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Chinese species of the genus *Tricondyla* Latreille, 1822
(Coleoptera: Cicindelidae) and a new record for the country

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Chinese species of the genus *Tricondyla* Latreille, 1822 (Coleoptera: Cicindelidae) and a new record for the country

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Abstract. *Tricondyla wiesneri* Naviaux, 2002 (Coleoptera: Cicindelidae) is reported from China for the first time. Photographs, short descriptions, and an identification key for all six taxa of the genus *Tricondyla* Latreille, 1822 known from China are given.

Key words. *Tricondyla wiesneri* Naviaux, 2002, Yunnan, China.

ZooBank registration. urn:lsid:zoobank.org:pub:E6D1CE86-8AC8-4934-9D1B-7EE385D25309

Introduction

The first author recently received several specimens of *Tricondyla wiesneri* Naviaux, 2002 that had been collected in Yingjiang County, Dehong Dai and Jingpo Autonomous Prefecture, Yunnan Province, China. The second author compared them with the type specimens and confirmed the identification. The species was originally described from Laos, Louang Namtha province (Naviaux 2002: 48), later reported from Vietnam, Dien Bien province (Wiesner 2022: 191), and now for the first time from China, Yunnan province. According to Wu (2011: 31) and Wiesner (2020: 37) five taxa of the genus *Tricondyla* Latreille, 1822 were known from China. With this new record the number is increased to six, and photographs, short descriptions, and an identification key of these species are provided herein.

Materials and Methods

The photographs of habitus and anatomical details were taken using a Canon EOS 700D in conjunction with a DIY 40 mm macro lens. Pixel X650c was used as the light source. Helicon Focus 7 was used for image stacking. Aedeagus photographs were taken using a Leica S6E microscope with a Xiaomi camera. All photographs were processed using Adobe Photoshop CS6. Specimens representing new country records are deposited in the personal collection of the first author.

Taxonomy

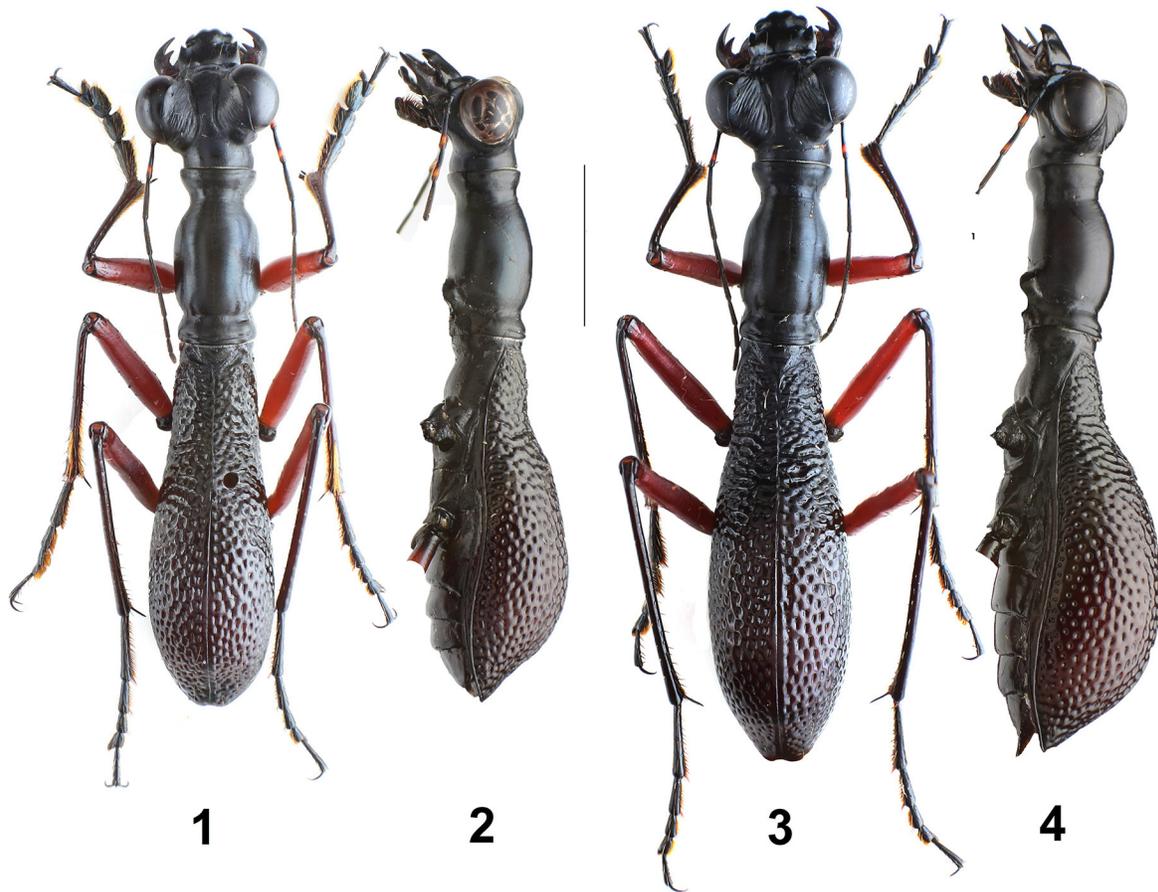
1. *Tricondyla wiesneri* Naviaux, 2002

(Fig. 1–4, 23, 24)

威斯纳缺翅虎甲 wēi sī nà quē chì hǔ jiǎ

Listings. Naviaux 2002: 48, Wiesner and Geiser 2016: 64, Wiesner 2020: 38, 2022: 191.

New record. 1 ♂, 1 ♀, Xima Town, Yingjiang County, Dehong Dai and Jingpo autonomous prefecture, Yunnan province, China, N24.7297594°, E97.68064499°, 2023-IV-15, leg. Weizong Yang, in coll. of the first author.



Figures 1–4. *Tricondyla wiesneri* Naviaux, 2002, scale = 5 mm. 1) Dorsal view, male. 2) Left lateral view, male. 3) Dorsal view, female. 4) Left lateral view, female.

Diagnosis. Habitus rather large, elongated, shiny black; resembles *T. ovaligrossa* Horn, 1922 but larger; also resembles *T. tuberculata* Chaudoir, 1860 but more robust with less elongated pronotum and with posterior elytra wider; aedeagus long and obviously curved in distal part.

Distribution. China (Yunnan), Vietnam, Laos.

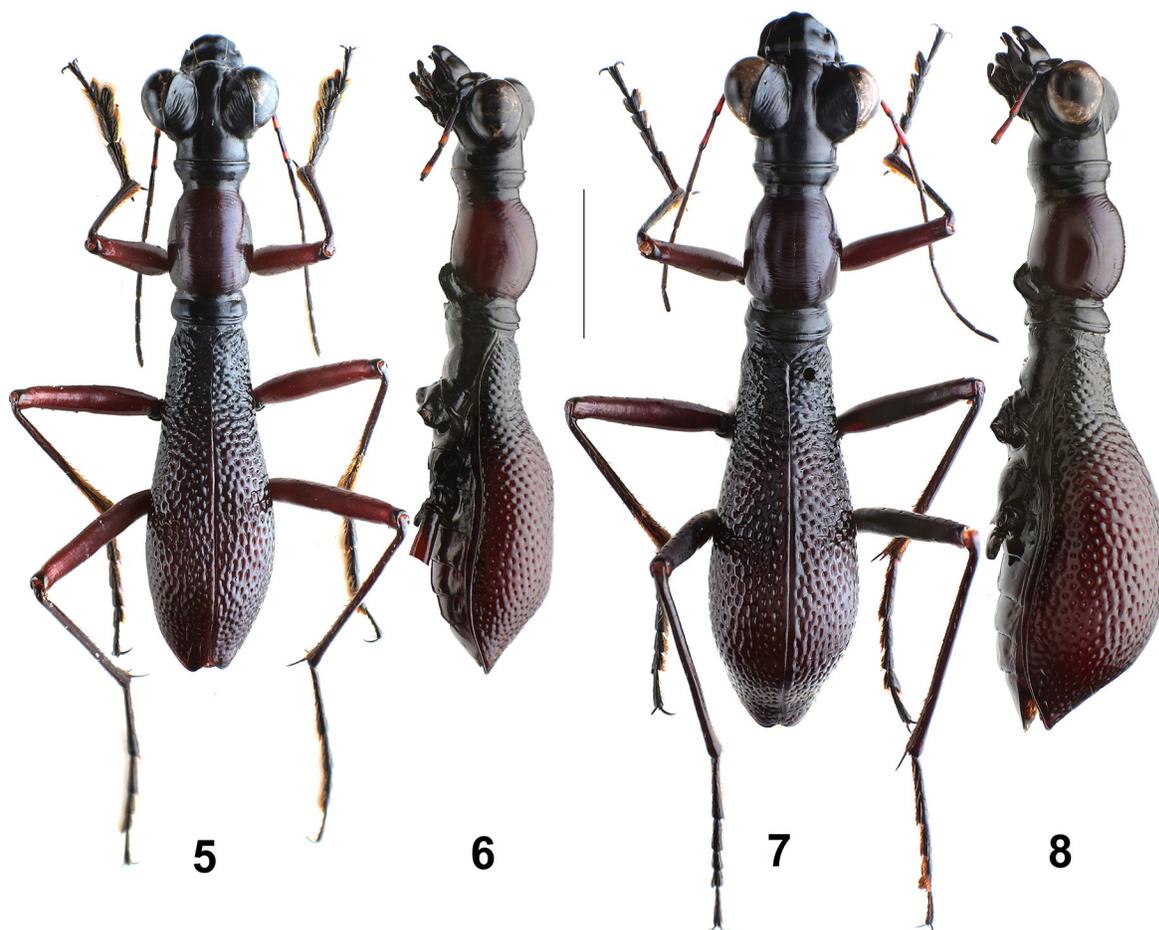
2. *Tricondyla mellyi* Chaudoir, 1850

(Fig. 5–8, 25, 26)

短胸缺翅虎甲 duǎn xiōng quē chì hǔ jiǎ

Listings. Wiesner 1992: 19, Naviaux 2002: 49, Putschkov and Matalin 2003: 118, Naviaux and Pinratana 2004: 28, Sawada and Wiesner 2004: 272, 2006: 455, Shook and Wiesner 2006: 21, Shook and Wu 2007: 92, Wu and Shook 2007: 39, 2010: 89, Wu 2011: 31, Wiesner and Geiser 2016: 64, Putschkov and Matalin 2017: 249, Wiesner et al. 2017: 8, Wiesner 2020: 38.

Diagnosis. Habitus large, robust; dull black or partially brownish; head broad with the temples rather abruptly shaped; interocular cavity moderately deep but wide with the bottom very convex towards the frons; pronotum rather long, the ratio length to width variable from 1.9 to 2.1, the medial lobe oval-shaped, slightly narrowed in front, strongly inflated from lateral view, striated throughout; elytra regularly widened without obvious lateral



Figures 5–8. *Tricondyla mellyi* Chaudoir, 1850, scale = 5 mm. 5) Dorsal view, male. 6) Left lateral view, male. 7) Dorsal view, female. 8) Left lateral view, female.

constriction, gibbose; sculpture strong, granular and transverse near the base, behind with regularly arranged polygonal pits.

Distribution. China (Guangxi, Xizang, Yunnan), Laos, Vietnam, Thailand, Myanmar.

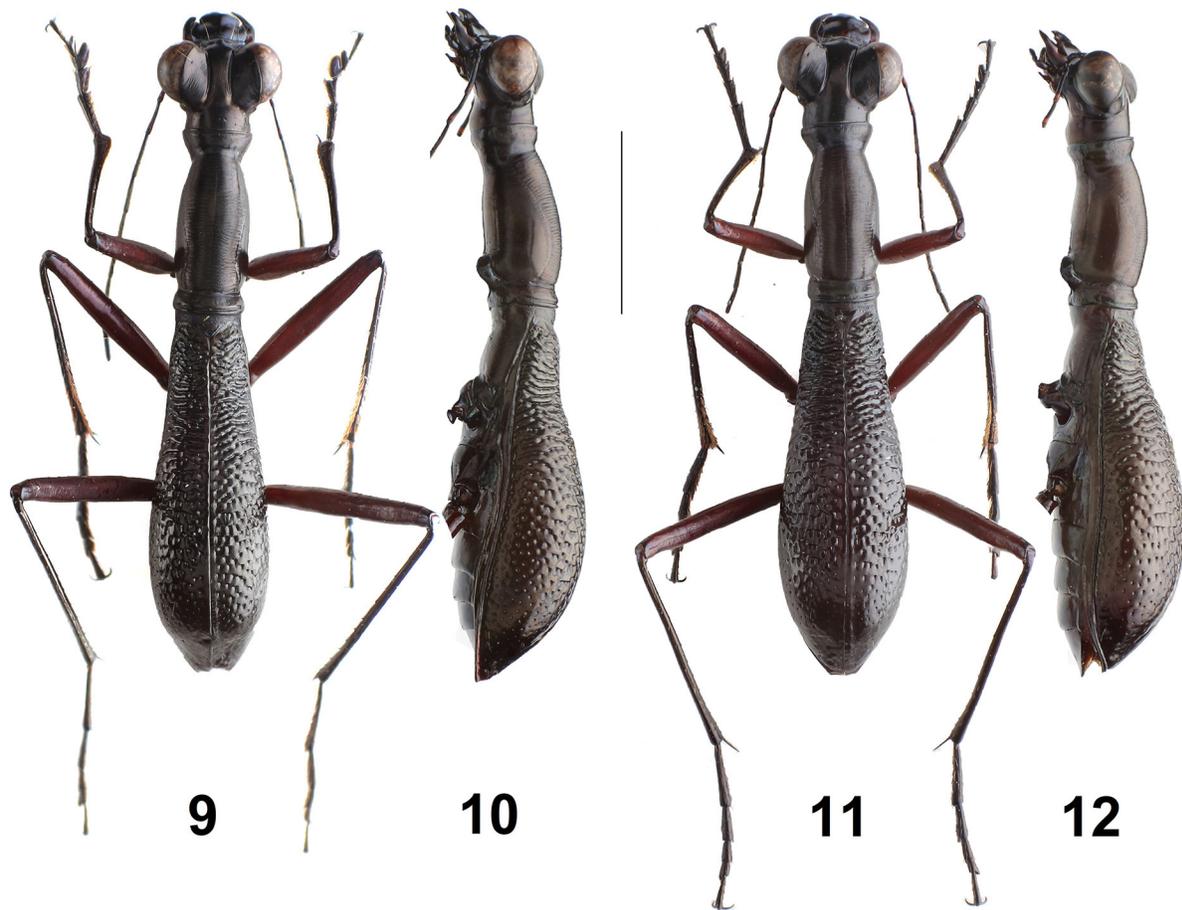
3. *Tricondyla pulchripes* White, 1844

(Fig. 9–12, 27, 28)

长胸缺翅虎甲 chǎng xiōng quē chì hǔ jiǎ

Listings. Wiesner 1992: 19, Naviaux 2002: 36, Putschkov and Matalin 2003: 119, Sawada and Wiesner 2004: 272, 2006: 455, Shook and Wiesner 2006: 21, Shook and Wu 2007: 93, Wu and Shook 2007: 39, 2010: 89, Wu 2011: 32, Aston 2016: 213, Wiesner and Geiser 2016: 62, Putschkov and Matalin 2017: 249, Wiesner et al. 2017: 5, Wiesner 2020: 37.

Diagnosis. Habitus medium in size, very elongated; black with shiny appearance; head rather small, short, temples oblique; interocular cavity not deep, the two longitudinal grooves clearly impressed; pronotum very long, subparallel-sided, distinctly striated, barely convex in lateral view; elytra regularly but feebly widened, poorly gibbose; sculpture formed by large pits arranged in transversal rows; aedeagus thick at base, gradually thinner towards apex.



Figures 9–12. *Tricondyla pulchripes* White, 1844, scale = 5 mm. **9)** Dorsal view, male. **10)** Left lateral view, male. **11)** Dorsal view, female. **12)** Left lateral view, female.

Distribution. China (Fujian, Guangdong, Guangxi, Hainan, Hong Kong, Yunnan), Vietnam, Laos, Cambodia.

4. *Tricondyla stricticeps* Chaudoir, 1864

(Fig. 13, 14, 29, 30)

窄头缺翅虎甲 zhǎi tóu quē chì hǔ jiǎ

Listings. Wiesner 1992: 19, Naviaux 2002: 37, Putschkov and Matalin 2003: 118, Naviaux and Pinratana 2004: 26, Shook and Wiesner 2006: 21, Wu and Shook 2010: 89, Wu 2011: 32, Aston 2016: 214, Wiesner and Geiser 2016: 62, Putschkov and Matalin 2017: 249, Wiesner et al. 2017: 5, Wiesner 2020: 37.

Diagnosis. Black, moderately elongated; head medium in size, very short with the temples particularly abrupt in shape and strongly humped; labrum small; mandibles short; pronotum long, smooth; medial lobe oval-shaped, the collum gradually rounded, very convex from lateral view; notopleural sutures obviously marked; elytra narrow near the base, obviously widened posteriorly, the maximum placed at $\frac{3}{4}$ of the length; gibbosity strongly marked; sculpture deep and granular in the basal quarter, arranged in short wrinkles in the second quarter, reduced to decreasing independent pits towards the apex; aedeagus thin, regularly curved.

Distribution. China (?Hong Kong), Vietnam, Laos, Cambodia, Thailand.



Figures 13–14. *Tricondyla stricticeps* Chaudoir, 1864, scale = 5 mm. 13) Dorsal view, male. 14) Left lateral view, male.

5. *Tricondyla gestroi scabra* Fleutiaux, 1920

(Fig. 15–18, 31, 32)

格斯特缺翅虎甲糙翅亚种 gé sī tè quē chì hǔ jiǎ cāo chì yà zhǒng

Listings. Wiesner 1992: 19, Naviaux 2002: 47, Putschkov and Matalin 2003: 118, Naviaux and Pinratana 2004: 26, Sawada and Wiesner 2004: 272, 2006: 455, Shook and Wiesner 2006: 21, Shook and Wu 2007: 39, Wu and Shook 2007: 90, 2010: 89, Wu 2011: 31, Wiesner and Geiser 2016: 63, Putschkov and Matalin 2017: 249, Wiesner et al. 2017: 7, Wiesner 2020: 38.

Diagnosis. Distinguished from the nominative form primarily by the elytral sculpture obviously formed by larger and deeper pits, resembling honeycombs; pronotum generally more dilated on the sides.

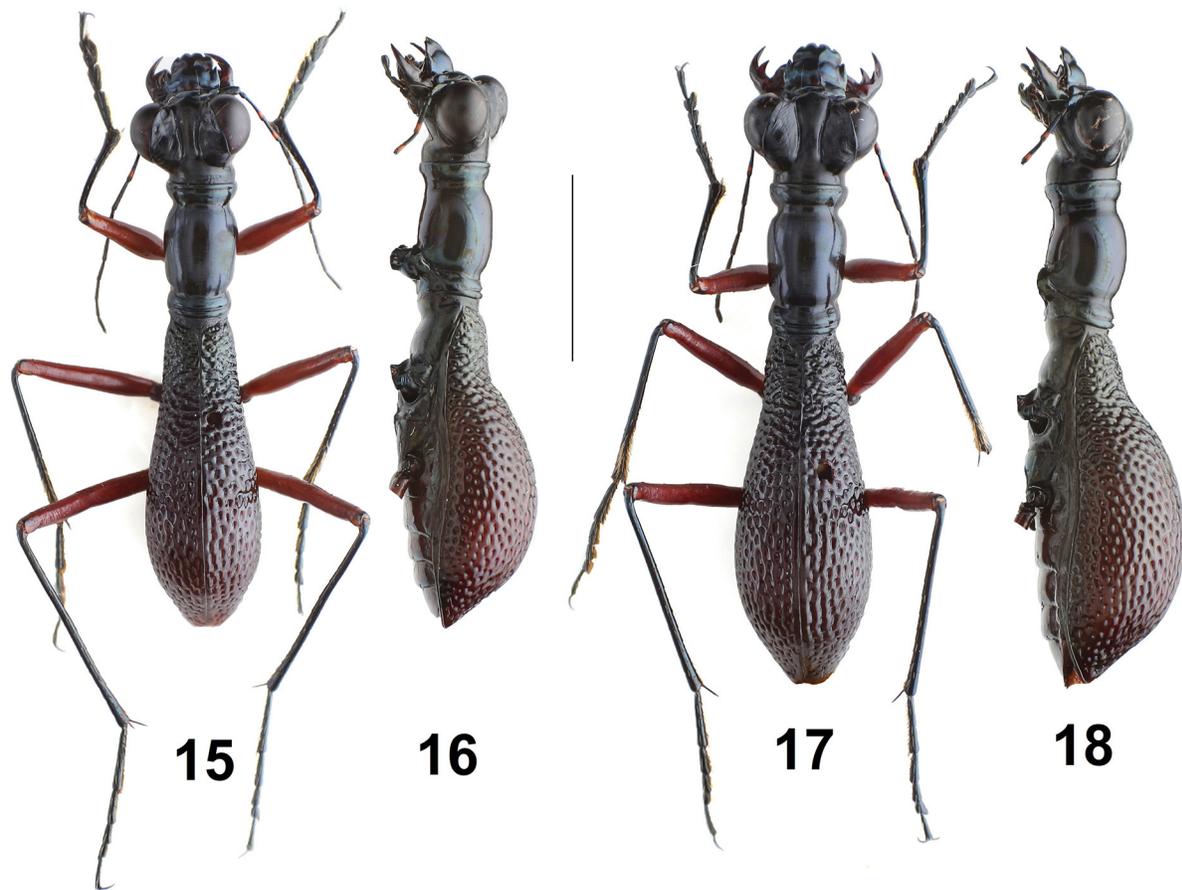
Distribution. China (Xizang, Yunnan), Vietnam, Laos, Thailand.

6. *Tricondyla macrodera abruptesculpta* Horn, 1925

(Fig. 19–22, 33, 34)

刻纹缺翅虎甲光尾亚种 kè wén quē chì hǔ jiǎ guāng wěi yà zhǒng

Listings. Wiesner 1992: 19, Naviaux 2002: 40, Putschkov and Matalin 2003: 118, Shook and Wiesner 2006: 21, Shook and Wu 2007: 39, Wu and Shook 2007: 91, 2010: 89, Wu 2011: 31, Putschkov and Matalin 2017: 249, Wiesner et al. 2017: 6, Wiesner 2020: 37.



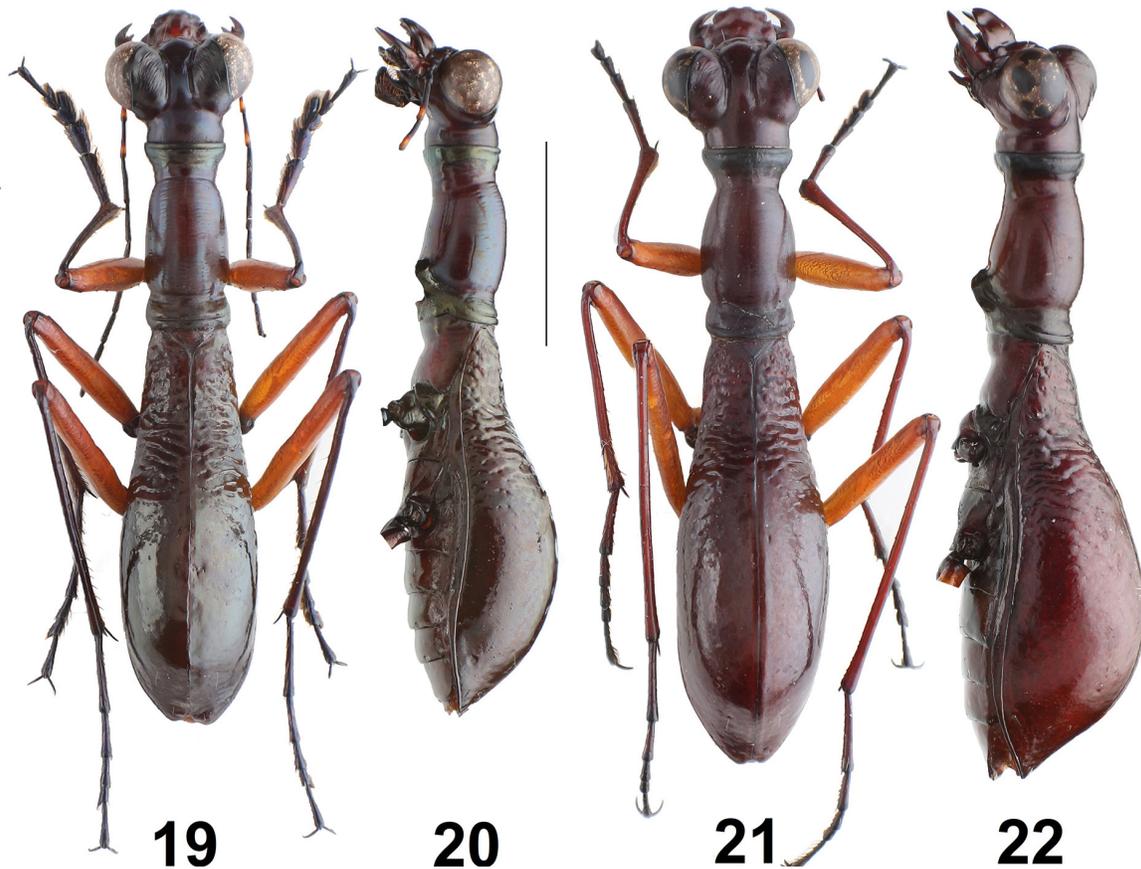
Figures 15–18. *Tricondyla gestroi scabra* Fleutiaux, 1920, scale = 5 mm. 15) Dorsal view, male. 16) Left lateral view, male. 17) Dorsal view, female. 18) Left lateral view, female.

Diagnosis. Shiny black, slightly bluish; distinguished from the nominative form by the head in which the interocular cavity is slightly deeper and narrower, by the pronotum more convex and clearly subparallel-sided and by the elytra which are less gibbose and with more contrasted sculpture.

Distribution. China (Anhui, Fujian, Guangdong, Guizhou, Guangxi, Hunan, Jiangxi, Sichuan, Xizang, Yunnan), Vietnam, Cambodia.

Key to Chinese species and subspecies of genus *Tricondyla* Latreille, 1822

1. Pronotum with distinct transverse furrows 2
- Pronotum smooth or with shallow furrows 3
- 2(1). Pronotum stout and short, ratio of length to width less than 2.1 *T. mellyi* Chaudoir, 1850
- Pronotum slender and long, ratio of length to width greater than 2.3 *T. pulchripes* White, 1844
- 3(1). Body length less than 18 mm *T. gestroi scabra* Fleutiaux, 1920
- Body length 18 mm or more 4
- 4(3). Apical third of elytra smooth, without tiny pits *T. macrodera abruptesculpta* Horn, 1925
- Elytra rough with tiny pits 5
- 5(4). Middle part of aedeagus not protruding *T. stricticeps* Chaudoir, 1864
- Middle part of aedeagus protruding *T. wiesneri* Naviaux, 2002



Figures 19–22. *Tricondyla macrodera abruptesculpta* Horn, 1925, scale = 5 mm. **19)** Dorsal view, male. **20)** Left lateral view, male. **21)** Dorsal view, female. **22)** Left lateral view, female.

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Literature Cited

- Aston P.** 2016. Catalogue and bibliography of the Hong Kong Carabidae Latreille, 1802 (Coleoptera: Adephaga), with notes on the historic boundaries of Hong Kong as related to zoological collections. *Zootaxa* 4121(3): 201–257.
- Naviaux R.** 2002. Les Tricondylina (Coleoptera, Cicindelidae), révision des genres *Tricondyla* Latreille et *Derocrania* Chaudoir et descriptions de nouveaux taxons. *Mémoires de la Société Entomologique de France* 5: 1–106.
- Naviaux R, Pinratana A.** 2004. The tiger beetles of Thailand (Coleoptera, Cicindelidae). Sunprinting, Brothers of St. Gabriel in Thailand; Bangkok. 177 p.
- Putchkov AV, Matalin AV.** 2003. Subfamily Cicindelinae Latreille, 1802. p. 99–118. In: Löbl I, Smetana A (eds.). *Catalogue of Palaearctic Coleoptera. Vol. 1. Archostemata - Myxophaga - Adephaga*. Apollo Books; Stenstrup. 819 p.
- Putchkov AV, Matalin AV.** 2017. Subfamily Cicindelinae Latreille, 1802. p. 217–249. In: Löbl I, Smetana A (eds.).

- Catalogue of Palaearctic Coleoptera. Vol. 1. Revised and updated edition. Archostemata – Myxophaga - Adephaga. Brill; Leiden and Boston. 914 p.
- Sawada H, Wiesner J. 2004.** Enumeration of the tiger beetles from Laos with descriptions of three new species (Coleoptera: Cicindelidae). *Entomological Revue of Japan* 59(2): 255–274.
- Sawada H, Wiesner J. 2006.** Further new records of tiger beetles from Laos (II) (Coleoptera: Cicindelidae). *Lambillionea* 106: 450–456.
- Shook G, Wiesner J. 2006.** A list of the tiger beetles of China (Coleoptera: Cicindelidae). *Fauna of China* 5: 5–26.
- Shook G, Wu X-Q. 2007.** Tiger beetles of Yunnan. Yunnan Publishing Group Corporation, Yunnan Science & Technology Press; Kunming, Yunnan, China. 199 p.
- Wiesner J. 1992.** Verzeichnis der Sandlaufkäfer der Welt, checklist of the tiger beetles of the world. Vol. 27. Beitrag zur Kenntnis der Cicindelidae. Verlag Erna Bauer; Kelttern. 364 p.
- Wiesner J. 2020.** Checklist of the tiger beetles of the world, 2nd edition. Winterwork; Borsdorf. 540 p.
- Wiesner J. 2022.** New tiger beetle records for states and provinces of Cambodia and Vietnam (Coleoptera, Cicindelidae). *Lambillionea* 122(4): 190–192.
- Wiesner J, Bandinelli A, Matalin AV. 2017.** Notes on the tiger beetles (Coleoptera: Carabidae: Cicindelinae) of Vietnam. *Insecta Mundi* 0589: 1–131.
- Wiesner J, Geiser M. 2016.** Faunistic survey of the tiger beetles (Coleoptera, Carabidae, Cicindelinae) of Laos. *Entomologica Basiliensia et Collectionis Frey* 35: 61–117.
- Wu X-Q. 2011.** A revised list of the tiger beetles of China (Coleoptera: Cicindelidae). *Cicindela* 43(2): 21–43.
- Wu X-Q, Shook G. 2007.** Range extensions, new records, an artificial key and a list of tiger beetles of Yunnan province, China (Coleoptera: Cicindelidae). *Journal of the Entomological Research Society* 9(2): 31–40.
- Wu X-Q, Shook G. 2010.** Common English and Chinese names for tiger beetles of China. *Journal of the Entomological Research Society* 12(1): 73–94.

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Figures 23–34. Aedeagus, scale = 1 mm. 23–24) *Tricondyla wiesneri* Naviaux, 2002. 23) Left lateral view. 24) Ventral view. 25–26) *Tricondyla mellyi* Chaudoir, 1850. 25) Left lateral view. 26) Ventral view. 27–28) *Tricondyla pulchripes* White, 1844. 27) Left lateral view. 28) Ventral view. 29–30) *Tricondyla stricticeps* Chaudoir, 1864. 29) Left lateral view. 30) Ventral view. 31–32) *Tricondyla gestroi scabra* Fleutiaux, 1920. 31) Left lateral view. 32) Ventral view. 33–34) *Tricondyla macrodera abruptesculpta* Horn, 1925. 33) Left lateral view. 34) Ventral view.

