

Last updated: 24 May 2025

LYRODA

Lyroda Say, 1837:372. Type species: *Lyroda subita* Say: 1837, designated by Patton, 1880b:386.

Morphota F. Smith, 1856:293. Type species: *Morphota fasciata* F. Smith, 1856, designated by Pate, 1937c:41.

Odontolarra Cameron, 1900a:35. Type species: *Odontolarra rufiventris* Cameron, 1900 [= *Morphota formosa* F. Smith, 1858], by monotypy.

Lyrodon Howard, 1901:pl. 6, fig. 5. Lapsus for *Lyroda* Say, 1837. Junior homonym of *Lyrodon* Goldfuss, 1837.

NOTE: Most *Lyroda* have three submarginal cells, but *Lyroda errans* and a few undescribed Australian species have two.

Keys: T. Li, W. Cai, and Q. Li, 2009b (Oriental species); Mawadda, Girish Kumar, and Sureshan, 2021 (Oriental species).

Revisions: Khvir and Pulawski, 2020 (North and South American species); Schmid-Egger and Al-Jahdhami, 2021 (African and Arabian species).

1. *aethiopica* Kohl

Lyroda aethiopica Kohl, 1894:294, ♀. Holotype or syntypes: ♀, Guinea: Conakry (TMP). – Dalla Torre, 1897:696 (in catalog of world Hymenoptera); Magretti, 1906:20 (Eritrea); Arnold, 1930:2 (in checklist of Afrotropical Sphecidae); Schouteden, 1930:90 (Zaire); Iwata, 1933a:7 (in list of world *Lyroda*); R. Bohart and Menke, 1976:299 (in checklist of world Sphecidae); Dollfuss, 1990:122 (Central African Republic); Hautier, Patigny, Thomas-Odo, and Gaspar, 2003:44 (Benin); Schmid-Egger and Al-Jahdhami, 2021:274, 275 (in key to *Lyroda* of Africa and Arabian Peninsula), 275 (additional description of ♀, description of ♂, Burkina Faso, Central African Republic, Ethiopia, Mali, South Africa, Zambia).

2. *alaminos* Tsuneki

Lyroda alaminos Tsuneki, 1983a:115, ♂. Holotype: ♂, Philippines: Luzon: Laguna Province: Alaminos: Hidden Valley Spring (originally K. Tsuneki coll., now USNM). – Nuhn and Menke, 1994:26 (holotype not transferred to USNM, possibly returned to H. Kurokawa, the collector); Menke, 1995:14 (type still in K. Tsuneki collection); Tano, 1995:45 (holotype in K. Tsuneki collection); T. Li, W. Cai, and Q. Li, 2009:145 (in key to Oriental *Lyroda*); Tano, 2020:26 (holotype in USNM); Mawadda, Girish Kumar, and Sureshan, 2021:203 (in key to Oriental *Lyroda*).

3. *argenteofacialis* (Cameron)

Astata argenteofacialis Cameron, 1889c:151, "♀" = ♂. Lectotype: ♂, India: West Bengal: Barrackpore 20 km north of Calcutta (OXUM), designated by Pulawski, 1975a:319. – Dalla Torre, 1897:651 (in catalog of world Sphecidae); Rothney, 1903:103 (India: West Bengal: Barrackpore); Nurse, 1909:510 (omitted by Bingham, 1897, actually transferred to *Lyroda*); Ramakrishna Aiyar, 1916:550 (in catalog of Indian aculeates described after Bingham, 1897); Maidl and Klima, 1939:19 (in catalog of world Astatinae and Bembicinae). – **As *Lyroda argenteofacialis***: Bingham, 1897:209 (new combination, as tentative synonym of *Lyroda formosa*); Tsuneki, 1983a:73 (doubtful species); T. Li, W. Cai, and Q. Li, 2009:145 (in key to Oriental *Lyroda*); Mawadda, Girish Kumar, and Sureshan, 2021:203 (in key to Oriental *Lyroda*).

4. *aurea* Mawadda and Girish Kumar

Lyroda aurea Mawadda and Girish Kumar in Mawadda, Girish Kumar, and Sureshan, 2021:203, ♀. Holotype: ♀, India: Kerala: Kozhikode District: Nambikulam at 11°30'28"N 75°50'1"E (Western Ghat Regional Centre, Zoological Survey of India, Kozhikode, India). – Mawadda, Girish Kumar, and Sureshan, 2021:203 (in key to Oriental *Lyroda*).

5. *binghami* Tsuneki

Lyroda binghami Tsuneki, 1983a:73, ♀, ♂. Holotype: ♀, Myanmar: Tenasserim: Shwegyin (BMNH). – T. Li, W. Cai, and Q. Li, 2009:144, 145 (in key to Oriental *Lyroda*); Mawadda, Girish Kumar, and Sureshan, 2021:202, 203 (in key to Oriental *Lyroda*), 208 (redescription, India: Uttarakhand); Mawadda and Girish Kumar, 2023:103 (India: Uttarakhand: Dehradun District), 114 (in checklist of Crabroninae of Northern India).

6. *centralafricana* Schmid-Egger and Al-Jahdhami

Lyroda centralafricana Schmid-Egger and Al-Jahdhami, 2021:275, ♀, ♂. Holotype: ♀, 75 km north of Sibut at 6°22'N 18°59'E (OÖLM). Paratypes: Zambia. – Schmid-Egger and Al-Jahdhami, 2021:274 (in key to *Lyroda* of Africa and Arabian Peninsula).

7. *concinna* (F. Smith)

Morphota concinna F. Smith, 1856:294, ♀. Syntypes: Brazil: Pará: Tapajós River (BMNH). – **As *Lyroda concinna***: Kohl, 1885a:267 (new combination, in checklist of world *Lyroda*); Dalla Torre, 1897:696 (in catalog of world Hymenoptera); Iwata, 1933a:7 (in list of world *Lyroda*); R. Bohart and Menke, 1976:299 (in checklist of world Sphecidae); Nascimento and Overal, 1980:7 (Brazil, Peru); Amarante, 2002:41 (in catalog of Neotropical Crabronidae); Rasmussen and Asenjo, 2009:11 (in checklist of Crabronidae of Peru); Khvir and Pulawski, 2020:317 (in key to New World *Lyroda*, in revision of New World *Lyroda*).

8. *errans* (R. Turner)

Gastrosericus errans Turner, 1936:544, ♂. Syntypes: Australia: Western Australia: Yanchep (BMNH). – Bohart and Menke, 1976:256 (belongs to a new genus in Miscophini). – **As *Lyroda errans***: Menke, 1977:672 (new combination); Cardale, 1985:244 (in catalog of Australian Sphecidae); Khvir and Pulawski, 2020:315 (has two submarginal cells).

9. *fasciata* (F. Smith)

Morphota fasciata F. Smith, 1856:294, ♀. Holotype or syntypes: ♀, Brazil: Pará: Santarem (BMNH). – **As *Lyroda fasciata***: Kohl, 1885a:267 (new combination, in checklist of world *Lyroda*); Dalla Torre, 1897:696 (in catalog of world Hymenoptera); Iwata, 1933a:7 (in list of world *Lyroda*); R. Bohart and Menke, 1976:299 (in checklist of world Sphecidae); Nascimento and Overal, 1980:7 (Brazil); Amarante, 2002:41 (in catalog of Neotropical Crabronidae); Khvir and Pulawski, 2020:317 (in key to New World *Lyroda*), 318 (in revision of New World *Lyroda*).

Morphota harpactoides F. Smith, 1856:294, ♀ (as *Harpactoides*, incorrect original capitalization). Holotype by monotypy: ♀, Brazil: no specific locality (BMNH). Synonymized with *Lyroda fasciata* by Khvir and Pulawski, 2020:318 (as First Revisers, Article 24.2.2 of Code). – **As *Lyroda harpactoides***: Kohl, 1885a:267 (new combination, in checklist of world *Lyroda*); Dalla Torre, 1897:696 (in catalog of world Hymenoptera); Iwata, 1933a:7 (in list of world *Lyroda*); R. Bohart and Menke, 1976:299 (in checklist of world Sphecidae); Amarante, 2002:41 (in catalog of Neotropical Crabronidae).

Morphota tridens Taschenberg, 1870:8, ♀. Holotype by monotypy: ♀, Brazil: Lagoa Santa (Halle). Synonymized with *Lyroda fasciata* by Khvir and Pulawski, 2020:318. – **As *Lyroda tridens***: Kohl, 1885a:267 (new combination, in checklist of world *Lyroda*); Dalla Torre, 1897:696 (in catalog of world Hymenoptera); Iwata, 1933a:7 (in list of world *Lyroda*); R. Bohart and Menke, 1976:299 (in checklist of world Sphecidae); Amarante, 2002:41 (in catalog of Neotropical Crabronidae).

10. *formosa* (F. Smith)

Morphota formosa F. Smith, 1858b:17, ♀. Holotype or syntypes: ♀, Indonesia: Sulawesi: no specific locality (BMNH). – F. Smith, 1863b:135 (known from Waigeo and Sulawesi), 1871a:365 (in catalog of Oriental Aculeata). – **As *Lyroda formosa***: Kohl, 1885a:267 (new combination, in checklist of world *Lyroda*); Bingham, 1897:209 (redescription; Burma: Tenasserim, Sikkim); Dalla Torre, 1897:696 (in catalog of world Hymenoptera, as new combination by Kohl); Bingham, 1908:355 (India: Lucknow, Calcutta); Williams, 1928a:93 (Philippines, in revision of Philippines Larrini); Iwata, 1933a:7 (in list of world *Lyroda*); F. Williams, 1936b:130 (Solomon Islands); Iwata, 1964b:370 (nesting habits in Thailand), 1965:107 (number of oocytes); Baltazar, 1966:326 (in catalog of Hymenoptera of Philippines); Tsuneki, 1967b:12, 17 (in key to Larrinae of Taiwan); R. Bohart and Menke, 1976:299 (in checklist of world Sphecidae); Tsuneki, 1976b:74 (Philippines); Guichard, 1980:228 (Oman); Tsuneki, 1983a:77 (Philippines), 1983c:41 (New Guinea: Island of St. Joseph); Pu, 1986:8 (China); van Vondel, 1995:29 (specimens from Sumatra? in Natuurmuseum Rotterdam); Jonathan, Ray, and Kundu, 2000:199 (India: previously recorded from Meghalaya: East Khasi Hills); Ohl and Linde, 2003:151 (number of ovarioles); T. Li, W. Cai, and Q. Li, 2009:143, 145 (in key to Oriental *Lyroda*); Gadallah, 2020b:39 (in list of aculeate wasps of Arabian Peninsula); Schmid-Egger and Al-Jahdhami, 2021:274 (in key to *Lyroda* of Africa and Arabian Peninsula); 276 (diagnostic characters, Bangladesh, Cambodia, India, Laos, Oman, Thailand, Vietnam); Mawadda, Girish Kumar, and Sureshan, 2021:202, 203 (in key to Oriental *Lyroda*), 215 (diagnosis, locality records from India); Pham and Antropov, 2021:321 (recorded from Vietnam by Schmid-Egger and Al-Jahdhami, 2021);

Schmid-Egger and Al-Jahdami, 2021:276 (Bangladesh, Cambodia, India, Laos, Thailand, Vietnam, Oman); Mawadda and Girish Kumar, 2023:114 (in checklist of Crabroninae of Northern India); Barthélémy and Guénard, 2025:25 (China: Hong Kong). *Odontolarra rufiventris* Cameron, 1900a:36, ♀. Holotype or syntypes: ♀, India: Assam: Khasia (OXUM). Synonymized with *Lyroda formosa* by Pulawski, 1975a:319. – Ramakrishna Aiyar, 1916:553 (in catalog of Indian aculeates described after Bingham, 1897). – **As *Lyroda rufiventris***: Turner, 1914:256 (new combination); Richards, 1935a:165 (new combination confirmed).

11. *fukuiensis* Tsuneki

Lyroda fukuiensis Tsuneki, 1983e:61, ♂. Holotype: ♂, Japan: Fukui Prefecture: Hossaka (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.); Mawadda, Girish Kumar, and Sureshan, 2021:203 (in key to Oriental *Lyroda*).

12. *laguna* Tsuneki

Lyroda laguna Tsuneki, 1983a:79, ♀, ♂. Holotype: ♀, Philippines: Luzon: Laguna Province: Pagsanjan (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); T. Li, W. Cai, and Q. Li, 2009:143, 145 (in key to Oriental *Lyroda*); Tano, 2020:26 (holotype in USNM); Mawadda, Girish Kumar, and Sureshan, 2021:202, 203 (in key to Oriental *Lyroda*).

Lyroda pagsanjan Tsuneki, 1983a:113, ♂. Holotype: ♂, Philippines: Luzon: Laguna Province: Pagsanjan (originally K. Tsuneki coll., now ?). Synonymized with *Lyroda laguna* by Tsuneki, 1983a:115. – Nuhn and Menke, 1994:27 (holotype not transferred to USNM, possibly returned to H. Kurokawa, the collector); Menke, 1995:14 (type still in K. Tsuneki collection); Tano, 1995:45 (holotype in K. Tsuneki collection), 2020:26 (holotype in USNM, as *pagasanjan*).

13. *madecassa* Arnold

Lyroda madecassa Arnold, 1945:91, ♀, ♂. Syntypes: Madagascar: Behara, Bekily (MNH). – Leclercq, 1960a:97 (Madagascar), 1961d:108 (Madagascar); R. Bohart and Menke, 1976:299 (in checklist of world Sphecidae); Leclercq, 1990b:117 (Madagascar); Pulawski, 2003b:797 (in checklist of Malagasy Sphecidae); Madl, 2014a:974 (in catalog of Ampulicidae, Crabronidae, and Sphecidae of Madagascar, with synonymy and locality records); Schmid-Egger and Al-Jahdhami, 2021:274 (in key to *Lyroda* of Africa and Arabian Peninsula).

14. *michaelseni* W. Schulz

Lyroda michaelseni W. Schulz, 1908:479, ♀, ♂ (as *Michaelseni*, incorrect original capitalization). Syntypes: Australia: Western Australia: Denham (depository?). – Iwata, 1933a:7 (in list of world *Lyroda*); R. Bohart and Menke, 1976:299 (in checklist of world Sphecidae); Cardale, 1985:244 (in catalog of Australian Sphecidae).

ssp. tasmanica R. Turner

Lyroda michaelseni subsp. *tasmanica* R. Turner, 1914a:621, ♀. Syntypes: Australia: Tasmania: Eaglehawk Neck (BMNH). – **As *Lyroda michaelseni tasmanica***: R. Turner, 1915b:557 (Tasmania); R. Bohart and Menke, 1976:299 (in checklist of world Sphecidae); Cardale, 1985:244 (in catalog of Australian Sphecidae); K. Walker, Naumann, Austin, Taylor, and Cardale, 1992:48 (in catalog of insects of Tasmania).

15. *minima* R. Turner

Lyroda minima R. Turner, 1936:545, ♀, ♂. Syntypes: Australia: Western Australia: Yanchep 32 mi. north of Perth (BMNH). – Bohart and Menke, 1976:299 (in checklist of world Sphecidae); Cardale, 1985:245 (in catalog of Australian Sphecidae).

16. *nigra* (Cameron)

Odontolarra nigra Cameron, 1904a:12, ♀. Holotype or syntypes: ♀, India: Sikkim: no specific locality (BMNH). – Ramakrishna Aiyar, 1916:553 (in catalog of Indian aculeates described after Bingham, 1897). – **As *Lyroda nigra***: Bohart and Menke, 1976:299 (new combination, in checklist of world Sphecidae); Tsuneki, 1983a:73 (probably good species), 1983e:57 (study of type, redescription); Yamane, Ikudome, and Terayama, 1999:519 (in Identification Guide to Crabronidae of Nansei = Ryukyu Islands, Japan); Endo, Nishimoto, Hashimoto, and Nakanishi, 2007:13 (Japan: Hyogo Prefecture: sandy beaches); Nemkov,

2008b:19 (in catalog of Crabronidae of Asiatic Russia); T. Li, W. Cai, and Q. Li, 2009:144 (in key to Oriental *Lyroda*, as *Lyroda nigra nigra*); Mawadda, Girish Kumar, and Sureshan, 2021:202 (in key to Oriental *Lyroda*, as *nigra nigra*).

ssp. japonica Iwata

Lyroda japonica Iwata, 1933a:8, ♀, ♂. Holotype: ♀, Japan: Honshu: Settsu: Ikeda (Entomol. Lab. Kyoto Imper. Univ.). – Iwata, 1933a:7 (in list of world *Lyroda*), 1955:28 (egg size, number of oocytes); Miyamoto, 1959:33 (visiting flowers of *Gallium verum* L.), 1963a:116 (prey, stinging habits); Tano, 1964:38 (Japan: Kyushu: Island of Yakushima); Tsuneki, 1964l:61 (in key to Larrinae of Japan and Korea), 1967b:12, 17 (in key to Larrinae of Taiwan, as *japonica japonica*); Nambu, 1968b:20 (Japan: Saitama Prefecture); Nishino, 1968:25 (Japan); Tano, 1968:36 (Japan); Haneda, 1969:68 (Japan: Yamanashi Prefecture); Itami, 1969:48 (Japan: Niigata Prefecture); Tsuneki and Iida, 1969:14 (nesting habits); Tsuneki, 1971m:32 (China: Peking: Tiendang; geographic variation); Yamada, 1971:35 (Japan: Aichi Prefecture); Nambu, 1973a:150 (Japan: Saitama Prefecture); Tsuneki, 1974a:363 (Korea); Nambu, 1975b:61 (Japan: Saitama Prefecture); R. Bohart and Menke, 1976:299 (in checklist of world Sphecidae); Kazenas, 1980e:90 (Russia: Primorskiy Krai); Tsuneki, 1982b:15 (central Korea), 1982g:60 (known from Ryukyu archipelago), 1983a:72 (valid species, different from *venusta*); Paik, 1985:199 (in list of Sphecidae of Korea); Steiner, 1986:104 (references to publications on nesting habits); Nemkov, 1990c:81 (Russia: Maritime Province); Tsuneki, 1991:200 (Korea); Nemkov in Nemkov, Kazenas, Budrys, et Antropov, 1995:413 (in key to Sphecidae of Russian Far East); Nemkov, 2009b:81 (in new catalog of Sphecidae and Crabronidae of Asiatic Russia). – **As *Lyroda nigra japonica*:** Tsuneki, 1983e:58 (new status), 59 (redescription); Kurokawa, 2003:61 (Japan: city of Fukui: Egamichou); Haneda, Inoue, Nozaka, Tano, Kurokawa, H. Murota, and T. Murota, 2005:65 (Japan: Fukui Prefecture: Mount Monju); Haneda, Nozaka, Tano, Kurokawa and Murota, 2006a:22 (Japan: Toyama Prefecture), 2006b:48 (Japan: Nagasaki Prefecture: Tsushima); Ohkusa and Tajima, 2008:74 (Japan: central Honshu: Aichi Prefecture); Nemkov, 2012c:439 (in catalog of Crabronidae of Russian Far East); J.-K. Kim, 2014:436 (in catalog of Sphecidae *sensu lato* of Korean Peninsula); Antropov, 2017b:240 (in catalog of Crabroninae of Russia).

As *Lyroda venusta*: Yasumatsu, 1942c:112 (China: Beijing), corrected to *Lyroda japonica* by Tsuneki, 1971m:32.

ssp. takasago Tsuneki

Lyroda japonica takasago Tsuneki, 1967b:58, ♀, ♂. Holotype: ♀, Taiwan: Ilan Prefecture: Tsukeng (originally K. Tsuneki coll., now USNM). – Tsuneki, 1967b:12, 17 (in key to Larrinae of Taiwan); Tsuneki and Iida, 1969:13 (nesting habits); Haneda, 1971b:30 (Taiwan); Tsuneki, 1971h:19 (Taiwan); Haneda, 1972a:4 (Taiwan); Murota, 1973b:118 (Taiwan); Tsuneki, 1977j:270 (Taiwan: Takao); Nuhn and Menke, 1994:26 (holotype transferred to USNM); Porter, Stange, and Wang, 1999:9 (in checklist of Sphecidae of Taiwan). – **As *Lyroda nigra takasago*:** Tsuneki, 1983e:58 (new subspecific combination), 60 (redescription); Hua, 2006:281 (in list of Chinese insects, geographic distribution); T. Li, W. Cai, and Q. Li, 2009:144, 145 (in key to Oriental *Lyroda*); Mawadda, Girish Kumar, and Sureshan, 2021:202, 203 (in key to Oriental *Lyroda*).

17. *nuda* Mawadda and Girish Kumar

Lyroda nuda Mawadda and Girish Kumar in Mawadda, Girish Kumar, and Sureshan, 2021:205, ♀. Holotype: ♀, India: Kerala: Kozhikode District: Purameri at 11°40'29"N 75°35'43"E (Western Ghat Regional Centre, Zoological Survey of India, Kozhikode, India). – Mawadda, Girish Kumar, and Sureshan, 2021:203 (in key to Oriental *Lyroda*).

18. *philippinica* Tsuneki

Lyroda philippinica Tsuneki, 1983a:112, ♂. Holotype: ♂, Philippines: Leyte: Palo (originally K. Tsuneki coll., now USNM). – Nuhn and Menke, 1994:27 (holotype not transferred to USNM, possibly returned to T. Tano, the collector); Menke, 1995:14 (type still in K. Tsuneki collection); Tano, 1995:45 (holotype in K. Tsuneki collection); T. Li, W. Cai, and Q. Li, 2009:145 (in key to Oriental *Lyroda*); Mawadda, Girish Kumar, and Sureshan, 2021:203 (in key to Oriental *Lyroda*).

19. *queenslandensis* R. Turner

Lyroda queenslandensis R. Turner, 1916e:285, ♂. Holotype or syntypes: ♂, Australia: Queensland: Bundaberg (BMNH). – Iwata, 1933a:7 (in list of world *Lyroda*); R. Bohart and Menke, 1976:299 (in checklist of world Sphecidae); Cardale, 1985:245 (in catalog of Australian Sphecidae).

20. *salai* Giner Marí

Lyroda salai Giner Marí, 1945c:854, ♀. Holotype: ♀, India: Maharashtra: Khandala near Bombay (MNCN). – Tsuneki, 1983a:73 (good species); T. Li, W. Cai, and Q. Li, 2009:144 (in key to Oriental *Lyroda*), 146 (first record from China: Yunnan: Badao village in Dehong Prefecture); Mawadda, Girish Kumar, and Sureshan, 2021:203 (in key to Oriental *Lyroda*), 208 (redescription, India: Kerala).

21. *salalah* Schmid-Egger and Al-Jadhami

Lyroda salalah Schmid-Egger, 2021:278, ♀, ♂. Holotype: ♀, Oman: Dhofar: Salalah: Ayn Athum at 17.114°N 54.364°E (ZSBS). – Schmid-Egger and Al-Jadhami, 2021:275 (in key to *Lyroda* of Africa and Arabian Peninsula).

22. *subita* Say

Lyroda subita Say, 1837:372, ♀. Holotype or syntypes: USA: Indiana: no specific locality (lost). Neotype: ♀, USA: Michigan: Cheboygan County: no specific locality (USNM), designated by Khvir and Pulawski, 2020:321. – Le Conte, 1859b:755 (original description copied); Patton, 1880b:387 (in checklist of North American Larrinae); Provancher, 1882:49 and 1883b:632 (original description translated into French); Kohl, 1885a:267 (in checklist of world *Lyroda*); Cresson, 1887:277 (in catalog of North American Hymenoptera); W. Fox, 1892c:138 (does not belong to *Didineis*); Patton, 1892:90 (may belong to *Didineis*, prey carrying), 1893:202 (*Nemobius* prey is killed and not paralyzed); W. Fox, 1894a:533 (in revision of North American Larrinae); Dalla Torre, 1897:696 (in catalog of world Hymenoptera); G. Peckham and E. Peckham, 1898:169 (nesting habits); Ashmead, 1899d:250 (in checklist of North American Crabronidae); J. Smith, 1900:518 (in list of insects of New Jersey); Harrington, 1902:222 (Canada: Ontario: Ottawa); Adlerz, 1904:137 (known prey: gryllids); G. Peckham and E. Peckham, 1905:253 (nesting habits); Snow, 1906:134 (Arizona); H. Smith, 1908b:374 (in revision of Nebraskan Sphecidae); J. Smith, 1910:684 (in new list of insects of New Jersey); F. Williams, 1914a:174 (in revision of Larrinae of Kansas), 207 (nesting habits); Rohwer, 1916b:683 (in catalog of Hymenoptera of Connecticut); Gahan and Rohwer, 1918:30 (Provancher's specimens not located); Mickel, 1918b:408 (in catalog of Nebraskan Sphecidae); Britton, 1920:340 (in checklist of insects of Connecticut); Rohwer in Viereck, 1925:683 (in key to Sphecidae of Connecticut; East Hartford, New Haven); J.Ch. Bradley, 1928:1010 (in catalog of New York Crabronidae); Hendrickson, 1930:159 (Iowa); Iwata, 1933a:7 (in list of world *Lyroda*); Krombein, 1936:98 (New York: Buffalo; floral records); Brimley, 1938:443 (North Carolina: Fayetteville, Raleigh); Krombein, 1950a:267 (North Carolina: Dare County), 1951a:143 (Virginia: Dunn Loring; visiting tulip-tree honeydew); Krombein in Muesebeck et al., 1951:941 (in catalog of North American Hymenoptera); Krombein, 1952a:93 (USA: Virginia: Westmoreland State Park); K. Cooper, 1953:33 (Massachusetts: Island of Penikese); Krombein, 1953a:328 (North Carolina); Gittins, 1960:135 (Idaho); Kurczewski and Kurczewski, 1963:146 (Pennsylvania: Presque Isle State Park); Evans, 1964b:281 (description of larva), 282 (nesting habits); Krombein, 1963f:273 (Maryland: Plummers Island near Washington, D.C.); G. Bohart, Nye, and Hawthorn, 1970:48 (Utah: Logan, onion pollinator); Kurczewski and Kurczewski, 1971:132 (prey: *Nemobius carolinus* Scudder, a gryllid); Evans, 1975a:265 (unsuccessful colonizer of a new habitat); R. Bohart and Menke, 1976:299 (in checklist of world Sphecidae); L. Davis, 1978:217 (North Carolina: Kill Devil Hills, data from Krombein, 1953a); Krombein, 1979b:1633 (in catalog of North American Hymenoptera); Finnamore, 1982:109 (in Sphecid Fauna of southern Quebec); Kurczewski and Peckham, 1982:149-155 (nesting habits); Kurczewski and Spofford, 1985:113 (unusual prey: Tridactylidae); Radović, 1985:65 (sting apparatus analyzed); Piek and Spanjer, 1986:185 (in list of Sphecidae with known prey); Steiner, 1986:104 (references to publications on nesting habits); Spofford, Kurczewski, and Downes, 1989:256, 259 (reference to publications on nest parasites *Metopia argyrocephala* (Meigen) and *Senotainia trilineata* (Wulp), miltogrammine flies), 257, 260 (nest parasites: *Metopia luggeri* Townsend, *Phrosinella aurifacies* Downes, *Senotainia rubriventris* Macquart, *Senotainia vigilans* Allen, miltogrammine flies, and undetermined miltogrammine species); Kurczewski and Acciavatti, 1990:60 (New York: Cayuga County); Spofford and Kurczewski, 1990:746, 747, 748, 749, 751 (nest parasites: *Metopia luggeri* (Townsend), *Phrosinella aurifacies*, *Senotainia rubriventris* Macquart, *Senotainia trilineata* (Van der Wulp), *Senotainia vigilans* Allen, and unknown species of Miltogrammini, Sarcophagidae); Kurczewski, 1991b:203 (burrow construction from ground surface); Spofford and Kurczewski, 1992:997 (species of miltogrammine parasites listed), 1002 (counter-cleptoparasitic habits: freeze-stop and face-off, diversionary flight), 1005 (post-larvipositional counter-cleptoparasitic habits: abandon prey); Ahlstrom, 1995:109 (in checklist of insects of North Carolina); Kurczewski, 1998d:250 (pine barrens in upstate New York); Sugar et al., 1998:15 (Canada: southern Ontario); Buck, 2004:25 (Canada: in checklist of Crabronidae of Ontario); Giles and

Ascher, 2006:231 (New York: Black Rock Forest Preserve); Khvir and Pulawski, 2020:317 (in key to New World *Lyroda*), 321 (in revision of New World *Lyroda*). – **As *Tachytes subitus***: F. Smith, 1856:307 (new combination, in catalog of Hymenoptera in British Museum). – **As *Lyrops subita***: Cresson, 1862:238 (new combination, in catalog of North American Hymenoptera). – **As *Larrada subita***: Cresson, 1873:213 (new combination, Texas).

Larrada arcuata F. Smith, 1856:293, ♀. Holotype or syntypes: ♀, Canada: no specific locality (BMNH). Synonymized with *Lyroda subita* by Krombein in Muesebeck et al., 1951:941. – Cresson, 1862:237 (in catalog of North American Hymenoptera); W. Fox, 1894a:483 (unidentified species, original description copied). – **As *Larra arcuata***: Patton, 1880b:388 (new combination, in checklist of North American Larrinae); Kohl, 1885a:241 (in checklist of world *Larra*); Cresson, 1887:277 (in catalog of North American Hymenoptera); Provancher, 1887:267 (in key to *Larra* of Canada); Dalla Torre, 1897:663 (in catalog of world Sphecidae). – **As *Tachysphex arcuatus***: Harrington, 1902:221 (new combination, Canada: Ontario: Ottawa).

Lyroda cockerelli Rohwer, 1909f:369, ♀. Holotype: ♀, USA: Colorado: Boulder: University Campus (USNM). Synonymized with *Lyroda subita* by Krombein in Muesebeck et al., 1951:941. – Iwata, 1933a:7 (in list of world *Lyroda*).

As Psen niger (part): Faull, 1913:384 (Canada: Toronto region), corrected to *Lyroda subita* by Buck, 2004:77.

Lyroda sp.: Alayo Dalmau, 1973:176 and 1976:21, corrected to *Lyroda antillana* by Genaro and Portuondo, 2001:45.

Lyroda antillana Genaro and Portuondo, 2001:45, ♀. Holotype: ♀, Cuba: Guantánamo: El Imbano, Cuchillas de Baracoa (MNHN Habana). Paratypes: Dominican Republic (FSCA). Synonymized with *Lyroda subita* by Khvir and Pulawski, 2020:322. – Portuondo and Fernández, 2004:135 (Cuba: Sierra Maestra and Nipe-Sagua-Baracoa mountains); Amarante, 2005a:5 (in addendum to his 2002 catalog of Neotropical Crabronidae and Sphecidae); Genaro, 2006:54 (in checklist of Cuban Sphecidae and Crabronidae; also: Hispaniola); Perez-Gelabert, 2008:240 (in list of arthropods of island of Hispaniola).

23. *tridentata* T. Li, W. Cai, and Q. Li

Lyroda tridentata T. Li, W. Cai, and Q. Li, 2009:145, ♀, ♂. Holotype: ♀, China: Yunnan: Yunyan Mountain in Dehong Prefecture (Yunnan Agricultural University, Kunming). – T. Li, W. Cai, and Q. Li, 2009:143, 145 (in key to Oriental *Lyroda*); Mawadda, Girish Kumar, and Sureshan, 2021:202, 203 (in key to Oriental *Lyroda*).

24. *triloba* Say

Lyroda triloba Say, 1837:372, sex not stated. Holotype or syntypes: North America: no specific locality (lost). Neotype: ♀, USA: Arkansas: Hampstead County: no specific locality (CAS), designated by Khvir and Pulawski, 2020:326. – Le Conte, 1859b:755 (original description copied); Patton, 1880b:387 (in checklist of North American Larrinae); Provancher, 1882:49 and 1883b:631 (original description translated into French); Kohl, 1885a:267 (in checklist of *Lyroda*); Cresson, 1887:277 (in catalog of North American Hymenoptera); Ashmead, 1890:33 (in checklist of Hymenoptera of Colorado); Fox, 1894a:534 (in revision of North American Larrinae); Dalla Torre, 1897:696 (in catalog of world Hymenoptera); Ashmead, 1899d:250 (in checklist of North American Crabronidae); Bridwell, 1899:209 (Kansas: no specific locality); J. Smith, 1900:518 (in list of insects of New Jersey); H. Smith, 1908b:374 (in revision of Nebraskan Sphecidae); J. Smith, 1910:684 (in new list of insects of New Jersey: Camden County); F. Williams, 1914a:174 (in revision of Larrinae of Kansas); Rohwer, 1916b:683 (in catalog of Hymenoptera of Connecticut); Mickel, 1918b:408 (in catalog of Nebraskan Sphecidae); Britton, 1920:340 (in checklist of insects of Connecticut); Rohwer in Viereck, 1925:683 (in key to Sphecidae of Connecticut; Branford); Iwata, 1933a:7 (in list of world *Lyroda*); Krombein in Muesebeck et al., 1951:941 (in catalog of North American Hymenoptera); R. Bohart and Menke, 1976:299 (in checklist of world Sphecidae); Krombein, 1979b:1633 (in catalog of North American Hymenoptera); Khvir and Pulawski, 2020:317 (in key to New World *Lyroda*). – **As *Tachytes trilobus***: F. Smith, 1856:307 (new combination, in catalog of Hymenoptera in British Museum). – **As *Lyrops triloba***: Cresson, 1862:238 (new combination, in catalog of North American Hymenoptera). – **As *Larrada triloba***: Cresson, 1873:213 (new combination, Texas).

Lyrops caliptera Say, 1837:373. Nomen nudum or lapsus for *Lyroda triloba*. – Patton, 1880b:387 (in checklist of North American Larrinae); Kohl, 1885a:267 (in checklist of world *Lyroda*).

25. *venusta* Bingham

Lyroda venusta Bingham, 1897:210, "♀", ♂ (actually ♂). Lectotype: ♂, Burma: Tenasserim: no specific locality (BMNH), designated by Tsuneki, 1983a:70. – Bingham, 1905:44 (Malaysia: Biserat, correctly: Thailand: Yala Province: Biserat); nec Williams, 1928a:94 (= *Lyroda williamsi*); Iwata, 1933a:7 (in list of world *Lyroda*); von Schulthess, 1935:305 (Indonesia: Java: Buitenzorg, now Bogor); nec Yasumatsu, 1942c:112 (= *Lyroda japonica* Iwata); Bibby, 1947:79 (Philippines: Samar Islands: Island of Calicoan); Baltazar, 1966:327 (in catalog of Hymenoptera of Philippines); Tsuneki, 1967b:12, 17 (in key to Larrinae of Taiwan); R. Bohart and Menke, 1976:299 (in checklist of world Sphecidae); Tsuneki, 1983a:70 (redescription); Yamane, Ikudome, and Terayama, 1999:519 (Japan: in Identification Guide to Crabronidae of Nansei = Ryukyu Islands); T. Li, W. Cai, and Q. Li, 2009:144, 145 (in key to Oriental *Lyroda*, as *venusta venusta*); Mawadda, Girish Kumar, and Sureshan, 2021:202, 203 (in key to Oriental *Lyroda*, as *venusta venusta*).

ssp. *taiwana* Tsuneki

Lyroda taiwana Tsuneki, 1967b:56, ♀, ♂. Holotype: ♀, Taiwan: Pingtung Prefecture: Hengchun (originally K. Tsuneki coll., now USNM). – Tsuneki, 1967b:12, 17 (in key to Larrinae of Taiwan); Haneda, 1971b:30 (Taiwan); Tsuneki, 1971h:19 (Taiwan); Haneda, 1972a:4 (Taiwan); Murota, 1973b:118 (Taiwan); R. Bohart and Menke, 1976:299 (in checklist of world Sphecidae); Tsuneki, 1977j:270 (Taiwan: Takao); Nuhn and Menke, 1994:26 (holotype transferred to USNM); Wu and Zhou, 1996a:95 (in revision in Economic Insect Fauna of China); Wu, Zhou, Q. Li, and Yang, 2003:815 (China: Fujian Province); Q. Li and He, 2004:1102 (in hymenopterous fauna of Zhejiang Province, China). – As *Lyroda venusta taiwana*: Tsuneki, 1983a:72 (new status); Hua, 2006:281 (in list of Chinese insects, geographic distribution); T. Li, W. Cai, and Q. Li, 2009:144, 145 (in key to Oriental *Lyroda*); Mawadda, Girish Kumar, and Sureshan, 2021:203 (in key to Oriental *Lyroda*).

26. *williamsi* Tsuneki

As *Lyroda venusta*: Williams, 1928a:94 (Philippines), corrected to *Lyroda williamsi* by Tsuneki, 1983a:72.

Lyroda williamsi Tsuneki, 1983a:72, ♀, ♂. Holotype: ♀, Philippines: specimen illustrated by Williams, 1928a:fig. 49. – Porter, Stange, and Wang, 1999:9 (in checklist of Sphecidae of Taiwan); T. Li, W. Cai, and Q. Li, 2009:145 (in key to Oriental *Lyroda*); Mawadda, Girish Kumar, and Sureshan, 2021:203 (in key to Oriental *Lyroda*).

sp.

Alayo Dalmau, 1973:176 (in catalog of Cuban Hymenoptera); Evans and Hook, 1984:16 (sp. near *minima* Turner preys upon *Tridactylus mutus*, a tridactylid, in southeastern Queensland); McCorquodale and Thomson, 1989:95 (prey: nymphal gryllid, an Eneopterinae); Amarante, 1993:19 (northeastern Brazil); Cambra, 1993:16 (Peru: Pakitza at 11°57'S 71°17'W); Naumann, 1993:184 (Australia: Queensland: Heathlands area in Cape York); Genaro, 1995b:12 (Dominican Republic); Morato, Amarante, and Silveira, 2008:793 (Brazil: Acre: Parque Nacional da Serra do Divisor); Perez-Gelabert, 2008:240 (in list of arthropods of island of Hispaniola); Silvestre, Demétrio, Trad, de Oliveira Lima, Auko, and de Souza, 2014:68 (Brazil: Mato Grosso do Sul: dry forests in Bodoquena Mountain Range and Brazilian Chaco); Trad and Silvestre, 2017:5 (Brazil: Mato Grosso do Sul).