

Last updated: 24 May 2025

CARINOSTIGMUS

Carinostigmus Tsuneki, 1954a:3. Type species: *Stigma congruus* Walker, 1860, by original designation.

Perissostigmus Krombein, 1984c:18, as subgenus of *Carinostigmus*. Type species: *Carinostigmus bucheilus* Krombein, by original designation and monotypy.

Revisions: Tsuneki, 1954a (southeastern Asia); Krombein, 1984c (Sri Lanka); Budrys, 1987 (Russian Far East); Tessy, Sureshan, and Girish Kumar, 2020 (India); Bashir, L. Ma, and Q. Li, 2020a (China).

Keys: Tsuneki, Nozaka, Tano, Kurokawa, and Murota, 1992b:13 (Philippines), L. Ma, X.-x. Chen, and Q. Li, 2012:476 (China); Bashir, Q. Li, and L. Ma, 2021a:103 (China).

1. *aponis* Tsuneki

Carinostigmus aponis Tsuneki in Tsuneki, Nozaka, Tano, girish Kurokawa, and Murota, 1992b:10, ♀. Holotype: ♀, Philippines: Mindanao: Mount Apo near Lake Ageo (USNM). – Tsuneki, Nozaka, Tano, Kurokawa, and Murota, 1992b:13 (in key to *Carinostigmus* of Philippines); Nuhn and Menke, 1994:25 (holotype in USNM).

2. *angusticeps* (Tsuneki)

Stigma angusticeps Tsuneki, 1976b:99, ♀. Holotype: ♀, Philippines: Palawan: Pinigisan (ZMUC). – **As *Carinostigmus angusticeps***: Tsuneki, Nozaka, Tano, Kurokawa, and Murota, 1992b:13 (new combination, bibliographic reference), 14 (in key to *Carinostigmus* of Philippines).

3. *aterrimus* (R. Turner)

Stigma aterrimus R. Turner, 1917e:174, ♀. Holotype: ♀, India: Tamil Nadu: Nilgiri Hills: Coonoor (BMNH). – Tsuneki, 1954a:3 (in key to Eurasian *Stigma*), 10 (in revision of Eurasian *Stigma*). – **As *Carinostigmus aterrimus***: R. Bohart and Menke, 1976:191 (new combination, in checklist of world Sphecidae); Pulawski and Gandhi Gracy, 2018:335 (redescription, description of ♂); Tessy, Sureshan, and Girish Kumar, 2020:154 (in key to Indian *Carinostigmus*), 158 (India: Tamil Nadu).

4. *balabacensis* (Tsuneki)

Stigma balabacensis Tsuneki, 1976b:96, ♀ (in subgenus *Carinostigmus*). Holotype: ♀, Philippines: Balabac: Dalawan Bay (ZMUC). – **As *Carinostigmus balabacensis***: Tsuneki, Nozaka, Tano, Kurokawa, and Murota, 1992b:13 (new combination, bibliographic reference, in key to *Carinostigmus* of Philippines).

5. *barbatus* (Arnold)

Stigma barbatus Arnold, 1960b:473, ♂. Syntypes: Mozambique: Mount Gorongoza (SAMC). – **As *Carinostigmus barbatus***: R. Bohart and Menke, 1976:191 (new combination, in checklist of world Sphecidae).

6. *borneanus* (Tsuneki)

Stigma borneanus Tsuneki, 1974b:641, ♀. Holotype: ♀, Indonesia: Borneo: Mount Kinabalu (T. Tano coll., Fukui). – **As *Carinostigmus borneanus***: R. Bohart and Menke, 1976:629 (new combination, in checklist of world Sphecidae).

7. *bucheilus* Krombein

Carinostigmus bucheilus Krombein, 1984c:19, ♀ (in subgenus *Perissostigmus*). Holotype: ♀, Sri Lanka: Central Province: Nuwara Eliya District: Hakgala Natural Reserve (USNM). – Tessy, Sureshan, and Girish Kumar, 2020:153 (in key to Indian *Carinostigmus*).

8. *capiconvergens* Bashir and L. Ma.

Carinostigmus capiconvergens Bashir and L. Ma in Bashir, Q. Li, and L. Ma, 2021a:89, ♀, ♂. Holotype: ♀, China: Hainan Province: Mount Jianfengling at 18°41'N 108°52'E (Zhejiang University, Hangzhou, China). – Bashir, Q. Li, and L. Ma, 2021a:104, 105 (in updated key to *Carinostigmus* of China), 2021b:418 (on corrected distribution map).

9. *clypeolus* Krombein

As *Stigmus niger* (corrected to *Carinostigmus clypeolus* by Krombein, 1984c:17): Bingham, 1896a:447 (Sri Lanka: Pundaluoya), 1897:267 (in revision of wasps and bees of British India, now India and Pakistan); Green, 1903:70 (nesting habits), 1908:99 (nesting habits); Dutt, 1912:228 (preying on aphids).

Carinostigmus clypeolus Krombein, 1984c:17, ♀. Holotype: ♀, Sri Lanka: Central Province: Kandy District: Adams Peak Trail 4.5 mi. W Maskeliya (USNM). – Dollfuss, 2004a:127 (locality records from Laos, Malaysia, Sumatra, Thailand); Tessy, Sureshan, and Girish Kumar, 2020:153 (in key to Indian *Carinostigmus*).

10. *congruus* (Walker)

Stigmus congruus Walker, 1860:304, ♀. Lectotype: ♀, Sri Lanka: no specific locality (BMNH), designated by Krombein, 1984c:8. – Walker in Tennent, 1861:454 (listed); de Motschoulsky, 1863:23 (in catalog of insects of Sri Lanka, as *congruens*); Kohl, 1890a:63 (in review of *Stigmus*); Bingham, 1896a:447 (bibliographic references, as *congruens*), 1897:266, 447 (in revision of aculeates of British India, now India and Pakistan); Dalla Torre, 1897:361 (in catalog of world Hymenoptera); nec Dutt, 1912:228 (= *Carinostigmus clypeolus*); Tsuneki, 1954a:4 (in key to Eurasian *Stigmus*), 7 (in revision of Eurasian *Stigmus*). – **As *Carinostigmus congruus***: R. Bohart and Menke, 1976:191 (new combination, in checklist of world Sphecidae); Krombein, 1984c:8 (Sri Lanka; redescription); Radović, 1985:64 (sting apparatus analyzed); S. Gupta, 1995:85 (India: Uttar Pradesh); Dollfuss, 2004a:126 (locality records from Indonesia: Java and Sumatra, Laos, Malaysia, Sri Lanka, Thailand); Gandhi Gracy, Srinivasa Murthy, and Venkatesan, 2019:72 (India: Karnataka; molecular analysis); Tessy, Sureshan, and Girish Kumar, 2020:154 (in key to Indian *Carinostigmus*), 158 (India: Goa, Karnataka, Kerala, Rajasthan, Sikkim, Tamil Nadu, Uttarakhand).

Stigmus niger de Motschoulsky, 1863:23, sex not stated. Holotype: ♀, Sri Lanka: "Montagnes de Nura-Ellia" = Nuwara Eliya area: no specific locality (ZMMU). Synonymized with *Stigmus congruus* by Kohl, 1885c:165, synonymy confirmed by Kohl, 1890a:63 and Krombein, 1984c:8. – Ramakrishna Aiyar, 1916:556 (reference to Green, 1903); Tsuneki, 1954a:4 (in key to Eurasian *Stigmus*), 8 (in revision of Eurasian *Stigmus*). Nec following authors (= *Carinostigmus clypeolus*): Bingham, 1896a:447, 1897:267, Green, 1903:69, 1908:99, Dutt, 1912:228.

11. *costatus* Krombein

Carinostigmus costatus Krombein, 1984c:15, ♀, ♂. Holotype: ♀, Sri Lanka: Western Province: Colombo District: Gampaha Botanical Garden (USNM). – Krombein, Norden, Rickson, and Rickson, 1999:22 (visitor in domatia of *Humboldtia laurifolia*); L. Ma, X.X. Chen, and Q. Li, 2012:476 (in key to *Carinostigmus* of China; redescription, first record from China: provinces of Guandong, Guanxi, Guizhou, and Yunnan); Gandhi Gracy, Srinivasa Murthy, and Venkatesan, 2019:72 (India: Karnataka; molecular analysis); Tessy, Sureshan, and Girish Kumar, 2020:153 (in key to Indian *Carinostigmus*), 158 (India: Goa, Karnataka, Kerala, Uttarakhand); Bashir, L. Ma, and Q. Li, 2020a:118, 119 (in key to *Carinostigmus* of China); Bashir, Q. Li, and L. Ma, 2021a:103, 104 (in updated key to *Carinostigmus* of China), 2021b:418 (on corrected distribution map); Barthélémy and Guénard, 2025:33 (China: Hong Kong).

12. *emirus* (Leclercq)

Stigmus emirus Leclercq, 1959a:45, ♀, ♂. Holotype: ♂, Zaire: Upemba National Park: Buye-Bala (MRAC). – Leclercq, 1959a:43 (in key to Afrotropical *Stigmus* subgenus *Carinostigmus*). – **As *Carinostigmus emirus***: R. Bohart and Menke, 1976:191 (new combination, in checklist of world Sphecidae).

13. *filippovi* (Gussakovskij)

Stigmus filippovi Gussakovskij, 1934b:83, ♀. Holotype: ♀, Japan: Honshu: Takao-san 60 km of [direction?] Tokyo (ZIL). – Iwata, 1938b:30 (nesting habits); Tsuneki, 1954a:4 (in key to Eurasian *Stigmus*), 12 (in revision of Eurasian *Stigmus*); Iwata, 1955:29 (egg size, number of oocytes), 1960:210 (number of ovarioles and oocytes, egg size); Itami, 1969:50 (Japan: Niigata Prefecture); Tsuneki, 1969e:26 (Japan: specimens in Osaka Museum of Natural History), 1970a:11 (nesting habits), 1970b:10 (Central Japan); Yamada, 1971:36 (Japan: Aichi Prefecture); Nambu, 1972e:90 (Japan: Saitama Prefecture); Tsuneki, 1972d:44 (in key to Japanese *Stigmus*); Nambu, 1973a:152 (Japan: Saitama Prefecture); Suda, 1973:122 (Japan: Yamanashi Prefecture); Nambu, 1975b:68 (Japan: Saitama Prefecture). – As *Carinostigmus filippovi*: R. Bohart and Menke, 1976:191 (new combination, in checklist of world Sphecidae); Tsuneki, 1979d:10 (Japan); Paik, 1985:198 (in list of Sphecidae of Korea); Budrys, 1987:53 (in key to *Carinostigmus* of USSR), 54 (in revision of *Carinostigmus* of Russian Far East; Russia: Khabarovsk and Maritime Provinces); Hoshiba and Imai, 1993:467 (chromosome number $n = 14$); Budrys in Nemkov, Kazenas, Budrys, et Antropov, 1995:405 (in key to Sphecidae of Russian Far East); Takahashi and Shiraishi, 1999:12 (Japan: Ehime Prefecture); Nozaka and T. Murota, 2003:44 (Japan: Asuwayama in City of Fukui); Ohl and Linde, 2003:149 (number of ovarioles); Dollfuss, 2004a:127 (locality records from China: Sichuan: Mount Emei); Haneda, Nosaka, Tano, Kurokawa, and T. Murota, 2004:31 (Japan: Gifu Prefecture); Suda, 2004:36 (Japan: Yamanashi Prefecture); Haneda, Inoue, Nozaka, Tano, Kurokawa, and H. and T. Murota, 2005:64 (Japan: Fukui Prefecture: Mount Monju); Haneda, Nozaka, Tano, Kurokawa, and T. Murota, 2005:45 (Japan: Gifu Prefecture); Negoro, Haneda, and Tano, 2005:45 (Japan: Toyama Prefecture); Haneda, Nozaka, Tano, Kurokawa and T. Murota, 2006a:20 (Japan: Toyama Prefecture); Hua, 2006:277 (in list of Chinese insects, geographic distribution); Ohkusa, 2006a:24 (Japan: Honshu: Gifu Prefecture); Nemkov, 2008b:19 (in catalog of Crabronidae of Asiatic Russia); Ohkusa and Tajima, 2008:74 (Japan: central Honshu: Aichi Prefecture); S. Takahashi and Haneda, 2008b:43 (Japan: Hokkaido: Sapporo); S. Tanaka, 2008:38 (Japan: Yamaguchi Prefecture); Nemkov, 2009b:71 (in new catalog of Sphecidae and Crabronidae of Asiatic Russia); J.-K. Kim and Yang, 2009:466 (in revision of Korean Stigmina), 2010:146 (in checklist of Korean Pemphredoninae); Ohkusa and Tajima, 2010:12 (Japan: Honshu: Shiga Prefecture); L. Ma, X.X. Chen, and Q. Li, 2012:476 (in key to *Carinostigmus* of China), 479 (in China known from Sichuan: Mount Emei); Nemkov, 2012c:436 (in catalog of Crabronidae of Russian Far East); Terayama, 2012:9 (in key to Pemphredonini of Japan), 18 (description), 20 (in checklist of Pemphredonini of Japan); 12 J.-K. Kim, 2014:443 (in catalog of Sphecidae s.l. of Korean Peninsula); Ohkusa, 2014a:31 (Japan: city of Toyota: Sizen-Kansatsu-no-Mori); Mokrousov, 2017e:247 (in catalog of Pemphredoninae of Russia); Bashir, L. Ma, and Q. Li, 2020a:119, 120 (in key to *Carinostigmus* of China); Bashir, Q. Li, and L. Ma, 2021a:104, 105 (in updated key to *Carinostigmus* of China), 2021b:418 (on corrected distribution map).

14. *formosanus* (Tsuneki)

Stigmus formosanus Tsuneki, 1954a:19, ♀, ♂. Holotype: ♀, Taiwan: Nantou Prefecture: Raisha, now Sungkang (Hokkaido Univ.). – Tsuneki, 1954a:4 (in key to Eurasian *Stigmus*); Haneda, 1971b:31 (Taiwan); Tsuneki, 1971j:5 (Taiwan), 1977j:280 (Taiwan: Mount Hoozan, Taihorin). – As *Carinostigmus formosanus*: R. Bohart and Menke, 1976:191 (new combination, in checklist of world Sphecidae); Porter, Stange, and Wang, 1999:7 (in checklist of Sphecidae of Taiwan); Hua, 2006:277 (in list of Chinese insects, geographic distribution); L. Ma, X.X. Chen, and Q. Li, 2012:476 (in key to *Carinostigmus* of China), 479 (known from Taiwan only); Bashir, L. Ma, and Q. Li, 2020a:118, 120 (in key to *Carinostigmus* of China); Bashir, Q. Li, and L. Ma, 2021b:103, 105 (in updated key to *Carinostigmus* of China), 2021b:418 (on corrected distribution map).

Stigmus taiwanensis Tsuneki, 1966c:15, ♀. Holotype: ♀, Taiwan: Nantou Hsien: Sungkang (Kyushu Univ.). Synonymized with *Stigmus formosanus* by Tsuneki, 1971j:5. – Tsuneki, 1967f:9 (Taiwan), 1968d:56 (Taiwan).

15. frontirugatus Bashir and L. Ma

Carinostigmus frontirugatus Bashir and L. Ma in Bashir, L. Ma, and Q. Li, 2020a:121, ♀. Holotype: ♀, China: Guizhou: Dabanshui Forest Park at 26°32'N 106°45'E (Yunnan Agricultural University, Kunming, Yunnan, China). Paratypes: China: Yunnan. – Bashir, L. Ma, and Q. Li, 2020a:118 (in key to *Carinostigmus* of China); Bashir, Q. Li, and L. Ma, 2021a:103 (in updated key to *Carinostigmus* of China).

16. griphus Krombein

Carinostigmus griphus Krombein, 1984c:13, ♀, ♂. Holotype: ♂: Sri Lanka: Southern Province: Galle District: Kaneliya Section: Sinharaja Jungle (USNM). – Gandhi Gracy, Srinivasa Murthy, and Venkatesan, 2019:72 (first record from India: Karnataka; molecular analysis); Tessa, Sureshan, and Girish Kumar, 2020:154 (in key to Indian *Carinostigmus*), 163 (India: Kerala, Rajasthan).

17. gueinzius (R. Turner)

Stigmus gueinzius R. Turner, 1912c:411, ♀. Syntypes: ♀, South Africa: KwaZulu-Natal: Durban (BMNH). – Arnold, 1923c:55 (original description copied), 1930:9 (in checklist of Afrotropical Sphecidae), 1944:27 (description of ♂, Zimbabwe); Tsuneki, 1954a:4 (in key to Eurasian *Stigmus*), 15 (original description copied); Leclercq, 1955i:424 (Rwanda, comparison with *Carinostigmus rugosifrons*), 1959a:43 (in key to Afrotropical *Stigmus* subgenus *Carinostigmus*), 47 (bibliographic references, locality records from Zaire, Zimbabwe, and South Africa). – **As *Carinostigmus gueinzius***: R. Bohart and Menke, 1976:191 (new combination, in checklist of world Sphecidae); Rodgers and Homewood, 1982:233 (Tanzania: Usambara Mountains); Simon Thomas and Wiering, 1993:404 (Cape Verde Islands: Santiago Island; Ivory Coast); Dollfuss, 2004a:127 (Kenya: Wundanyi).

Stigmus rugosifrons Arnold, 1923c:56, ♀. Holotype: ♀, Zimbabwe: Bulawayo (SAM). Synonymized with *Stigmus gueinzius* by Leclercq, 1959a:47. – Arnold, 1924:41 (description of ♂), 1930:9 (in checklist of Afrotropical Sphecidae); Leclercq, 1955i:424 (comparison with *Carinostigmus gueinzius*).

18. guillarmodi (Arnold)

Stigmus guillarmodi Arnold, 1955:760, ♀, ♂. Syntypes: Lesotho: Mamathes (SAM). – Leclercq, 1959a:40 (in key to Afrotropical *Stigmus* subgenus *Carinostigmus*), 44 (bibliographic references). – **As *Carinostigmus guillarmodi***: R. Bohart and Menke, 1976:191 (new combination, in checklist of world Sphecidae).

19. harudus (Leclercq)

Stigmus harudus Leclercq, 1961b:61, ♀, ♂. Holotype: ♂, Zaire: Garamba National Park (MRAC). – **As *Carinostigmus harudus***: R. Bohart and Menke, 1976:191 (new combination, in checklist of world Sphecidae).

20. hispanicus Mingo and Gayubo

Carinostigmus hispanicus Mingo and Gayubo, 1985:206, ♀. Holotype: ♀, Spain: Madrid: Villaviciosa de Odón (Museo Nacional de Ciencias Naturales, Madrid). – Dollfuss and Bitsch in Bitsch et al., 2001:112 (in Sphecid Fauna of Western Europe); Martín Albaladeo and Izquierdo Moya, 2006:122 (type in Museo Nacional de Ciencias Naturales); Dollfuss, K. Schmidt, and Bitsch in Bitsch, Antropov, Bouček, Dollfuss, Fernández Gayubo, and K. Schmidt, 2022:147 (in revision of Sphecidae *sensu lato* of Europe).

21. iwatai (Tsuneki)

Stigmus iwatai Tsuneki, 1954a:15, ♀, ♂. Holotype: ♀, China: Hainan Island: Tonfan-sun (originally K. Tsuneki coll., now Hyogo Mus.). – Tsuneki, 1954a:5 (in key to Eurasian *Stigmus*); Iwata and Yoshikawa, 1961:399 (Thailand); Tsuneki, 1967f:9 (Taiwan); Haneda, 1971b:31 (Taiwan), 1972a:5 (Taiwan); Murota, 1973b:117 (Taiwan); Tsuneki, 1974b:641 (Thailand, Malaysia; additional description), 1977j:280 (Taiwan: Taihorinsho); Tano, 1995:43 (holotype in K. Tsuneki collection); Hashimoto and Nakanishi, 1997:235 (holotype and allotype transferred to Hyogo Mus.). – **As *Carinostigmus iwatai***: R. Bohart and Menke, 1976:191 (new combination, in checklist of world Sphecidae); Tsuneki, Nozaka, Tano, Kurokawa, and Murota, 1992b:12 (additional description); Porter, Stange, and Wang,

1999:7 (in checklist of Sphecidae of Taiwan); Hua, 2006:277 (in list of Chinese insects, geographic distribution); L. Ma, X.X. Chen, and Q. Li, 2012:476 (in key to *Carinostigmus* of China), 479 (in China known from the provinces of Fujian, Guangdong, Guangxi, Guizhou, Hainan, Shaanxi, Taiwan, Yunnan, and Zhejiang); L. Ma, Q. Li, Wang, Jiang, and Lu, 2018:836 (China: Shanxi: Qinling Mountains); Bashir, L. Ma, and Q. Li, 2020a:118, 120 (in key to *Carinostigmus* of China); Bashir, Q. Li, and L. Ma, 2021a:103, 105 (in updated key to *Carinostigmus* of China), 2021b:418 (on corrected distribution map).

Stigmus thailandinus Tsuneki, 1963c:17. Holotype: ♀, Thailand: Muangfang (Sasayama). Synonymized with *Stigmus iwatai* by Tsuneki, 1974b:641. – **As *Carinostigmus thailandinus***: R. Bohart and Menke, 1976:191 (new combination, in checklist of world Sphecidae), 628 (is a synonym of *Carinostigmus iwatai*).

As *Stigmus monstrosus*: Iwata, 1964b:376 (nesting habits in Thailand), corrected to *Stigmus iwatai* by Tsuneki, 1974b:641; Melo, 2000:91 (use of nest by more than one female).

22. *johannis* (Arnold)

Stigmus rugosifrons race *johannis* Arnold, 1924:119, ♀, ♂. Syntypes: South Africa: Eastern Cape Province: Pondoland: Port Saint Johns (BMNH). – Arnold, 1930:9 (in checklist of Afrotropical Sphecidae). – **As *Stigmus johannis***: Leclercq, 1959a:44 (new status, in key to Afrotropical *Stigmus* subgenus *Carinostigmus*), 48 (new status, bibliographic references, variation, locality records from Zaire and South Africa), 1961b:64 (Zaire: Garamba National Park), 1962a:394 (Tanzania: Mount Kilimanjaro). – **As *Carinostigmus johannis***: R. Bohart and Menke, 1976:191 (new combination, in checklist of world Sphecidae); Rodgers and Homewood, 1982:233 (Tanzania: Usambara Mountains); Dollfuss, 2004a:127 (Benin: Zangnando at Ouené River; Kenya: Wundanyi).

ssp. hybridus (Leclercq)

Stigmus johannis var. *hybridus* Leclercq, 1959a:49, ♀. Holotype: ♀, Zaire: Upemba National Park (MRAC). Paratype: South Africa: Cape Province. – Leclercq, 1959a:44 (in key to Afrotropical *Stigmus* subgenus *Carinostigmus*). – **As *Stigmus johannis hybridus***: R. Bohart and Menke, 1976:191 (new status, new combination, in checklist of world Sphecidae).

23. *kaihuanus* Q. Li and Yang

Carinostigmus kaihuanus Q. Li and Yang, 1995c:271, ♀. Holotype: ♀, China: Zhejiang Province: Kaihua County: Mount Gutian at 29°03'N 118°02' (Beijing Agricult. Univ.). – Li and He, 2004:1106 (China: in hymenopterous fauna of Zhejiang Province), L. Ma, X.X. Chen, and Q. Li, 2012:476 (in key to *Carinostigmus* of China), 479 (in China known from the provinces of Fujian, Guangdong, Guangxi, Guizhou, Hainan, Henan, Hunan, Shaanxi, Sichuan, Yunnan, and Zhejiang); L. Ma, Q. Li, Wang, Jiang, and Lu, 2018:836 (China: Shanxi: Qinling Mountains); Bashir, L. Ma, and Q. Li, 2020a:119, 120 (in key to *Carinostigmus* of China); Bashir, Q. Li, and L. Ma, 2021a:104, 105 (in updated key to *Carinostigmus* of China), 2021b:418 (on corrected distribution map).

24. *latidentatus* Bashir and L. Ma

Carinostigmus latidentatus Bashir and L. Ma, 2020a:124, ♀, ♂. Holotype: ♀, China: Yunnan: Jinghong: Menghai: Bulang Mountain at 21°56'N 100°26'E (Yunnan Agricultural University, Kunming, Yunnan, China). Paratypes: China: Fujian, Hainan. – Bashir, L. Ma, and Q. Li, 2020a:119, 120 (in key to *Carinostigmus* of China); Bashir, Q. Li, and L. Ma, 2021a:104, 105 (in updated key to *Carinostigmus* of China), 2021b:418 (on corrected distribution map).

25. *levifrons* (Arnold)

Stigmus levifrons Arnold, 1947:157, ♂. Syntypes: Zimbabwe: Hot Springs and Mutambara (SAM). – Leclercq, 1955i:423 (Rwanda, variation), 1959a:43 (in key to Afrotropical *Stigmus* subgenus *Carinostigmus*), 45 (bibliographic references, description of ♀, locality records), 1961b:64 (Zaire: Garamba National Park); Hancock, Chahwanda, and Mhlanga, 1995:39 (paratype in Bulawayo Museum). – **As *Carinostigmus levifrons***: R. Bohart and Menke, 1976:191 (new combination, in checklist of world Sphecidae); Dollfuss, 2004a:127 (Benin: 15 km southeast of

Savé; Kenya: Voi; Namibia: Rundu; South Africa: Kwazulu Natal: 17 km southeast of Richmond); Gadallah, Edmardash, Abu El-Ghiet, Al-Fifi, 2024:564 (first record from Saudi Arabia: Jazan Province: Fifa Mountain: Almu-khafih Farm at 17°16'07"N 43°07'32.3"E); Gadallah and Abu El-Ghiet, 2024:89 (Saudi Arabia: Jazan Province: Fayfa).

26. *longivertex* Bashir and L. Ma

Carinostigmus longivertex Bashir and L. Ma in Bashir, Q. Li, and L. Ma, 2021a:92, ♀. Holotype: ♀, China: Yunnan Province: Mengla: Wangtianshu Forest Park at 21°34'N 101°39'E (Yunnan Agricultural University, Kunming, Yunnan, China). – Bashir, Q. Li, and L. Ma, 2021a:103 (in updated key to *Carinostigmus* of China), 2021b:418 (on corrected distribution map).

27. *luzonensis* Tsuneki

Carinostigmus luzonensis Tsuneki in Tsuneki, Nozaka, Tano, Kurokawa, and Murota, 1992b:8, ♀. Holotype: ♀, Philippines: Luzon: Laguna Province: Los Baños (USNM). – Tsuneki, Nozaka, Tano, Kurokawa, and Murota, 1992b:14 (in key to *Carinostigmus* of Philippines); Nuhn and Menke, 1994:26 (holotype in USNM).

28. *maior* (Maidl)

Stigma maior Maidl, 1925a:377, ♀, ♂. Syntypes: Indonesia: Sumatra: no specific locality (NHMW). – Tsuneki, 1954a:4 (in key to Eurasian *Stigma*; as *major*), 11 (in revision of Eurasian *Stigma*; as *major*), 1974b:640 (Thailand, Malaysia; as *major*). – **As *Carinostigmus maior***: R. Bohart and Menke, 1976:191 (new combination, in checklist of world Sphecidae), 629 (Tsuneki's spelling *major* is an emendation); Dollfuss, 2004a:127 (locality records from Borneo, Laos, Malaysia, Sumatra, Thailand); L. Ma, X.X. Chen, and Q. Li, 2012:476 (in key to *Carinostigmus* of China), 479 (first record from China: Yunnan: three localities); Bashir, L. Ma, and Q. Li, 2020a:118, 119 (in key to *Carinostigmus* of China); Bashir, Q. Li, and L. Ma, 2021a:103, 104 (in updated key to *Carinostigmus* of China), 2021b:418 (on corrected distribution map).

Stigma monstrosus Tsuneki, 1963c:16, ♂. Holotype: ♂, Thailand: Muangfang (Sasayama). Synonymized with *Stigma maior* by Tsuneki, 1974b:640. – nec Iwata, 1964b:376 (= *Carinostigmus iwatai*). – **As *Carinostigmus monstrosus***: R. Bohart and Menke, 1976:191 (new combination, in checklist of world Sphecidae), 628 (is a synonym of *Carinostigmus maior*).

29. *marocensis* (Tsuneki)

Stigma marocensis Tsuneki, 1956i:263, ♀. Holotype: ♀, Morocco: Agadir (RMNH). – **As *Carinostigmus marocensis***: R. Bohart and Menke, 1976:191 (new combination, in checklist of world Sphecidae).

30. *nepalensis* Tessy, Sureshan, and Girish Kumar

Carinostigmus nepalensis Tessy, Sureshan, and Girish Kumar, 2020:156, ♀. Holotype: ♀, Nepal: Bagmati Pradesh: Kathmandu District: Kirtipur at 27°39'46.8"N 85°16'38.64" (National Zoological Collections, Zoological Survey of India, Western Ghat Regional Centre, Kozhikode, India). – Tessy, Sureshan, and Girish Kumar, 2020:154 (in key to Indian *Carinostigmus*).

31. *nozakai* Tsuneki

Carinostigmus nozakai Tsuneki, 1977c:14, ♂. Holotype: ♂, Taiwan: Nantou Prefecture: Pempuchi (originally K. Tsuneki coll., now Hyogo Mus.). – Tano, 1995:43 (holotype in K. Tsuneki collection); Hashimoto and Nakaniishi, 1997:24 (holotype transferred to Hyogo Mus.); Hua, 2006:277 (in list of Chinese insects, geographic distribution); L. Ma, X.X. Chen, and Q. Li, 2012:476 (in key to *Carinostigmus* of China), 479 (known from Taiwan); Bashir, L. Ma, and Q. Li, 2020a:120 (in key to *Carinostigmus* of China); Bashir, Q. Li, and L. Ma, 2021a:106 (in updated key to *Carinostigmus* of China), 2021b:418 (on corrected distribution map).

32. nubilipennis (Arnold)

Stigmus nubilipennis Arnold, 1945:149, ♀, ♂. Syntypes: Madagascar: Ambositra, Bekily, Ivondro, Ranomafana (MNHN). – Arnold, 1945:149 (in key to *Stigmus* of Madagascar). – **As *Carinostigmus nubilipennis***: R. Bohart and Menke, 1976:191 (new combination, in checklist of world Sphecidae); Pulawski, 2003b:798 (in checklist of Malagasy Sphecidae); Madl, 2014a:993 (in catalog of Ampulicidae, Crabronidae, and Sphecidae of Madagascar, with synonymy and locality records).

33. palawanensis (Tsuneki)

Stigmus palawanensis Tsuneki, 1976b:97, ♀, ♂. Holotype: ♀, Philippines: Palawan: Pinigisan (ZMUC). – **As *Carinostigmus palawanensis***: Tsuneki, Nozaka, Tano, Kurokawa, and Murota, 1992b:6 (new combination, Philippines, variation), 13, 14 (in key to *Carinostigmus* of Philippines); Haneda, 2011:44 (Philippines: Palawan); Bashir, L. Ma, and Q. Li, 2020a:118 (in key to *Carinostigmus* of China), 132 (first record from China: Yunnan: Xishuangbanna: Mengla: Shangyong: Longmen Village at 21°16'N 101°32'E; redescription); Bashir, Q. Li, and L. Ma, 2021a:103 (in updated key to *Carinostigmus* of China), 2021b:418 (on corrected distribution map).

34. parliensis Tessy, Sureshan, and Girish Kumar

Carinostigmus parliensis Tessy, Sureshan, and Girish Kumar, 2020:154, ♀. Holotype: ♀, India: Maharashtra: Satara District: Parli at 18°50'43.08"N 76°31'11.28"E (National Zoological Collections, Zoological Survey of India, Western Ghat Regional Centre, Kozhikode, India). Paratype: India: Uttarakhand. – Tessy, Sureshan, and Girish Kumar, 2020:153 (in key to Indian *Carinostigmus*).

35. pseudoscutus (Leclercq)

Stigmus pseudoscutus Leclercq, 1959a:46, ♀. Holotype: ♀, Zaire: Kivu du Nord: Ruthshuru (Inst. Roy. Sci. Nat. Belgique). – Leclercq, 1959a:43 (in key to Afrotropical *Stigmus* subgenus *Carinostigmus*). – **As *Carinostigmus pseudoscutus***: R. Bohart and Menke, 1976:191 (new combination, in checklist of world Sphecidae).

36. rugipunctatus Bashir and L. Ma

Carinostigmus rugipunctatus Bashir and L. Ma in Bashir, Q. Li, and L. Ma, 2021a:95, ♀, ♂. Holotype: ♀, China: Yunnan Province: Jinghong: Xishuangbanna National Forest Park at 22°01'N 100°52'E (Yunnan Agricultural University, Kunming, Yunnan, China). – Bashir, Q. Li, and L. Ma, 2021a:103, 105 (in updated key to *Carinostigmus* of China), 2021b:418 (on corrected distribution map).

37. saigusai (Tsuneki)

Stigmus saigusai Tsuneki, 1966c:17, ♀ (as ♂). Holotype: ♀, Taiwan: Chiayi Hsien: Chihsinliao (Kyushu Univ.). – Tsuneki, 1967f:9 (Taiwan), 11 (Taiwan; ♀ described, not ♂); Tsuneki, 1968d:56 (Taiwan). – **As *Carinostigmus saigusai***: R. Bohart and Menke, 1976:191 (new combination, in checklist of world Sphecidae); Porter, Stange, and Wang, 1999:7 (in checklist of Sphecidae of Taiwan, as *saigusei*); Hua, 2006:277 (in list of Chinese insects, geographic distribution); L. Ma, X.X. Chen, and Q. Li, 2012:476 (in key to *Carinostigmus* of China), 479 (in China known from Taiwan and Yunnan provinces); Bashir, L. Ma, and Q. Li, 2020a:119 (in key to *Carinostigmus* of China); Bashir, Q. Li, and L. Ma, 2021a:104 (in updated key to *Carinostigmus* of China), 2021b:418 (on corrected distribution map).

38. sungconis Tsuneki

Carinostigmus sungconis Tsuneki in Tsuneki, Nozaka, Tano, Kurokawa, and Murota, 1992b:9, ♀. Holotype: ♀, Philippines: Mindanao: Bukidnon, Sungeo (USNM). – Tsuneki, Nozaka, Tano, Kurokawa, and Murota, 1992b:14 (in key to *Carinostigmus* of Philippines); Nuhn and Menke, 1994:26 (holotype in USNM).

39. tanoi Tsuneki

Carinostigmus tanoi Tsuneki, 1977c:15, ♂. Holotype: ♂, Taiwan: Nantou Prefecture: Pempuchi (originally K. Tsuneki coll., now Hyogo Mus.). – Tano, 1995:43 (holotype in K. Tsuneki collection); Hashimoto and Nakanishi, 1997:24

(holotype transferred to Hyogo Mus.); Hua, 2006:277 (in list of Chinese insects, geographic distribution); L. Ma, X.X. Chen, and Q. Li, 2012:476 (in key to *Carinostigmus* of China), 480 (in China known from the provinces of Fujian, Guandong, Guizhou, Shaanxi, Sichuan, Taiwan, Yunnan, and Zhejiang); L. Ma, Q. Bashir, L. Ma, and Q. Li, 2020a:120 (in key to *Carinostigmus* of China); Bashir, Q. Li, and L. Ma, 2021a:104, 106 (in updated key to *Carinostigmus* of China), 2021b:418 (on corrected distribution map).

40. *tawitawiensis* (Tsuneki)

Stigmus tawitawiensis Tsuneki, 1976b:100, ♀. Holotype: ♀, Philippines: Tawi Tawi: Tarawakan (ZMUC). – **As *Carinostigmus tawitawiensis***: Tsuneki, 1984b:48 (new combination, Philippines; taxonomic comments); Tsuneki, Nozaka, Tano, Kurokawa, and Murota, 1992b:6 (Philippines, additional description), 14 (in key to *Carinostigmus* of Philippines).

41. *tenellus* (Arnold)

Stigmus tenellus Arnold, 1945:151, ♀, ♂. Syntypes: Madagascar: Bekily (MNHN). – Arnold, 1945:149 (in key to *Stigmus* of Madagascar). – **As *Carinostigmus tenellus***: R. Bohart and Menke, 1976:191 (new combination, in checklist of world Sphecidae); Madl, 2014a:994 (in catalog of Ampulicidae, Crabronidae, and Sphecidae of Madagascar, with synonymy and locality records).

42. *triangularis* Bashir and L. Ma

Carinostigmus triangularis Bashir and L. Ma in Bashir, Q. Li, and L. Ma, 2021a:99, ♀. Holotype: ♀, China: Yunnan Province: Jinghong: Menghai: Bulang Mountain at 21°56'N 100°26'E (Yunnan Agricultural University, Kunming, Yunnan, China). – Bashir, Q. Li, and L. Ma, 2021a:103 (in updated key to *Carinostigmus* of China), 2021b:418 (on corrected distribution map).

43. *ugandicus* (Leclercq)

Stigmus ugandicus Leclercq, 1959a:44, ♀. Holotype: ♀, Uganda: Ruwenzori Range: Namwamba Valley (BMNH). – Leclercq, 1959a:41 (in key to Afrotropical *Stigmus* subgenus *Carinostigmus*). – **As *Carinostigmus ugandicus***: R. Bohart and Menke, 1976:191 (new combination, in checklist of world Sphecidae); Dollfuss, 2004a:128 (Uganda: Kasese: Kilembe east of Ruwenzori).

44. *vesulcatus* Bashir and L. Ma

Carinostigmus vesulcatus Bashir and L. Ma, 2020a:127, ♀, ♂. Holotype: ♀, China: Yunnan: Jinghong: Menghai: Bulang Mountain at 21°57'N 100°27'E (Yunnan Agricultural University, Kunming, Yunnan, China). – Bashir, L. Ma, and Q. Li, 2020a:119, 120 (in key to *Carinostigmus* of China); Bashir, Q. Li, and L. Ma, 2021a:104, 107 (in updated key to *Carinostigmus* of China), 2021b:418 (on corrected distribution map).

sp.

Rodgers and Homewood, 1982:233 (Tanzania: Usambara Mountains); Sk. Yamane, 1983:85 (Indonesia: Krakatau Islands); Mingo and Gayubo, 1984:113 (Spain); Dollfuss, 2004a:128 (Borneo, Thailand).

SPECIES DESCRIBED IN *CARINOSTIGMUS* AND TRANSFERRED TO *TZUSTIGMUS*

rhinocerus Budrys, 1987 = *Tzustigmus*