Smith)

Tachytes pluto F. Smith, 1856:305, ♀. Holotype or syntypes: ♀, Brazil: no specific locality (BMNH). – Dalla Torre, 1897:693 (in catalog of world Hymenoptera). – **As *Liris pluto***: R. Bohart and Menke, 1976:247 (new combination, listed); Amarante, 2002:41 (in catalog of Neotropical Crabronidae).

223. *politicus* (Dalla Torre)

Larrada polita Taschenberg, 1870:3 ♀, junior primary homonym of *Larrada polita* F. Smith, 1857. Holotype: ♀, Brazil: Minas Gerais: Congonhas (HALLE). – **As *Larra polita***: Kohl, 1885a:247 (new combination, in checklist of world *Larra*).

Larra politica Dalla Torre, 1897:672. Substitute name for *Larra polita* (Taschenberg, 1870). – **As *Liris politica***: Menke in Bohart and Menke, 1976:247 (new combination, listed). – **As *Liris politicus***: Amarante, 2002:41 (in catalog of Neotropical Crabronidae).

224. *primanius* (Kohl)

Larra primania Kohl, 1894:301, ♀. Holotype or syntypes: ♀, Liberia: Junk River (TMP). – Dalla Torre, 1897:672 (in catalog of world Hymenoptera). – **As *Notogonidea primania***: Arnold, 1923b:235 (new combination, revision), 1930:6 (in checklist of Afrotropical Sphecidae). – **As *Leptolarra primania***: Guiglia, 1939d:76 (new combination, Ethiopia: Sidamo: Malca Guba). – **As *Liris primania***: R. Bohart and Menke, 1976:247 (new combination, listed).

225. *pruinus* (F. Smith)

Larrada pruinosa F. Smith, 1873b:56, ♀. Holotype or syntypes: ♀, Brazil: Amazonas: Ega, now Tefé (BMNH). – **As *Larra pruinosa***: Kohl, 1885a:247 (new combination, in checklist of world *Larra*); Dalla Torre, 1897:672 (in catalog of world Hymenoptera). – **As *Liris pruinosa***: R. Bohart and Menke, 1976:247 (new combination, listed). – **As *Liris pruinus***: Amarante, 2002:41 (in catalog of Neotropical Crabronidae).

226. *pruinus* (Cameron) (preoccupied)

Chrysolarra pruinosa Cameron, 1901b:121, ♀, junior secondary homonym of *Liris pruinus* (F. Smith, 1873). Holotype or syntypes: ♀, Malaysia: Borneo: Matang (BMNH). – **As *Liris pruinosa***: R. Bohart and Menke, 1976:247 (new combination, listed).

227. *pulcherrimus* (Cameron)

Notogonia pulcherrima Cameron, 1902c:285, ♀, ♂. Syntypes: ♀, India: Gujarat: Deesa (BMNH). – Ramakrishna Aiyar, 1916:552 (in catalog of Indian aculeates described after Bingham, 1897). – **As *Liris pulcherrima***: R. Bohart and Menke, 1976:247 (new combination, listed).

228. *punctatus* Tsuneki

Liris punctatus Tsuneki, 1974b:610, ♂ (as *punctata*, incorrect original termination). Holotype: ♂, Thailand: Mae-Tang (originally K. Tsuneki coll., now USNM). – R. Bohart and Menke, 1976:629 (listed); Nuhn and Menke, 1994:26 (holotype transferred to USNM).

229. *pygidialis* Tsuneki

Liris pygidialis Tsuneki, 1982a:23, ♂, ♀. Holotype: ♂, Bismarck Archipelago: New Ireland: Lemkamin (ZMK). – Tsuneki, 1982a:19 (in key).

230. *pygmaeus* (Cameron)

Notogonia pygmaea Cameron, 1903b:124, ♀. Holotype or syntypes: ♀, India: Bengal: Barrackpore 20 km N Calcutta (OXUM). – Ramakrishna Aiyar, 1916:552 (in catalog of Indian aculeates described after Bingham, 1897, as *pygmoea*). – **As *Liris pygmaea***: R. Bohart and Menke, 1976:247 (new combination, listed).

231. *quadrifasciatus* (F. Smith)

Larrada quadrifasciata F. Smith, 1856:289, ♀. Holotype or syntypes: ♀, Brazil: Pará: Santarém (BMNH). – **As *Larra quadrifasciata***: Kohl, 1885a:247 (new combination, in checklist of world *Larra*); Dalla Torre, 1897:672 (in catalog of world Hymenoptera). – **As *Liris quadrifasciata***: R. Bohart and Menke, 1976:247 (new combination, listed). – **As *Liris quadrifasciatus***: Amarante, 2002:41 (in catalog of Neotropical Crabronidae).

232. *radialis* (de Saussure)

Notogonia radialis de Saussure, 1887:17, ♂. Lectotype: ♂, Madagascar: no specific locality (MHNG), designated by Arnold, 1940:123. – de Saussure, 1892:467 (Madagascar, redescription); nec Arnold, 1929:394 (= *Liris memnonius*); Giordani Soika, 1939c:101 (Eritrea: Asmara). – **As *Larra radialis***: Dalla Torre, 1897:673 (new combination, in catalog of world Hymenoptera). – **As *Notogonidea radialis***: Arnold, 1930:6 (new combination, in checklist of Afrotropical Sphecidae). – **As *Motes radialis***: Arnold, 1940:123 (new combination, synonymy); Guiglia, 1943c:76 (Ethiopia: Gamo Gofa: Sagan – Omo region), 1950:258 (Ethiopia: Gamo Gofa: Asile, Caschei, Gongabaino); Leclercq, 1960a:97 (Madagascar), 1961d:114 (Madagascar, illegal designation of lectotype). – **As *Lepto-***

larra radialis: Guiglia, 1939d:76 (new combination, Ethiopia: Sidamo: Malca Guba). – **As *Liris radialis***: Arnold, 1945:127 (new combination, Madagascar: redescription and interpretation of the species); R. Bohart and Menke, 1976:247 (listed); Pulawski, 2003b:797 (in checklist of Malagasy Sphecidae).

Notogonia radamae de Saussure, 1891:260, ♂ (as *Radamae*, incorrect original capitalization). Holotype or syntypes: ♂, Madagascar: no specific locality (MHNG). Synonymized with *Liris radialis* by Leclercq, 1961d:114. – Friese, 1900:267 (Madagascar: Nosy-Be). – **As *Larra radamae***: Kohl in Dalla Torre, 1897:673 (new combination, in catalog of world Hymenoptera). – **As *Liris radamae***: Arnold, 1945:127 (new combination, Madagascar, redescription, as *Radamae*).

As *Notogonidea sepulchralis*: Arnold, 1923b:244 (revision), corrected to *Notogonidea radialis* by Arnold, 1929c:394.

233. *radulinus* Evans

Liris radulinus Evans, 1972b:14, ♂ (as *radulina*, incorrect original termination). Holotype: ♂, Caribbeans: Dominica Island: Grand Bay (USNM). Paratypes: Barbados. – R. Bohart and Menke, 1976:247 (listed). – **As *Liris radulinus***: Amarante, 2002:41 (in catalog of Neotropical Crabronidae).

234. *reconditus* (R. Turner)

Notogonia recondita R. Turner, 1916e:284, ♀. Syntypes: ♀, Australia: Queensland: Kuranda (BMNH). – **As *Liris recondita***: R. Bohart and Menke, 1976:247 (new combination, listed); Cardale, 1985:236 (in catalog of Australian Sphecidae).

235. *regina* (R. Turner)

Notogonia regina R. Turner, 1908:475, ♀. Syntypes: Australia: Queensland: Cairns, Mackay, and Cape York (BMNH). – R. Turner, 1916e:282 (in revision of Australian *Liris*). – **As *Liris regina***: R. Bohart and Menke, 1976:247 (new combination, listed); Cardale, 1985:236 (in catalog of Australian Sphecidae); Naumann, 1993:185 (Australia: Queensland: Heathlands area in Cape York).

236. *retirugosus* T. Li, Cai, and Li

Liris retirugosus T. Li, Cai, and Li, 2009a:115, ♂. Holotype: ♂, China: Yunnan: Jingdong County: Jinping Town: western mountain (Yunnan Agricultural University, Kunming). – T. Li, Cai, and Li, 2009:a119 (in key to Palearctic *Liris*).

237. *robustoides* (F. Williams)

Notogonidea robustoides F. Williams, 1928:77, ♀, ♂ (♂ = *Liris banoensis* Tsuneki, 1983). Holotype: ♀, Philippines: Luzon: Los Baños (BISHOP). – **As *Motes robustoides***: Baltazar, 1966:332 (new combination, in catalog of Hymenoptera of Philippines, new combination). – **As *Liris robustoides***: R. Bohart and Menke, 1976:247 (new combination, listed); Tsuneki, 1976b:62 (Philippines; redescription; as *lobustoides*), 1977i:4 (spelling corrected to *robustoides*), 1983a:34 (Philippines; taxonomic comments), 38 (aberrant specimen), 45, 48 (in key), 106 (study of holotype).

238. *robustus* (F. Williams)

Notogonidea robusta F. Williams, 1928:79, ♀, ♂. Holotype: ♀, Philippines: Luzon: Los Baños, Mount Makiling (BISHOP). – **As *Motes robusta***: Baltazar, 1966:332 (new combination, in catalog of Hymenoptera of Philippines). – **As *Liris robusta***: R. Bohart and Menke, 1976:247 (new combination, listed); Tsuneki, 1976b:62 (Philippines; descr.; as *lobusta*), 1977i:4 (spelling corrected to *robusta*). – **As *Liris robustus***: Tsuneki, 1983a:33 (Philippines; taxonomic comments), 38 (aberrant specimen), 45, 48 (in key).

ssp. planatus Tsuneki

Liris robusta planata Tsuneki, 1963c:10, ♀, ♂, incorrect original termination. Holotype: ♀, Thailand: Muangfang (Sasayama Univ.).

239. rohweri (F. Williams)

Notogonidea rohweri F. Williams, 1928a:78, ♀, ♂. Holotype: ♀, Philippines: Luzon: Los Baños, Mount Makiling (BISHOP). – **As *Motes rohweri***: Baltazar, 1966:332 (new combination, in catalog of Hymenoptera of Philippines). – **As *Liris rohweri***: R. Bohart and Menke, 1976:247 (new combination, listed); Tsuneki, 1983a:24 (Philippines; taxonomic comments), 46, 48 (in key); Porter, Stange, and Wang, 1999:8 (in checklist of Sphecidae of Taiwan); Yamane, Ikudome, and Terayama, 1999:513 (in Identification Guide to Crabronidae of Nansei = Ryukyu Islands, Japan; T. Li, Cai, and Li, 2007:421, 423 (in key to *Liris* of China). – **Nec following authors** (= *Liris rohweri formosanus*): Tsuneki, 1966g:2, 1967b:31, 1967i:389; Haneda, 1971b:29; Tsuneki, 1971h:4; Haneda, 1972a:3; Tano, 1972:23)

ssp. formosanus Tsuneki

As *Liris rohweri* (corrected to *Liris formosana* by Tsuneki, 1973n:113): Tsuneki, 1966g:2 (Taiwan, Ryukyu Islands; redescription), 1967b:31 (Taiwan), 1967i:389 (Taiwan); Haneda, 1971b:29 (Taiwan); Tsuneki, 1971h:4 (Taiwan); Haneda, 1972a:3 (Taiwan); Tano, 1972:23 (Japan: Ryukyu Islands).

Liris formosana Tsuneki, 1973n:113, ♀, ♂, incorrect original termination. Holotype: ♂, Taiwan: Chiayi Prefecture: Chuchi (originally K. Tsuneki coll., now USNM). – Murota, 1973b:118 (Taiwan); Tsuneki, 1977j:268 (Taiwan); Nuhn and Menke, 1994:25 (holotype transferred to USNM). – **As *Liris rohweri formosana***: Tsuneki, 1982e:27 (new status, Taiwan, Ryukyu Islands). – **As *Liris rohweri formosanus***: Tsuneki, 1982f:47 (Ryukyu Islands: Ishigaki Island), 1982g:59 (known from the Ryukyu archipelago); Hua, 2006:281 (in list of Chinese insects, geographic distribution); T. Li, Cai, and Li, 2007:420, 423 (in key to *Liris* of China).

240. rubellus (F. Smith)

Larrada rubella F. Smith, 1856:280, ♀. Holotype or syntypes: ♀, Equatorial Guinea: Fernando Po (OXUM?). – **As *Larra rubella***: Kohl, 1885a:247 (new combination, in checklist of world *Larra*); Dalla Torre, 1897:673 (in catalog of world Hymenoptera); Arnold, 1923b:226 (original description copied), 1930:6 (in checklist of Afrotropical Sphecidae). – **As *Liris rubella***: Menke in Bohart and Menke, 1976:247 (new combination, listed).

Larra cyphononyx Kohl, 1894b:299, ♀. Holotype: ♀, Africa: Liberia: Samlia Falls (Inst. Roy. Sci. Nat. Belgique). Synonymized with *Liris rubella* by Menke in Bohart and Menke, 1976:247. – Dalla Torre, 1897:666 (in catalog of world Hymenoptera). – **As *Motes cyphononyx***: Kohl, 1897:351 (new combination); R. Turner, 1916b:253 (Malawi, Uganda, Zambia). – **As *Notogonidea cyphononyx***: Arnold, 1923b:241 (new combination, revision), 1930:6 (in checklist of Afrotropical Sphecidae). – **As *Leptolarra cyphononyx***: Guiglia, 1939d:76 (new combination, Ethiopia: Sidamo: Mulca Guba).

Larra chyphononyx W. Schulz, 1906:211. Unjustified emendation of *Larra cyphononyx* Kohl, 1894.

Liris arnoldi Benoît, 1951:129, ♂, ♀ (as *Arnoldi*, incorrect original capitalization). Holotype: ♂, Zaire: Ituri: Lake Albert, now Lake Mobutu Sese Seko: Kasenyi (MRAC). Synonymized with *Liris cyphononyx* by Arnold, 1959:331.

241. rubricatus (F. Smith)

Larrada rubricata F. Smith, 1856:286, ♀. Holotype or syntypes: ♀, Brazil: Pará: Belém (BMNH). – **As *Larra rubricata***: Kohl, 1885a:247 (new combination, in checklist of world *Larra*); Dalla Torre, 1897:673 (in catalog of world Hymenoptera); Strand, 1910a:158 (Paraguay); Bodkin, 1918:316 (British Guiana: Rocksone on Essequibo River); Campos, 1922:64 (Ecuador: Durán). – **As *Liris rubricata***: R. Bohart and Menke, 1976:247 (new combination, listed); Callan, 1991a:8 (Trinidad). – **As *Liris rubricatus***: Amarante, 2002:41 (in catalog of Neotropical Crabronidae); Starr and Hook, 2003:19 (in catalog of Aculeata of Trinidad, West Indies).

242. rubripes Tsuneki

Liris rubripes Tsuneki, 1982a:33, ♂. Holotype: ♂, Bismarck Archipelago: New Britain: Yalom (ZMK). – Tsuneki, 1982a:17 (in key).

243. rufipennis (Fabricius)

Liris rufipennis Fabricius, 1804:228, sex not indicated. Syntypes: ♂, South America: no specific locality (ZMK). – van der Vecht, 1961a:23 (redescription of syntypes). – R. Bohart and Menke, 1976:247 (listed); Amarante, 2002:41 (in catalog of Neotropical Crabronidae); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:664 (in checklist of Mexican Sphecidae). – **As *Larra rufipennis***: Kohl in Dalla Torre, 1897:673 (new combination, in catalog of world Hymenoptera); Ashmead, 1899d:249 (in checklist of North American Crabronidae), 1900:225 (Lesser Antilles: St. Vincent Island), 306 (in checklist of Caribbean Hymenoptera); Casolari and Casolari Moreno, 1980:112 (specimens in M. Spinola collection, Torino); Pagliano, 2008:543 (specimens in M. Spinola collection, Torino). – **As *Notogonia rufipennis***: Bischoff and von Schulthess, 1937:169 (new combination, Argentina: Tapikiolé).

Larrada decorata F. Smith, 1856:287, ♂. Holotype: ♂, Brazil: Pará: Belém (BMNH). Synonymized with *Liris rufipennis* by D. Vincent in Krombein and Shanks Gingras, 1984:46. – **As *Larra decorata***: Kohl, 1885a:243 (new combination, in checklist of world *Larra*); Dalla Torre, 1897:666 (in catalog of world Hymenoptera). – **As *Notogonia decorata***: Poulton, 1918:xxxvii (new combination, Brazil, prey). – **As *Liris decorata***: R. Bohart and Menke, 1976:245 (new combination, listed).

Larrada truncata F. Smith, 1856:290, ♀. Holotype or syntypes: ♀, Brazil: no specific locality (BMNH). Synonymized with *Liris rufipennis* by D. Vincent in Krombein and Shanks Gingras, 1984:46. – **As *Larra truncata***: Kohl, 1885a:248 (new combination, in checklist of world *Larra*); Dalla Torre, 1897:675 (in catalog of world Hymenoptera). – **As *Liris truncata***: R. Bohart and Menke, 1976:245 (new combination, listed).

Notogonia compressifemur Giner Mari, 1944:355, ♀, ♂. Syntypes: Peru: no specific locality (Mus. Barcelona). Synonymized with *Liris rufipennis* by Menke in Bohart and Menke, 1976:247.

244. rufitarsis (Cameron)

Spanolarra rufitarsis Cameron, 1900a:33, ♀. Holotype or syntypes: ♀, India: Bengal: Barrackpore 20 km N Calcutta (OXUM). – Ramakrishna Aiyar, 1916:552 (in catalog of Indian aculeates described after Bingham, 1897). – **As *Leptolarra rufitarsis***: Richards, 1935a:164 (new combination). – **As *Liris rufitarsis***: R. Bohart and Menke, 1976:245 (new combination, listed).

Caenolarra appendiculata Cameron, 1900a:29, ♂, junior secondary homonym of *Liris appendiculatus* (Taschenberg, 1870). Holotype or syntypes: ♂, India: Bengal: Barrackpore 20 km N Calcutta (OXUM). Synonymized with ... *rufitarsis* by ... – Ramakrishna Aiyar, 1916:553 (in catalog of Indian aculeates described after Bingham, 1897). – **As *Leptolarra appendiculata***: Richards, 1935a:164 (new combination).

245. rufoscapus (Cameron)

Notogonia rufoscapa Cameron, 1905i:321, ♀. Holotype or syntypes: ♀, South Africa: Cape Province: Dunbrody (TMP). – Brauns, 1917:242 (type material in TMP). – **As *Notogonidea rufoscapa***: Arnold, 1923b:233 (new combination, revision), 1930:6 (in checklist of Afrotropical Sphecidae), 1935a:498 (South Africa: Kalahari). – **As *Liris rufoscapa***: R. Bohart and Menke, 1976:247 (new combination, listed).

246. rufula Simon Thomas

Liris rufula Simon Thomas, 1995b:121, ♀, ♂. Holotype: ♀, Senegal: 25-35 km S Richard Toll (LUW).

247. rugifer (R. Turner)

Motes rugifera R. Turner, 1918b:362, ♀. Holotype or syntypes: ♀, Uganda: Mabira Forest (BMNH). – **As *Notogonidea rugifera***: Arnold, 1923b:242 (new combination, original description copied), 1930:6 (in checklist of Afrotropical Sphecidae); Schouteden, 1930:92 (Zaire). – **As *Liris rugifera***: Arnold, 1951:159 (new combination, Ghana: Accra); R. Bohart and Menke, 1976:247 (listed).

248. *sabrinus* (Leclercq)

Motes sabrina Leclercq, 1961d:114, ♀. Holotype: ♀, Madagascar: Fianarantsoa Province: Ihosy (MHNB). – **As *Liris sabrina***: R. Bohart and Menke, 1976:247 (new combination, listed). – **As *Liris sabrinus***: Pulawski, 2003b:797 (in checklist of Malagasy Sphecidae)

249. *sabulosus* (F. Smith)

Larrada sabulosa F. Smith, 1863a:35, ♀. Holotype or syntypes: ♀, Indonesia: Ceram: no specific locality (BMNH). – **As *Larra sabulosa***: Kohl, 1885a:247 (new combination, in checklist of world *Larra*); Dalla Torre, 1897:673 (in catalog of World Hymenoptera). – **As *Liris sabulosa***: R. Bohart and Menke, 1976:247 (new combination, listed).

250. *sagax* Kohl

Liris sagax Kohl, 1892:225, ♂. Holotype or syntypes: ♂, ? India: Sikkim: no specific locality (NHMW). – Kohl, 1892:229 (in key); W. Schulz, 1906:205 (omitted by Bingham, 1897); R. Bohart and Menke, 1976:247; Dollfuss, 1989:10 (type material in NHMW). – **As *Larra sagax***: Kohl in Dalla Torre, 1987:673 (new combination, in catalog of world Hymenoptera).

251. *samoensis* Menke

Notogonidea samoensis F. Williams, 1928c:34, ♀, ♂, junior secondary homonym of *Liris samoensis* F. Williams, 1928c:36. Holotype: ♀, Samoa: Tutuila: Afono Trail (BMNH). – Perkins and Cheesman, 1928:5 (listed from Samoa); Krombein, 1949b:383 (in key to Sphecidae of Micronesia), 398 (discussion of specimens from Ponape and Samoa); Kami and Miller, 1998:57 (in checklist of Samoan insects).

Liris samoensis Menke in Bohart and Menke, 1976:247. Substitute name for *Liris samoensis* (F. Williams, 1928:34).

252. *samoensis* F. Williams

Liris samoensis F. Williams, 1928c:36, ♀, ♂. Holotype: ♀, Samoa: Upolu: Malololei (BMNH). – Perkins and Cheesman, 1928:6 (listed from Samoa); Cheesman, 1937:205 (recognition characters; Vanuatu); Yasumatsu, 1941:45 (Micronesia: Ponape Island); Krombein, 1949b:383 (in key), 398 (discussion), 1950b:142 (in key); Fullaway, 1957:279 (in checklist of Hymenoptera of Fiji); Tsuneki, 1982a:12 (in key); R. Bohart and Menke, 1976:247 (listed); Kami and Miller, 1998:57 (in checklist of Samoan insects).

253. *scabriusculus* Arnold

Liris scabriuscula Arnold, 1945:131, ♂, incorrect original termination. Syntypes: Madagascar: Bekily (MNH). – R. Bohart and Menke, 1976:247 (listed). – **As *Motes scabriuscula***: Leclercq, 1961d:115 (new combination, Madagascar). – **As *Liris scabriusculus***: Pulawski, 2003b:797 (in checklist of Malagasy Sphecidae).

254. *semiappendiculatus* (Cameron)

Tachysphex semiappendiculatus Cameron, 1912a:434, ♀ (as *semiappendiculata*, incorrect original termination). Holotype or syntypes: ♀, Guyana: Demerara: no specific locality (BMNH). – **As *Liris semiappendiculata***: R. Bohart and Menke, 1976:247 (new combination, listed). – **As *Liris semiappendiculatus***: Amarante, 2002:41 (in catalog of Neotropical Crabronidae).

255. *semicarinatus* Tsuneki

Liris semicarinata Tsuneki, 1976b:69, ♀, incorrect original termination. Holotype: ♀, Philippines: Tawi Tawi: Tarawakan (ZMK). – **As *Liris semicarinatus***: Tsuneki, 1983a:46 (in key).

256. *senegalensis* Simon Thomas

Liris senegalensis Simon Thomas, 1995b:123, ♀. Holotype: ♀, Senegal: 25-35 km Richard Toll (LUW).

257. *sepulchralis* (Gerstaecker)

Lyrops sepulchralis Gerstaecker in Peters, 1858:510, ♀. Holotype or syntypes: ♀, Mozambique: no specific locality (ZMHU). – **As *Larra sepulchralis***: Casolari and Casolari Moreno, 1980:112 (new combination, specimens in

M. Spinola collection, Torino); Pagliano, 2008:543 (specimens in M. Spinola collection, Torino). – **As *Tachytes sepulchralis***: Dalla Torre, 1897:694 (new combination, in catalog of world Hymenoptera). – **As *Notogonia sepulchralis***: Stadelmann, 1897:255 (new combination, study of type, new combination, as *sepulchralis*); W. Schulz, 1905b:9 (Cape Verde Islands: St. Vincent). – **As *Notogonidea sepulchralis***: Arnold, 1930:6 (new combination, in checklist of Afrotropical Sphecidae); Schouteden, 1930:92 (Zaire); Scott in Arnold 1933a:36. (Ethiopia: Harar District). – **As *Motes sepulchralis***: Arnold, 1940:142 (new combination, redescription). – **As *Leptolarra sepulchralis***: Guiglia, 1939d:76 (new combination, Ethiopia: Sidamo: Malca Guba), 1940b:290 (Somalia, determination?). – **As *Liris sepulchralis***: Arnold, 1945:132 (new combination, synonymy); de Beaumont, 1967b:509 (South Africa: Cape Province); I. Robertson, 1969:480 (Tanzania: Ukiriguru); R. Bohart and Menke, 1976:247 (listed); Dollfuss, 1993a:693 (Central African Republic: Kembe).

Lyrops sepulchralis Gerstaecker, 1862:479, ♀. Objective synonym of *Lyrops sepulchralis* Gerstaecker, 1858.

Notogonia pompiliformis, race *intermedia* Arnold, 1923b:245, ♀, ♂, junior primary homonym of *Notogonia intermedia* Cameron, 1903. Syntypes: South Africa: Johannesburg, Willowmore; Zimbabwe: Bulawayo, Salisbury (SAM, TMP). Synonymized with *Notogonidea sepulchralis* by Arnold, 1929c:394. – Arnold, 1929c:396 (variation), 1940:142 (redescription). – **As *Notogonidea pompiliformis* race *intermedia***: Arnold, 1930:6 (new combination, in checklist of Afrotropical Sphecidae).

ssp. *hova* Arnold

Liris sepulchralis hova Arnold, 1945:132, ♀, ♂. Syntypes: Madagascar: Behara, Bekily (MNHN). – R. Bohart and Menke, 1976:247 (listed); Pulawski, 2003b:797 (in checklist of Malagasy Sphecidae). – **As *Motes sepulchralis hova***: Leclercq, 1960a:97 (new combination, Madagascar), 1961d:116 (Madagascar).

258. *serenus* (R. Turner)

Notogonia serena R. Turner, 1908:478, ♀. Holotype or syntypes: ♀, Australia: Queensland: Mackay (BMNH). – R. Turner, 1916e:283 (in revision of Australian *Liris*). – **As *Liris serena***: R. Bohart and Menke, 1976:247 (new combination, listed); Cardale, 1985:236 (in catalog of Australian Sphecidae).

259. *sericosoma* (R. Turner)

Notogonia sericosoma R. Turner, 1913:752, ♀. Holotype: near Wangi (BMNH). – **As *Notogonidea sericosoma***: Arnold, 1923b:237 (new combination, original description copied), 1930:6 (in checklist of Afrotropical Sphecidae). – **As *Liris sericosoma***: R. Bohart and Menke, 1976:247 (new combination, listed); Dollfuss, 1993a:693 (Central African Republic: Kembe; as *sericosomus*).

260. *seychellensis* (Cameron)

Notogonia seychellensis Cameron, 1907e:77, ♀, ♂. Syntypes: Seychelles Islands: Mahé (BMNH). – R. Turner, 1911b:370 (Seychelles Islands). – **As *Liris seychellensis***: R. Bohart and Menke, 1976:247 (new combination, listed); Madl, Matyot, and Schödl, 1996:832 (Seychelles Islands).
Notogonia rufofemorata Cameron, 1907e:78, ♂ (as *rufo-femorata*, incorrect original hyphenation). Syntypes: ♂, Seychelles Islands: Mahé (BMNH). Synonymized with *Notogonia seychellensis* by R. Turner, 1911b:370.

261. *silvicola* (F. Williams)

Notogonidea silvicola F. Williams, 1928:76, ♀, ♂ (♂ = *Liris makiling* Tsuneki). Holotype: ♀, Philippines: Los Baños (BISHOP). – **As *Motes silvicola***: Baltazar, 1966:333 (new combination, in catalog of Hymenoptera of Philippines, new combination). – **As *Liris silvicola***: R. Bohart and Menke, 1976:247 (new combination, listed); Tsuneki, 1976b:60 (Philippines), 1983a:26 (Philippines; true ♂; taxonomic comments), 46, 48 (in key), 105 (study of holotype).

Notogonidea mindanaoensis F. Williams, 1928:79, ♀, ♂, junior secondary homonym of *Liris mindanaoensis* F. Williams, 1928:83. Holotype: ♂, Philippines: Mindanao: Lake Lanao (BISHOP). Synonymized with *Liris silvicola* by

Tsuneki, 1983a:26. – **As *Motes mindanaoensis***: Baltazar, 1966:332 (new combination, in catalog of Hymenoptera of Philippines, new combination).

Liris mindanao Menke in Bohart and Menke, 1976:246. Substitute name for *Liris mindanaoensis* (F. Williams, 1928:79).

ssp. *carolinensis* Yasumatsu

Liris mindanaoensis carolinensis Yasumatsu, 1941:46, ♂. Holotype: ♂, Micronesia: Caroline Islands: Truk (Fukui Univ.). – Krombein, 1949b:399 (discussion of identity); Tsuneki, 1982a:10 (in key). – **As *Liris carolinensis***: R. Bohart and Menke, 1976:244 (new status, listed).

262. *simbang* Tsuneki

Liris simbang Tsuneki, 1983c:24, ♂ (subgenus *Leptolarra*). Holotype: ♂, New Guinea: Huon Golf: Simbang (TMB). – Tsuneki, 1983c:30 (in key).

263. *similis* Krombein and Shanks Gingras

Liris similis Krombein and Shanks Gingras, 1984:63, ♂. Holotype: ♂, Mexico: Morelos: Cuernavaca (USNM). – Amaranter, 2002:41 (in catalog of Neotropical Crabronidae); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:664 (in checklist of Mexican Sphecidae).

264. *simulatrix* (Arnold)

Notogonidea simulatrix Arnold, 1923b:246, ♀. Holotype: ♀, Zimbabwe: Springvale (SAM). – Arnold, 1930:6 (in checklist of Afrotropical Sphecidae). – **As *Motes simulatrix***: Arnold, 1940:140 (new combination, description of ♂). – **As *Liris simulatrix***: Guiglia, 1932:127 (new combination, Eritrea: Cheren, determination questionable); Bohart and Menke, 1976:247 (listed).

265. *smithi* Tsuneki

Liris smithi Tsuneki, 1976b:69, ♀. Holotype: ♀, Philippines: Tawi Tawi: Tarawakan (ZMK). – Tsuneki, 1983a:46 (in key).

266. *solomonis* Tsuneki

Liris solomonis Tsuneki, 1982a:15, ♀. Holotype: ♀, Solomon Islands: Rennel Island: Niupani (ZMK). – Tsuneki, 1982a:12 (in key).

267. *solstitialis* (F. Smith)

Larrada solstitialis F. Smith, 1856:283, ♀. Syntypes: ♀, South Africa: Natal: Port Natal, now Durban (BMNH). – **As *Larra solstitialis***: Kohl, 1885a:247 (new combination, in checklist of world *Larra*); Dalla Torre, 1987:674 (in catalog of world Hymenoptera). – **As *Notogonidea solstitialis***: Arnold, 1923b:238 (new combination, revision), 1930:6 (in checklist of Afrotropical Sphecidae); Schouteden, 1930:92 (Zaire); Arnold, 1933a:352 (Ethiopia: Muger Valley). – **As *Motes solstitialis***: Leclercq, 1960a:97 (new combination, Madagascar), 1961d:112 (Madagascar). – **As *Liris solstitialis***: Arnold, 1945:121 (new combination, Madagascar; redescription; new combination), 1951:159 (Ghana: Aburi, Accra); de Beaumont, 1961f:228 (in revision of Mediterranean *Liris*), 1967b:508 (South Africa: Natal); I. Robertson, 1969:480 (Tanzania: Urambo); R. Bohart and Menke, 1976:247 (listed); Pulawski, 2003b:797 (in checklist of Malagasy Sphecidae); T. Li, Cai, and Li, 2009a:117, 118 (in key to Palearctic *Liris*).

Notogonia femoralis de Saussure, 1887:17, ♀. Lectotype: ♀, Madagascar: no specific locality (MHNG), designated by Leclercq, 1961d:112. Synonymized with *Motes solstitialis* by Leclercq, 1961d:112. – de Saussure, 1892:502 (Madagascar, redescription). – **As *Larra femoralis***: Kohl in Dalla Torre, 1897:667 (new combination, in catalog of world Hymenoptera).

Notogonia cnemophila Cameron, 1908a:288, ♀. Holotype or syntypes: ♀, Tanzania: Mt. Kilimandjaro: Kibonoto (NRS). Synonymized with *Notogonidea solstitialis* by Arnold, 1923b:238.

ssp. *anubis* de Beaumont

As *Leptolarra* sp. aff. *solstitialis*: de Beaumont, 1940a:17 (Egypt), corrected to *Liris solstitialis tibialis* by de Beaumont, 1961f:228.

Liris solstitialis tibialis de Beaumont, 1961f:228, ♀, ♂, junior secondary homonym of *Liris tibialis* (Arnold, 1923).

Holotype: ♀, Egypt: Helwan (LAUSANNE). – de Beaumont, Bytinski-Salz and Pulawski, 1973:4 (Israel).

Liris solstitialis anubis de Beaumont, 1970b:38. Substitute name for *Liris tibialis* de Beaumont, 1961.

268. *sophiae* Evans

Liris sophiae Evans, 1972b:13, ♀, ♂. Holotype: ♂, Caribbeans: Dominica Island: Fond Sophie (USNM). – R. Bohart and Menke, 1976:247 (listed); Amarante, 2002:41 (in catalog of Neotropical Crabronidae).

269. *spathulifer* (R. Turner)

Notogonia spathulifera R. Turner, 1916e:282, ♀. Syntypes: ♀, Australia: Northern Territory: Darwin and Bathurst Island (BMNH). – As *Liris spathulifera*: R. Bohart and Menke, 1976:247 (new combination, listed); Cardale, 1985:236 (in catalog of Australian Sphecidae); Naumann, 1993:185 (Australia: Queensland: Heathlands area in Cape York).

270. *splendens* (Ashmead)

Motes splendens Ashmead, 1900:226, ♀, ♂. Syntypes: Lesser Antilles: St. Vincent (BMNH). – Ashmead, 1899d:249 (in checklist of North American Crabronidae). – As *Liris splendens*: R. Bohart and Menke, 1976:247 (new combination, listed); Amarante, 2002:41 (in catalog of Neotropical Crabronidae).

271. *strenuus* (Cameron)

Notogonia strenua Cameron, 1905c:228, ♀. Holotype or syntypes: ♀, India: Assam: Khasia Hills (OXUM). – Ramakrishna Aiyar, 1916:552 (in catalog of Indian aculeates described after Bingham, 1897). – As *Liris strenua*: R. Bohart and Menke, 1976:248 (new combination, listed).

272. *striaticollis* (Cameron)

Notogonia striaticollis Cameron, 1903b:121, ♀. Holotype or syntypes: ♀, India: Bengal: Barrackpore 20 km N Calcutta (OXUM). – Ramakrishna Aiyar, 1916:552 (in catalog of Indian aculeates described after Bingham, 1897). – As *Liris striaticollis*: R. Bohart and Menke, 1976:248 (new combination, listed).

273. *subfasciatus* (Walker)

Larrada subfasciata Walker, 1871:21, ♀. Holotype or syntypes: ♀, Egypt: Cairo (BMNH). – Innes Bey, 1912:111 (specimens recorded by Walker, 1871, now destroyed by dermestids, were collected in Dahleeh Island). – As *Larra subfasciata*: Kohl, 1885a:247 (new combination, in checklist of world *Larra*); Dalla Torre, 1987:674 (in catalog of world Hymenoptera). – As *Notogonia subfasciata*: Bingham, 1902:209 (new combination, South Africa, Malawi); Richards, 1928:361 (as synonym of *Notogonia memnonia*). – As *Liris subfasciata*: de Beaumont, 1961f:225 (new combination, in revision of Mediterranean *Liris*); Pulawski, 1967c:388 (Sudan: Wadi Halfa); de Beaumont, Bytinski-Salz and Pulawski, 1973:4 (Israel); R. Bohart and Menke, 1976:248 (listed); Kazenas, 1978b:103 (in key to Sphecidae of Kazakhstan and Central Asia); Guichard, 1980:226 (Oman). – As *Liris subfasciatus*: T. Li, Cai, and Li, 2009a:118 (in key to Palearctic *Liris*).

Notogonidea egregia Arnold, 1929c:395, ♂. Holotype: ♂, Zaire: Coquilhatville, now Mbandaka (MRAC). Synonymized with *Liris subfasciata* by de Beaumont, 1961f:225. – As *Notogonidea egregia*: Arnold, 1930:6 (new combination, in checklist of Afrotropical Sphecidae), 1933a:353 (Ethiopia: Muger Valley); Schouteden, 1930:91 (Zaire, Bamanja given as type locality). – As *Liris egregia*: Arnold, 1951:160 (new combination, Ethiopia: Addis Ababa, Dilla).

As *Leptolarra memnonia*: de Beaumont, 1940a:17, corrected to *Liris subfasciata* by de Beaumont, 1961f:225.

274. *subpetiolatus* (F. Smith)

Larrada subpetiolata F. Smith, 1856:290, ♀. Holotype or syntypes: ♀, Brazil: Amazonas: Villa Nova, now Parintins (BMNH). – **As *Larra subpetiolata***: Kohl, 1885a:247 (new combination, in checklist of world *Larra*); Dalla Torre, 1987:674 (in catalog of world Hymenoptera). – **As *Liris subpetiolata***: R. Bohart and Menke, 1976:248 (new combination, listed). – **As *Liris subpetiolatus***: Amarante, 2002:41 (in catalog of Neotropical Crabronidae).

275. *subtessellatus* (F. Smith)

Larrada subtessellata F. Smith, 1856:277, ♀. Syntypes: ♀, India, Sumatra, Java (BMNH). – **As *Larra subtessellata***: Kohl, 1885a:248 (new combination, in checklist of world *Larra*); Dalla Torre, 1987:674 (in catalog of world Hymenoptera). – **As *Notogonia subtessellata***: Cameron, 1889c:130 (new combination; India: Barrackpore, Pune), Bingham, 1896a:442 (Sri Lanka: Pundaluoya), 1897:202 (redescription); Cameron, 1905k:64 (Java); R. Brown, 1906:687 (in catalog of Philippine Hymenoptera); Paiva, 1907:15 (India: West Bengal: Siliguri); Dutt, 1912:198 (hunting habits); Ramakrishna Aiyar, 1916:553 (reference to Lefroy, 1909); Morice, 1921:824 (Iraq: Amara); Maidl, 1925a:382 (Indonesia: Sumatra); Dover, 1926:234 (China: Hong Kong); Richards, 1928:360 (in revision of Mediterranean species); Gussakovskij, 1933b:277 (Iran); Haupt, 1933:4 (Philippines: Palawan: Backuit); Giner Mari, 1945c:854 (India: Maharashtra: Bandra); Al-Ali, 1977:100 (Iraq, Baghdad). – **As *Motes subtessellata***: Yasumatsu, 1940b:97 (new combination, Botel Tobago Islands); Krombein, 1949b:382 (in key to Sphecidae of Micronesia, as *subtessellatus*), 394 (Marshall Islands); Yoshimoto, 1960:331 (Hawaiian Islands, as *subtessellatus*); Iwata and Yoshikawa, 1961:399 (Thailand); Baltazar, 1966:333 (in catalog of Hymenoptera of Philippines). – **As *Notogonidea subtessellata***: F. Williams, 1927:438 (new combination, introduced to Honolulu as a few cocoons in 1921), 1928a:76 (Philippines, revision), 100 (introduced from Philippines into Oahu, Hawaii), 1936b:124 (Solomon Islands), 1947:318 and 333 (Fiji); Gibson-Hill, 1950:160 (Cocos Islands); Fullaway, 1957:279 (in checklist of Hymenoptera of Fiji). – **As *Liris subtessellata***: de Beaumont, 1961e:4 (new combination, Iraq), 1961f:229 (in revision of Mediterranean *Liris*), 1970a:399 (Afghanistan); Tsuneki, 1974b:602, 1976b:59 (Philippines); R. Bohart and Menke, 1976:248 (listed); Kazenas, 1978b:103, 104 (in key to Sphecidae of Kazakhstan and Central Asia); Sk. Yamane, 1983:85 (Indonesia: Krakatau Islands); Pu, 1986:8 (China); S. Gupta, 1995:86 (India: Uttar Pradesh); Haneda, Nozaka, Tano, Kurokawa, Murota, and Murota, 2007:53 (Japan: Kagoshima Prefecture: Amami Oshima Islands, as *subtessellata subtessellata*); Ohkusa, 2007:34 (Japan: central Honshu: Aichi Prefecture, as *subtessellata subtessellata*). – **As *Liris subtessellatus***: Tsuneki, 1983b:1 (study of holotype), 1983c:30 (in key); Takahashi 1993:3 (Japan: Hachijo-Jima Island); Begum, Khan, and Bose, 1995:176 (Bangladesh: Dhaka University Campus); Wu and Zhou, 1996a:79 (in Economic Insect Fauna of China); Yamane, Ikudome, and Terayama, 1999:513 (in Identification Guide to Crabronidae of Nansei = Ryukyu Islands, Japan); Haneda and Tano, 2003:11 (Japan: Nagasaki Prefecture: Tsushima, as *subtessellatus subtessellatus*); Tano, Kurokawa, Murota, and Nozaka, 2003:31 (Japan: Nagasaki Prefecture: Tsushima, as *subtessellatus subtessellatus*); Li and He, 2004:1099 (in hymenopterous fauna of Zhejiang Province, China); Ebrahimi, 2005:125 (in key to selected Iranian Sphecidae); Haneda, Nozaka, Tano, Kurokawa, and Murota, 2005:46 (Japan: Gifu Prefecture, as *subtessellatus subtessellatus*); Hua, 2006:281 (in list of Chinese insects, geographic distribution); T. Li, Cai, and Li, 2007:421, 423 (in key to *Liris* of China), 2009:117, 118, 119 (in key to Palearctic *Liris*). **Nec following authors** (= *Liris difficilis*): Tsuneki, 1963c:9, 1964l:62, 1966g:2, 1967b:32, 1967i:389 Haneda, 1971b:29; Tsuneki, 1971h:6; Haneda, 1972a:3; Tano, 1972:23; Murota, 1973b:118; Tsuneki, 1977j:268, 1982a:19, 22, 1982g:58, 1982f:47 and 1983a:18, 46, 48.

Larrada exilipes F. Smith, 1856:278, ♂. Syntypes: ♂, Northern India (possibly Pakistan): no specific locality (BMNH). Synonymized with *Liris subtessellata* by Tsuneki, 1983b:2 (but already listed as a synonym of *subtessellatus* in Bohart and Menke, 1976:248). – F. Smith, 1858a:102 (Borneo: Sarawak), 1858b:16 (Indonesia: Sulawesi). – **As *Larra exilipes***: Kohl, 1885a:243 (new combination, in checklist of world *Larra*); Cameron, 1889c:125 (listed); Dalla Torre, 1897:666 (in catalog of world Hymenoptera). – **As *Notogonia exilipes***: Cameron, 1890:314 (new combination).

Larrada docilis F. Smith, 1873a:192, ♀, ♂ (♂ = *Larra carbonaria erebus*). Lectotype: ♀, Japan: Hyogo: Hakodate (BMNH), designated by Pulawski, 1975a:319. Synonymized with *Liris subtessellatus* by Tsuneki, 1983b:2. – **As *Larra docilis***: Kohl, 1885a:243 (new combination, in checklist of world *Larra*); Dalla Torre, 1897:666 (in catalog of world Hymenoptera). – **As *Notogonia docilis***: Cameron, 1890c:314 (new combination). – **As *Liris subtessellata docilis***: Tano, 1964:38 (new combination, new status, Japan: Kyushu: Yakushima Island); Tsuneki, 1964h:221 (new status). – **As *Liris docilis***: Tsuneki, 1966g:1 (Taiwan, Ryukyus), 1967b:33 (Taiwan); Haneda, 1968a:44 (Japan); Nishino, 1968:25 (Japan); Tsuneki, 1969c:12 (nesting habits), 1969e:25 (Japan), 1967i:389 (Taiwan); Haneda, 1971b:29 (Taiwan); Tsuneki, 1971h:7 (Taiwan); Yamada, 1971:35 (Japan: Aichi Prefecture); Haneda, 1972a:4 (Taiwan); Tano, 1972:23 (Japan: Ryukyu Islands); Haneda, 1973:30 (Japan: Bonin Islands: Chichijimas Islands); Murota, 1973a:102 (Ryukyu Islands: Amami-Oshima Islands), 1973b:118 (Taiwan); Nambu, 1973d:150 (Japan: Saitama Prefecture), 1975b:62 (Japan: Saitama Prefecture); R. Bohart and Menke, 1976:245 (listed); Tsuneki, 1977c:22 (Taiwan), 1977j:268 (Taiwan), 1982a:19 (in key), 22 (Bismarck Archipelago), 1982g:58 (known from the Ryukyu archipelago), 1983a:18 (legs black in Japanese and Formosan specimens, black or red in Philippine specimens; diagnostic characters discussed), 46, 48 (in key); Wu and Zhou, 1996a:78 (in revision in Economic Insect Fauna of China); Porter, Stange, and Wang, 1999:8 (in checklist of Sphecidae of Taiwan); Ohl and Linde, 2003:150 (number of ovarioles).

Larrada tisiphone F. Smith, 1873a:192, ♀ (as *Tisiphone*, incorrect original capitalization), junior primary homonym of *Larrada tisiphone* F. Smith, 1857. Lectotype: ♀, Japan: Nagasaki (BMNH), designated by Pulawski, 1975a:319. Synonymized with *Liris docilis* by Tsuneki, 1964h:221, synonymy confirmed by Pulawski, 1975a:319. – **As *Larra tisiphone***: Kohl, 1885a:248 (new combination, in checklist of world *Larra*), 260 (original description copied). – **As *Motes tisiphone***: Tsuneki, 1962a:5 (new combination, Ryukyu Islands: Amami-Oshima Islands), corrected to *Liris subtessellata docilis* by Tsuneki, 1964h:221.

Larra tisiphonoides Dalla Torre, 1897:675 (as *Tisiphonoides*, incorrect original capitalization). Substitute name for *Larrada tisiphone* F. Smith, 1873.

Notogonia manilensis Rohwer, 1910c:659, ♂. Holotype: ♂, Philippines: Luzon: Manila (USNM). Synonymized with ...

Notogonia insularis Cameron, 1913b:81, ♂, junior secondary homonym of *Liris insularis* (de Saussure, 1867). Holotype or syntypes: ♂, Indonesia: Irian Jaya (New Guinea): Moluccas: Saonek Island near Waigeo Island (ZMA). Synonymized with *Liris subtessellata* by van der Vecht in Bohart and Menke, 1976:248.

Notogonia luzonensis Rohwer, 1919:9, ♀. Holotype: ♀, Philippines: Luzon: Los Baños (USNM). Synonymized with *Notogonia subtessellata* by F. Williams, 1927:438. – F. Williams, 1919d:137 (Philippines: Luzon: Los Baños: nesting habits).

Liris vortex Tsuneki, 1966g:7, ♂. Holotype: ♂, Taiwan: Nantou Prefecture: Nanshanchi (Kyushu Univ.). Synonymized with *Liris docilis* by Tsuneki, 1967b:34.

ssp. *banatamus* Tsuneki

Liris subtessellata banatama Tsuneki, 1982a:22, ♂, incorrect original termination. Holotype: ♂, Bismarck Archipelago: Lavongai Island: Banatam (ZMK). – Tsuneki, 1982a:19 (in key).

ssp. *ogasawarae* Tsuneki

Liris subtessellatus ogasawarae Tsuneki, 1984a:3, ♀, ♂. Holotype: ♀, Ogasawara (= Bonin) Islands: Chichidzima: Kohshinzuka (originally K. Tsuneki coll., now Hyogo Mus.). – Tano, 1994a:5 (holotype in K. Tsuneki collection); Hashimoto and Nakanishi, 1997:17 (holotype transferred to Hyogo Mus.).

276. *sulcifrons* (Cameron)

Notogonia sulcifrons Cameron, 1905c:228, ♀. Holotype or syntypes: ♀, India: Assam: Khasia Hills (OXUM). – Ramakrishna Aiyar, 1916:552 (in catalog of Indian aculeates described after Bingham, 1897). – **As *Liris sulcifrons***: Bohart and Menke, 1976:248 (new combination, listed).

277. *sumatrensis* (Maidl)

Notogonidea sumatrensis Maidl, 1927:410, ♂. Holotype: ♂, Sumatra: Wai Lima: Lampongs (NHMW). – **As *Liris sumatrensis***: R. Bohart and Menke, 1976:248 (new combination, listed).

278. *surusumi* Tsuneki

Liris surusumi Tsuneki, 1966g:4, ♀. Holotype: ♀, Ryukyu Islands: Ishigaki Island: Yonebaru (BISHOP). – Tsuneki, 1967b:28 (Taiwan), 1967i:389 (Taiwan); Murota, 1973b:118 (Taiwan); Tsuneki, 1977j:268 (Taiwan), 1982g:59 (known from the Ryukyu archipelago); Zhou and Wu, 1993a:671 (China: Wuling Mountains); Wu and Zhou, 1996a:77 (in revision in Economic Insect Fauna of China); Porter, Stange, and Wang, 1999:8 (in checklist of Sphecidae of Taiwan); Yamane, Ikudome, and Terayama, 1999:514 (in Identification Guide to Crabronidae of Nansei = Ryukyu Islands, Japan); Li and He, 2004:1099 (in hymenopterous fauna of Zhejiang Province, China); Hua, 2006:281 (in list of Chinese insects, geographic distribution); T. Li, Cai, and Li, 2007:420, 422 (in key to *Liris* of China), 2009a:118, 119 (in key to Palearctic *Liris*).

Liris shirozui Tsuneki, 1966g:5, ♂. Holotype: ♂, Taiwan: Nantou Prefecture: Sungkang (Kyushu Univ.). Synonymized with *Liris surusumi* by Tsuneki, 1967b:28.

279. *tachytoides* Tsuneki

Liris tachytoides Tsuneki, 1963c:10, ♀. Holotype: Thailand: Bangkok (Sasayama Univ.). – R. Bohart and Menke, 1976:248 (listed).

280. *tanoi* Tsuneki

Liris tanoi Tsuneki, 1974b:603, ♂. Holotype: ♂, Thailand: Chiang Mai (T. Tano coll., Fukui). – R. Bohart and Menke, 1976:629 (listed).

281. *tegularis* (Cameron)

Notogonia tegularis Cameron, 1902a:98, ♂. Holotype or syntypes: ♂, East Malaysia: Sarawak: Kuching (BMNH). – Ramakrishna Aiyar, 1916:552 (in catalog of Indian aculeates described after Bingham, 1897). – **As *Liris tegularis***: R. Bohart and Menke, 1976:248 (new combination, new combination, listed).

282. *tegularis* (Cameron) (preoccupied)

Notogonia tegularis Cameron, 1905c:226, ♀, junior primary homonym of *Notogonia tegularis* Cameron, 1902. Holotype or syntypes: ♀, India: Assam: Khasia Hills (OXUM). India. – **As *Liris tegularis***: R. Bohart and Menke, 1976:248 (new combination, listed).

283. *tenebrosus* (F. Smith)

Larrada tenebrosa F. Smith, 1873b:56, ♀. Holotype or syntypes: ♀, Brazil: Amazonas: Ega, now Tefé (BMNH). – **As *Larra tenebrosa***: Kohl, 1885a:248 (new combination, in checklist of world *Larra*); Dalla Torre, 1987:674 (in catalog of world Hymenoptera). – **As *Liris tenebrosa***: R. Bohart and Menke, 1976:248 (new combination, listed). – **As *Liris tenebrosus***: Hanson and Menke, 1995:639 (known from Panama); Amarante, 2002:41 (in catalog of Neotropical Crabronidae).

284. *testaceicornis* (Cameron)

Notogonia testaceicornis Cameron, 1905c:227, ♂. Holotype or syntypes: ♂, India: Assam: Khasia Hills (OXUM). Ramakrishna Aiyar, 1916:552 (in catalog of Indian aculeates described after Bingham, 1897); – **As *Liris testaceicornis***: R. Bohart and Menke, 1976:248 (new combination, listed).

285. *thaianus* Tsuneki

Liris liroides thaiana Tsuneki, 1963c:9, ♀, incorrect original termination. Holotype: ♀, Thailand: Me Fack (Sasayama Univ.). – **As *Liris thaiana***: R. Bohart and Menke, 1976:21 (new status, listed); Tsuneki, 1982a:21 (as new status).

286. *thysanomerus* (Kohl)

Larra thysanomera Kohl, 1894:302, ♂. Holotype or syntypes: ♂, Gabon: no specific locality (TMP). – Dalla Torre, 1897:674 (in catalog of world Hymenoptera). – **As *Notogonidea thysanomera***: Arnold, 1923b:242 (new combination, revision), 1930:6 (in checklist of Afrotropical Sphecidae); Schouteden, 1930:92 (Zaire). – **As *Leptolarra thysanomera***: Guiglia, 1939d:76 (new combination, Ethiopia: Sidamo: Moyale and Neghelli, now Negele). – **As *Liris thysanomera***: Arnold, 1951:159 (new combination, Ghana: Aburi, Accra); R. Bohart and Menke, 1976:248 (listed); Dollfuss, 1993a:693 (Central African Republic: Kembe).

ssp. *usumbaraensis* (Cameron)

Notogonia usumbaraensis Cameron, 1908a:288, ♀. Holotype or syntypes: ♀, Tanzania: Tanga Region: Mombo (NRS). – **As *Notogonidea thysanomera*, race *usumbaraensis*** [sic]: Arnold, 1923b:240 (new combination, new status, Zululand: Mfongosi); nec Arnold, 1929c:396 (= *Liris erythropyga*); Arnold, 1930:6 (in checklist of Afrotropical Sphecidae); Scott in Arnold 1933a:369 (Ethiopia: Harar, as *usumbaraensis*).

287. *tibicundus* Tsuneki

Liris tibicunda Tsuneki, 1982a:25, ♀, incorrect original termination. Holotype: ♀, Bismarck Archipelago: New Ireland: Lemkamin (ZMK). – Tsuneki, 1982a:18 (in key).

288. *tinctipennis* (Cameron)

Notogonia tinctipennis Cameron, 1889a:56, sex not indicated. Holotype or syntypes: Panama: Bugaba (BMNH). – **As *Larra tinctipennis***: Kohl in Dalla Torre, 1897:674 (new combination, in catalog of world Hymenoptera). – **As *Liris tinctipennis***: R. Bohart and Menke, 1976:248 (new combination, listed); Hanson and Menke, 1995:639 (known from Panama); Amarante, 2002:41 (in catalog of Neotropical Crabronidae).

289. *tisiphone* (F. Smith)

Larrada tisiphone F. Smith, 1858a:103, ♀ (as *Tisiphone*, incorrect original capitalization). Holotype or syntypes: ♀, Malaysia: Sarawak: no specific locality (OXUM). – **As *Larra tisiphone***: Kohl, 1885a:248 (new combination, in checklist of world *Larra*); Cameron, 1889c:125 (listed); Bingham, 1897:198 (redescription); Dalla Torre, 1897:675 (in catalog of world Hymenoptera); Sen, 1931:22 (description of ♂). – **As *Notogonia tisiphone***: Cameron, 1890c:314 (new combination); Bingham, 1896a:442 (Sri Lanka: Pundaluoya). – **As *Liris tisiphone***: R. Bohart and Menke, 1976:248 (new combination, listed).

290. *townesi* (Krombein)

Motes sp.: Townes, 1946:50 (Palau), corrected to *Motes townesi* by Krombein, 1949b:396.

Motes townesi Krombein, 1949b:396, ♀, ♂. Holotype: ♀, Micronesia: Palau Islands: Arakabesan Island (USNM). – Krombein, 1949b:383 (in key to Sphecidae of Micronesia), 1950b:139 (additional Micronesian localities), 140 (illustration of male genitalia). – **As *Liris townesi***: R. Bohart and Menke, 1976:248 (new combination, listed).

291. *transversus* Cheesman

Liris transversus Cheesman, 1955:82, ♀. Holotype: ♀, New Caledonia: Puébo (BMNH). – R. Bohart and Menke, 1976:248 (listed, as *transversa*).

292. *trifasciatus* (F. Smith)

Larrada trifasciata F. Smith, 1856:290, ♀. Holotype or syntypes: ♀, Dominican Republic (BMNH). – Cresson, 1862:238 (in catalog of North American Hymenoptera), 1865a:138 (Cuba); Dewitz, 1881:203 (Puerto Rico). – **As *Larra trifasciata***: Kohl, 1885a:248 (new combination, in checklist of world *Larra*); Dalla Torre, 1897:675 (in catalog of world Hymenoptera); Ashmead, 1900:225 (Lesser Antilles: St Vincent Island), 306 (in checklist of Caribbean Hymenoptera). – **As *Notogonia trifasciata***: Stadelmann, 1897:255 (new combination). – **As *Motes trifasciatus***: Wolcott, 1951:842 (new combination, Puerto Rico). – **As *Liris trifasciata***: Alayo Dalmau, 1973:178 (new combination, in catalog of Cuban Hymenoptera), 1976:23 (in checklist of Cuban Sphecidae); R. Bohart and

Menke, 1976:248 (listed). – **As *Liris trifasciatus***: Amarante, 2002:41 (in catalog of Neotropical Crabronidae); Genaro, 2006:56 (in checklist of Cuban Sphecidae and Crabronidae; also: Hispaniola, Puerto Rico, St. Vincent).

293. *tristis* (F. Smith)

Larrada tristis F. Smith, 1856:277, ♀. Holotype or syntypes: Indonesia: Borneo: no specific locality (BMNH). – **As *Larra tristis***: Kohl, 1885a:248 (new combination, in checklist of world *Larra*); Cameron, 1889c:125 (listed); Dalla Torre, 1897:675 (in catalog of world Hymenoptera). – **As *Notogonia tristis***: Cameron, 1890c:314 (new combination); Bingham, 1897:204 (redescription, Burma); Cameron, 1905k:64 (Java); Paiva, 1907:15 (India: West Bengal: Siliguri); Matsumura and Uchida, 1926:42 (Okinawa). – **As *Liris tristis***: R. Bohart and Menke, 1976:248 (new combination, listed); Pu, 1986:8 (China); T. Li, Cai, and Li, 2007:419 (in key to *Liris* of China), 2009a:118 (in key to Palearctic *Liris*).

294. *trivittatus* (W.F. Kirby)

Tachytes trivittatus W.F. Kirby, 1900:16, ♀, ♂. Syntypes: Yemen: Sokotra Island: Homhil (BMNH). – W.F. Kirby, 1903:242 (Socotra, redescription); Kohl, 1906a:212 (original description copied). – **As *Notogonia trivittata***: R. Turner, 1917d:43 (new combination); Richards, 1928a:361 (in revision of Mediterranean species). – **As *Liris trivittata***: de Beaumont, 1961f:248 (new combination, redescription, comments); R. Bohart and Menke, 1976:248 (listed). – **As *Liris trivittatus***: T. Li, Cai, and Li, 2009a:118 (in key to Palearctic *Liris*).

Notogonia expedita Kohl, 1906a:219, ♀, ♂. Syntypes: Yemen: Sokotra Island (NHMW). Synonymized with *Notogonia trivittata* by R. Turner, 1917d:43. – Dollfuss, 1989:10 (type material in NHMW)

295. *tropicalis* Arnold

Liris tropicalis Arnold, 1960a:470, ♀. Syntypes: Uganda: Mabira Forest; Liberia: Du River; Zaire: Coquilhatville (SAM). – R. Bohart and Menke, 1976:248 (listed).

296. *truncatulus* (Dalla Torre)

Notogonia truncata Cameron, 1889a:54, ♀, ♂, junior secondary homonym of *Liris truncatus* (F. Smith, 1856). Syntypes: Costa Rica: Cache (BMNH). – Ashmead, 1899d:249 (in checklist of North American Crabronidae).

Larra truncatula Dalla Torre, 1897:675. Substitute name for *Notogonia truncata* Cameron, 1889. – **As *Liris truncatulus***: R. Bohart and Menke, 1976:248 (new combination, listed, as *truncatula*); Hanson and Menke, 1995:639 (known from Costa Rica).

297. *turneri* Tsuneki

Liris turneri Tsuneki, 1976b:70, ♀. Holotype: ♀, Philippines: Palawan: Pinigisan (ZMK).

298. *ubatama* Tsuneki

Liris ubatama Tsuneki, 1982a:14, ♀. Holotype: ♀, Bismarck Archipelago: New Ireland: Lemkamin (ZMK). – Tsuneki, 1982a:11 (in key).

299. *uelensis* Benoit

Liris uelensis Benoit, 1951:129, ♀. Holotype: ♀, Zaire: Uelé River: Bambesa (MRAC). – R. Bohart and Menke, 1976:248 (listed).

300. *umbripennis* (Cameron)

Notogonia umbripennis Cameron, 1902a:97, ♀. Syntypes: ♀, East Malaysia: Sarawak: Kuching (BMNH). – **As *Liris umbripennis***: R. Bohart and Menke, 1976:248 (new combination, listed).

301. *utopicus* (Leclercq)

Motes utopica Leclercq, 1961d:116, ♂. Holotype: ♂, Madagascar: Fianarantsoa Province: Infanadiana (MHNB). – **As *Liris utopica***: R. Bohart and Menke, 1976:248 (new combination, listed). – **As *Liris utopicus***: Pulawski, 2003b:797 (in checklist of Malagasy Sphecidae).

302. *vagans* (Arnold)

Motes vagans Arnold, 1940:123, ♂. Holotype: ♂, Liberia: Gbanga (SAM). – **As *Liris vagans***: R. Bohart and Menke, 1976:248 (new combination, listed).

303. *varipilosus* (Cameron)

Notogonia varipilosa Cameron, 1903b:122, ♀. Holotype or syntypes: ♀, India: Bengal: Barrackpore 20 km N Calcutta (OXUM). – Ramakrishna Aiyar, 1916:552 (in catalog of Indian aculeates described after Bingham, 1897). – **As *Liris varipilosa***: R. Bohart and Menke, 1976:248 (new combination, listed).

304. *vechti* Sudheendrakumar and Narendran

Liris vechti Sudheendrakumar and Narendran, 1985:51, ♀. Holotype: ♀, India: Kerala: Malabar: Thannur (Calicut University).

305. *vincenti* Krombein and Shanks Gingras

Liris vincenti Krombein and Shanks Gingras, 1984:67, ♂. Holotype: ♂, Mexico: Morelos: s. end of Cuernavaca (USNM). – Amarante, 2002:41 (in catalog of Neotropical Crabronidae, as *vincenti*); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:664 (in checklist of Mexican Sphecidae); Horta Vega, Pinson Domínguez, Barrientos Lozano, and Correa Sandoval, 2007: 46 (Mexico: Tamaulipas).

306. *vigilans* (F. Smith)

Larrada vigilans F. Smith, 1856:279, ♀. Holotype or syntypes: ♀, China: no specific locality (BMNH). – Bingham, 1896a:442 (Sri Lanka: Pundaluoya). – **As *Larra vigilans***: Kohl, 1885a:248 (new combination, in checklist of world *Larra*); Dalla Torre, 1897:675 (in catalog of world Hymenoptera). – **As *Liris vigilans***: R. Bohart and Menke, 1976:248 (new combination, listed); Hua, 2006:281 (in list of Chinese insects, geographic distribution); T. Li, Cai, and Li, 2007:419 (in key to *Liris* of China).

307. *violaceipennis* (Cameron) (preoccupied)

Liris violaceipennis Cameron, 1904f:300, ♀, junior secondary homonym of *Liris violaceipennis* (Cameron, 1889). Holotype or syntypes: ♀, India: Assam: Khasia Hills; or Himachal Pradesh: Simla (OXUM). – Ramakrishna Aiyar, 1916:553 (in catalog of Indian aculeates described after Bingham, 1897). – **As *Liris violaceipennis***: R. Bohart and Menke, 1976:248 (new combination, listed); Hanson and Menke, 1995:639 (known from Panama).

308. *vivax* (Cameron)

Notogonia vivax Cameron, 1905:226, ♀. Holotype or syntypes: ♀, India: Assam: Khasia Hills (OXUM). – Ramakrishna Aiyar, 1916:552 (in catalog of Indian aculeates described after Bingham, 1897); Giner Mari, 1945c:854 (India: Maharashtra: Bandra and Khandala; as *vivex*). – **As *Liris vivax***: R. Bohart and Menke, 1976:248 (new combination, listed).

309. *voeltzkowii* (Kohl)

Notogonia voeltzkowii Kohl, 1909:372, ♀. Holotype: ♀, Madagascar: Tuléar, now Toliara (ZMHU or SIF). – **As *Motes voeltzkowii***: Leclercq, 1960a:97 (new combination, forgotten by Arnold, 1945). – **As *Liris voeltzkowii***: R. Bohart and Menke, 1976:248 (new combination, listed); Pulawski, 2003b:797 (in checklist of Malagasy Sphecidae).

310. *vollenhovius* (Ritsema)

Larrada vollenhovia Ritsema, 1874:194, ♂ (as *Vollenhovia*, incorrect original capitalization). Lectotype: ♂, Guinea: no specific locality (RMNH), designated by W. Schulz, 1907:313 ("bei der Type"). – **As *Larra vollenhovia***: Kohl, 1885a:248 (new combination, in checklist of world *Larra*); Dalla Torre, 1897:675 (in catalog of world Hymenoptera); Arnold, 1923b:225 (original description copied), 1930:6 (in checklist of Afrotropical Sphecidae). – **As *Notogonia vollenhovia***: W. Schulz, 1907:312 (new combination). – **As *Notogonidea vollenhovia***: Arnold, 1932:2

(new combination, Nigeria: Ikot Ikpen; description of ♀). – **As *Liris vollenhovia***: R. Bohart and Menke, 1976:248 (new combination, listed).

Notogonia vollenhovia Schulz, 1907:313, unjustified emendation of *Notogonia vollenhovia*.

311. *wheeleri* Arnold

Liris wheeleri Arnold, 1960a:472, ♂. Holotype: ♂, Zimbabwe: Turk Mine (SAM). – R. Bohart and Menke, 1976:248 (listed).

312. *xanthopterus* Arnold

Liris xanthoptera Arnold, 1945:121, ♀, ♂, incorrect original termination. Syntypes: Madagascar: Bekily, Fort Dauphin (MNHN). – R. Bohart and Menke, 1976:248 (listed). – **As *Motes xanthoptera***: Leclercq, 1960a:98 (new combination, Madagascar). – **As *Liris xanthopterus***: Pulawski, 2003b:797 (in checklist of Malagasy Sphecidae).

ssp. *nyasae* Arnold

Liris xanthoptera nyasae Arnold, 1947:155, ♀. Holotype: Malawi: Mlanje (SAM). – R. Bohart and Menke, 1976:248 (listed).

313. *xavieri* Tsuneki

Liris williamsi Tsuneki, 1976b:63, ♀, junior primary homonym of *Liris williamsi* Krombein, 1949, and junior secondary homonym of *Liris williamsi* (Rohwer, 1919). Holotype: ♀, Philippines: Palawan: Uring Uring (ZMK).

Liris xavieri Tsuneki, 1977i:4. Substitute name for *Liris williamsi* Tsuneki, 1976. – Tsuneki, 1983a:46 (in key).

314. *yanonis* Tsuneki

Liris yanonis Tsuneki, 1983c:17, ♂ (subgenus *Leptolarra*). Holotype: ♂, New Guinea: Huon Golf, Satterberg (TMB). – Tsuneki, 1983c:30 (in key).

sp.

Grossbeck, 1912b:325 (Mexico: Baja California Sur); Nurse, 1914:445 (India: Assam); von Schulthess, 1914:286 (Cameroon); Poulton, 1918:xxxvii (Brazil, prey); von Schulthess, 1935:305 (Indonesia: Australia: Northern Territory: Burnside, Marakai; Indonesia: Java: Buitenzorg, now Bogor); F. Williams, 1936b:125 (Solomon Islands); de Beaumont, 1953a:175 (Mauritania); Callan, 1954:24 (Venezuela: Paria Peninsula: Cristóbal Colón); Tsuneki, 1962a:5 (as *Motes* new sp. = *Liris deplanata binghami*); de Beaumont, 1967b:509 (South Africa); Haneda, 1971b:30 (Taiwan); Tano, 1972:24 (Japan: Ryukyu Islands); Alayo Dalmau, 1973:179 (in catalog of Cuban Hymenoptera), 1976:23 (in checklist of Cuban Sphecidae); Lomholdt, 1980a:32 (Papua New Guinea: Solomon Islands: Rennell Island); Gess, 1981:19 (South Africa: 18 km WNW Grahamstown; nesting in friable soils); Sielfeld, 1981b:73 (in checklist of Chilean Sphecidae); Rodgers and Homewood, 1982:233 (Tanzania: Usambara Mountains); Sk. Yamane, 1983:85 (Indonesia: Krakatau Islands); Simon Thomas, 1984:96 (Caribbean: St. Eustatius Island); Kingsley, Bailowitz, and Smith, 1987:19 (Arizona: Organ Pipe Cactus National Monument: Quitobaquito Springs area); Ch. Porter, 1987:45 (Chile: Tarapacá Region); Al-Houty, 1989:160 (Kuwait: Kwasat); Maes, 1989:100 (in catalog of Nicaraguan Sphecidae); Hilburn et. al., 1990:174 (Bermuda); Callan, 1991a:8 (Trinidad); Snelling, 1992:14 (Virgin Islands: Guana and Mona Islands); Amarante, 1993:19 (ne. Brazil); Cambra, 1993:16 (Peru: Pakitza, 11°57'S, 71°17'W); Naumann, 1993:185, 185 (Australia: Queensland: Heathlands area in Cape York); Snelling, 1993:18 (British Virgin Islands: Guana Island), 19 (same: Mona Island); Quintero and Cambra, 1996 (*Timulla centroamericana* (Dalla Torre) parasitizes *Liris* sp. near *argenticauda* (Cameron)); Cambra and Santos, 2000:51 (Panama: eight species found in Parque Nacional Coiba in Isla de Coiba, Pacific Ocean); Fernández, Sariol, Vega, Ricardo, González, and Portuondo, 2002:46 (Cuba: Provincia Granma); Starr and Hook, 2003:19 (in catalog of Aculeata of Trinidad, West Indies); Genaro, 2004a:19 (nesting habits); Portuondo and Fernández, 2004:135 (Cuba: Sierra Maestra and Nipe-Sagua-Baracoa mountains); Ruíz Cancino, Coronado Blanco, and Horta

Vega, 2005:170 (Mexico: recorded from Tamaulipas State); Horta Vega, Pinson Domínguez, Barrientos Lozano, and Correa Sandoval, 2007: 45 (Mexico: Tamaulipas).

NOMEN NUDUM IN *LIRIS*

Liris pusilla Kohl: Dollfuss, 1989:10 (type material in NHMW).

SPECIES DESCRIBED IN *LIRIS* AND TRANSFERRED TO OTHER GENERA

auctus Fabricius, 1804:229 = *Ceramius auctus* according to Richards, 1962:108 (A revisionary study of the Masarid wasps); see also van der Vecht, 1970:15 (Proc. Koninkl. Nederl. Akad. Wetensch., ser. C, 73).

brunneipes Cresson, 1881 = *Diploplectron*

coxalis Patton, 1892 = *Tachytes guatemalensis* Cameron, 1889

gastrifera Strand, 1910 (*Notogonia*) = *Larra praedatrix* (Strand, 1910)

heidenii de Saussure, 1891 = *Larra*

heydenii de Saussure, 1890 = *Larra*

hyalinatus Fabricius, 1804 = ?

magnificus Provancher, 1895 = *Philanthus crabroniformis* F. Smith, 1856

maurus Fabricius, 1804 = *Larra*

nigropilosellus Cameron, 1910 = *Tachytes*

praedatrix Strand, 1910 (*Notogonia*) = *Larra*

rufipes Fabricius, 1804 = *Stizus*

rugosus Provancher, 1895 = *Philanthus ventilabris* Fabricius, 1798

varians Fabricius, 1804 = *Tachytes*

UNRECOGNIZABLE NAME

Notogonia ruficaudis Taschenberg of Strand, 1910a:159 (Paraguay), may be *Tachysphex ruficaudis* (Taschenberg).