

**A contribution to the taxonomy of the genus *Campsiura* Hope, 1831
(Coleoptera: Scarabaeidae: Cetoniinae: Cremastocheilini), with description
of a new species, and subspecies**

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Abstract. Representatives of the genus *Campsiura* Hope, 1831 are studied. In the nominotypical subgenus, *Campsiura* (*Campsiura*) *fujiokai* sp. nov. is described from Chin State in Myanmar. It is compared with its closest relative *Campsiura* (*Campsiura*) *xanthorhina* Hope, 1831. Both species are illustrated, distribution is discussed and their differential diagnosis is given. In the subgenus *Eucampsiura* Mikšič, 1987, *Campsiura* (*Eucampsiura*) *javanica austrosundana* ssp. nov. is described. Populations of *Eucampsiura javanica* Gory & Percheron, 1833 occurring in Java and Bali Islands (Indonesia) are compared with populations distributed east of Wallace line, in Lombok and Sumbawa Islands (Indonesia). Both subspecies are illustrated, compared and their distribution is given.

INTRODUCTION

The genus *Campsiura* was established by Hope in 1831 for a single species, *Campsiura xanthorhina* Hope, 1831. Schenkling (1921) listed 12 species, all occurring in the Palaearctic and Oriental Regions. The first revision of the genus was published by Mikšič (1987). In this work, the author split the genus into three different subgenera, the nominotypical subgenus *Campsiura* Hope, 1831, the subgenus *Eucampsiura* Mikšič, 1987 and large sized species with pronotal depression, in the subgenus *Calocampsiura* Mikšič, 1987. Since Mikšič's revision only one species was described in subgenus *Eucampsiura* Mikšič, *Eucampsiura lijingkei* Legrand & Flutsch, 2007. Some taxonomic changes were made by Antoine (2006).

In this study some species from the subgenera *Campsiura* Hope and *Eucampsiura* Mikšič are discussed and studied. Five species are currently recognised in the nominotypical subgenus distributed in the transitional area between the Palaearctic and Oriental Regions, starting from Nepal and NE India, encompassing the southern parts of Tibet, central and southern China, reaching the northern parts of Myanmar, Laos and Vietnam. A large sized species was recently collected in the Chin Hills on the border between Myanmar and India. The species is morphologically similar to *Campsiura xanthorhina* Hope, 1831, although its size is reminiscent of species from the subgenus *Calocampsiura* Mikšič, 1987.

The subgenus *Eucampsiura* Mikšič, 1987 currently accomodates seven species. Representatives of this subgenus occur in a much larger area encompassing the entirety of India and Sri Lanka, Nepal, Myanmar, Thailand, Indochina, southern parts of China, Malay Peninsula and Greater Sunda Islands in Indonesia. The complex of two sister species,

Eucampsiura nigripennis Schaum, 1841 and *Eucampsiura javanica* Gory & Percheron, 1833 occur in a very large area from India to the Lesser Sunda Islands (Indonesia) with clear subspecies within this area. One species, *Eucampsiura javanica* Gory & Percheron, 1833 crosses the Wallace line to the Lesser Sunda Islands. Examination of populations flying in Java and Bali Islands revealed that they differ from specimens collected east of Wallacea, in Lombok, Sumbawa and Flores Islands. In this study the population east of the Wallace line is considered as a different subspecies endemic to the Lesser Sunda Islands and its brief description is given.

MATERIAL AND METHODS

The following codens of institutional and private collections are used in the text:
MFCP Masayuki Fujioka private collection, Tokyo, Japan;
OXUM Oxford University Museum of Natural History, Oxford, United Kingdom;
SJCP Stanislav Ják, private collection, Praha, Czech Republic.

Specimens of newly described species or subspecies are provided with red and yellow printed labels, red for HOLOTYPUS, yellow for PARATYPUS. Each holotype or paratype label is provided with sex symbol, number of paratype (in paratype label) and the words St. Ják det. Label data are cited for the material examined, individual labels are indicated by a double slash (//), individual lines by a single slash (/).

RESULTS

Subgenus *Campsiura* (*Campsiura*) Hope, 1831

Campsiura (*Campsiura*) Hope: Mikšič 1987: 138 (revision, diagnosis): 137 (key to subgenera); Sakai & Nagai 1998: 151 (iconography); Antoine 2006: 339 (key to subgenera); Krajčák 2011: 65 (Cetoniidae of China); Bezděk in Löbl I. & Löbl D. 2016: 391 (catalogue).
Type species *Campsiura xanthorrhina* Hope, 1831 (by original designation).

Campsiura (*Campsiura*) *xanthorrhina* Hope, 1831 (Figs. 1-5)

Campsiura xanthorrhina Hope in Grey, 1831: 25 (original description).
Campsiura xanthorrhina Hope: Schenkling 1921: 357 (catalogue); Ma 1995: 159 (clypeus, elytron); Krajčák 1999: 31 (catalogue).
Campsiura (*Campsiura*) *xanthorrhina* Hope: Krajčák 2011: 67 (Cetoniidae of China); Bezděk in Löbl I. & Löbl D. 2016: 391 (catalogue).
Campsiura (*Campsiura*) *xanthorrhina* Hope: Mikšič 1987: 140 (revisional work), : 139 (key to species); Sakai & Nagai 1998: 152, pl. 1, fig. 5 (male, Bhutan); Smetana 2006: 300 (catalogue).
Macroma xanthorrhina Hope: Burmeister 1842: 643 (monograph); Westwood 1873: 11, pl. VI, fig. 6 (habitus); Lacordaire 1856: 543 (atlas); Arrow 1910: 219, pl. II., fig. 1 (monograph).
Macroma bicolor Gory & Percheron, 1833: 149, pl. 23, fig. 6 (original description); Burmeister 1842: 643 (monograph). Type locality. “Du Népal” (= Nepal). Type material. Not located.
Type locality. “Nepaul” (= Nepal).
Type material. Type (OXUM).

Material examined: 3 ♂♂, (SJCP) labelled: China, XIZANG / Chayu, Shangchyu / Ziba valley, VI. 2017/ local collector leg.; 1 ♀, (SJCP) labelled: China, E-Tibet / Tomi (Tanqmai)-2075 m / 30 km W of Donjung / 11. 6. 2005/ Leg A. Wrzecionko. 1 female (SJCP) labelled: C-Nepal, Dhawalagiri, 1986/ Kali-Gandaki-Khola, Mustang D / Kalopani, 2500-2800 m / leg C. Holzschuh, 21.-25. 6.

Distribution. Nepal; Northeastern India: Sikkim, Manipur; Bhutan; China: Xizang; Myanmar.



Figs. 1-5. *Campsiura (Campsiura) xanthorhina* Hope, 1831: 1- habitus, dorsal aspect; 2- habitus, ventral aspect; 3- habitus, lateral aspect; 4- aedeagus; 5- aedeagus, lateral aspect.

***Campsiura (Campsiura) fujiokai* sp. nov.**
(Figs. 6-13)

Type locality. Myanmar, Chin State, altitude 1800 m, Thainggin nera.

Type material. Holotype (♂) (SJCP) labelled: MYANMAR/ Chin st. alt. 1800 m / Thainggin nera / 22. APR. 2019/ Y.H. NangSar-leg. Paratypes: (No. 1 ♂) (MFCP), (No. 2 ♀) (SJCP) labelled: MYANMAR / Chin st. alt. 2200 m / Thainggin peak / 01.-06. APR. 2019 / T. H. NangSar-leg.; (No. 3 ♀) (MFCP) labelled: N. MYANMAR / Chin state / Theingn, 1800-2200 m / 14. MAY 2015 / Takashi Miyagawa-leg.

Description of holotype. Black, shining, head, pronotum and elytra with lemon yellow pattern. Body size large (from apex of clypeus to apex of pygidium) 22.3 mm.

Head. Yellow, broad lateral sides of frons black. Apex of clypeus obtusely rounded, nearly straight, apical margin of clypeus gently elevated. Widest point in posterior half of clypeus, from here sharply narrowing to eye canthus. Punctuation fine and shallow, density on clypeus and frons approximately same. Length of antennal club and stalk same, coloration of stalk black, antennal club dark brownish.

Pronotum. Black, shining, pronotal sides lemon yellow with one black patch placed approximately in midlength. Posterior half of lateral margins rather deeply emarginated. Pronotal basal lobe moderately covering part of scutellar base. Punctuation fine and medially dense on disc, sides with few larger punctures and few simple and short wrinkles. Punctuation of lateral, yellow bands similar as those on pronotal disc.

Scutellum. Black, strongly reflected, immaculate and impunctate. Triangularly shaped with very sharp apex, disc with indistinctly developed middle line.

Elytra. Black, shining. Each elytron with two large lemon yellow maculae, one on anterior, second on posterior elytral halves. Elytral apex horizontally wrinkled. Disc with two fragmentally and rather indistinctly developed striolate lines (shortly beside sutural ridge), inner one running nearly throughout total length, second much reduced. The remainder of elytra with very fine and simple punctuation or nearly impunctate. Sutural ridge not elevated. Humeral and apical calli flat. Subhumeral emargination rather sharp. Apex of elytron obtusely rounded.

Pygidium. Black, moderately striolate throughout total length. Pygidial disc with typical sharp carina running nearly throughout total length. Setation missing.

Venter. Black, strongly shining. Abdomen asetose, metasternal sides, prosternum and mentum with rather dense and long, yellowish setation. Abdominal impression very deep, running nearly throughout total length of abdomen. Abdominal disc nearly impunctate, sides with striolation, especially on posterior half of each ventrite. Anal ventrite impunctate. Metasternum longitudinally striolate and setose at sides, metasternal plate impunctate and strongly shining. Mesometasternal process with midline, in apex rounded. Mesepimeron and sides of metacoxae bright yellow. Posterolateral protrusion of metacoxae long and sharp. Prosternum and mentum striolate and covered with yellowish setation.

Legs. Completely black, moderately long. Protibia unidentate. Mesotibia with obtuse carina on posterior half. Carina on metatibia not developed. Inner side of meso- and metatibia with short and rather sparse setation.

Genitalia. (Figs. 9-10).

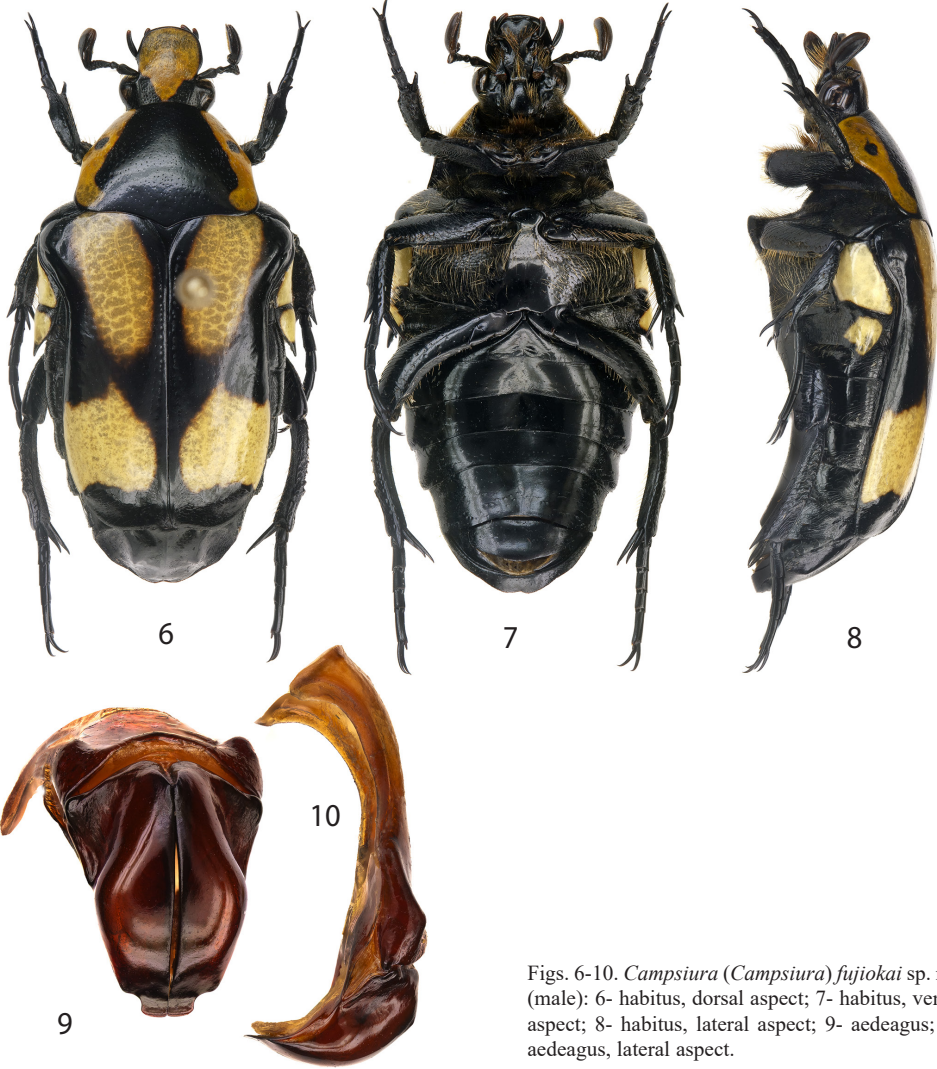
Variability. Paratype male similar to holotype, but slightly larger (22.5 mm).

Sexual dimorphism. Both female paratypes slightly larger (23.5 mm). Protibia bidentate, shorter, but more robust. Metatibia with obtuse carina. Dorsal and ventral punctation slightly more expressed. Abdomen missing impression. Sides of anal segment striolate. Terminal spurs of meso- and metatibia shorter, but wider and less sharp. One female with slightly different elytral pattern.

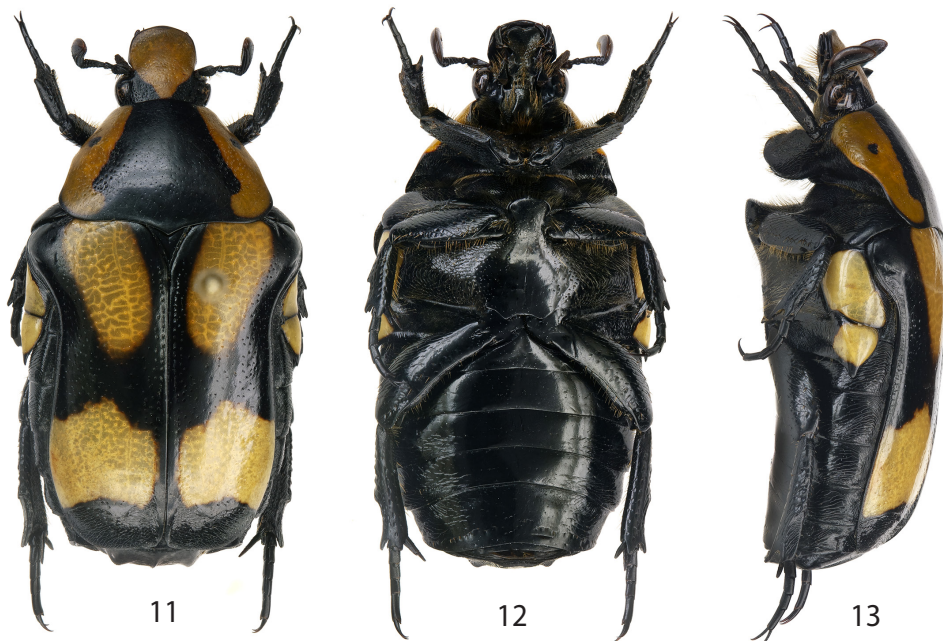
Differential diagnosis. The newly described species is morphologically similar to *Campsiura xanthorhina* Hope, 1831. It can be separated from its congener by the following complex of characters: I. Large body size 22.0-23.5 mm, reaching the size of representatives of *Calocampsiura* Mikšič, 1987, but only 16.5-19.5 mm in *Campsiura xanthorhina* Hope, 1831; II. Light parts of head, pronotum, elytra, mesepimeron and margins of metacoxae lemon yellow in new species, but reddish to brownish in its congener; III. Elytra with four large yellow maculae in new species, but completely reddish to brownish elytra, leaving black only anterior part of lateral margins and elytral apex in its congener; IV. Apex of clypeus more or less obtusely rounded in new species, but more sharply developed in its congener; V. Clypeus narrowing sharply from its widest point to eye canthus in newly described species, but straighter in its congener; VI. Pygidial carina more elevated and sharper in new species, but in historically described species usually not that sharp and not running nearly throughout total length; VII. Male parameres broader especially in its parameral midlength in newly described species (Figs. 9-10).

Etymology. Named after my friend and colleague Masayuki Fujioka (Tokyo, Japan), famous specialist for Scarabaeidae.

Distribution. Myanmar: Chin State.



Figs. 6-10. *Campsaura (Campsaura) fujiokai* sp. nov. (male): 6- habitus, dorsal aspect; 7- habitus, ventral aspect; 8- habitus, lateral aspect; 9- aedeagus; 10- aedeagus, lateral aspect.



Figs. 11-13. *Campsiura (Campsiura) fujiokai* sp. nov. (female): 11- habitus, dorsal aspect; 12- habitus, ventral aspect; 13- habitus, lateral aspect.

Subgenus *Campsiura (Eucampsiura)* Mikšič, 1987

Campsiura (Eucampsiura) Mikšič, 1987: 144 (original description), : 137 (key to subgenera); Antoine 2006: 339, 342 (mentum, parameres); Smetana in Löbl & Smetana 2006: 300 (catalogue); Krajčič 2011: 65 (Cetoniidae of China); Bezděk in Löbl I. & Löbl D. 2016: 391 (catalogue); Jákl 2018: 319 (Cetoniidae of Lesser Sundas). Type species *Macroma javanica* Gory & Percheron, 1833 (designated by Mikšič, 1987: 135).

Campsiura (Eucampsiura) javanica javanica (Gory & Percheron, 1833)

(Figs. 14-18)

Macroma javanica Gory & Percheron, 1833: 148, tab. 23, fig. 5 (original description); Burmeister 1842: 645 (monograph); Westwood 1873: 13, tab. 6, fig. 9 (atlas); Arrow 1910: 218 (monograph).

Campsiura javanica (Gory & Percheron): Schenkling 1921: 356 (catalogue); Paulian 1960: 12 (Indochina); Medvedev 1964: 328 (Fauna of Soviet Union); Krajčič 1999: 30 (catalogue).

Campsiura (Eucampsiura) javanica (Gory & Percheron): Mikšič 1987: 145 (revisional work), : 144 (in key); Antoine 2006: 339, figs. 4a-4c (mentum): 343, figs. 8a-8c (parameres) [taxonomical notes about *Campsiura*]; Sakai & Nagai 1998: 151, pl. 1, figs. 1-1 (female, Bali), 1-2 (male, Flores), 1-3 female, Vietnam), 1-4 (male, Thailand), 1-5 (female, Sumatra), 1-6 (female, S. India), 1-7 (female, Sri Lanka) [iconography]; Jákl 2018: 319, figs. 464-471 (Cetoniidae of Lesser Sundas, habitat male, female, male parameres, Bali).

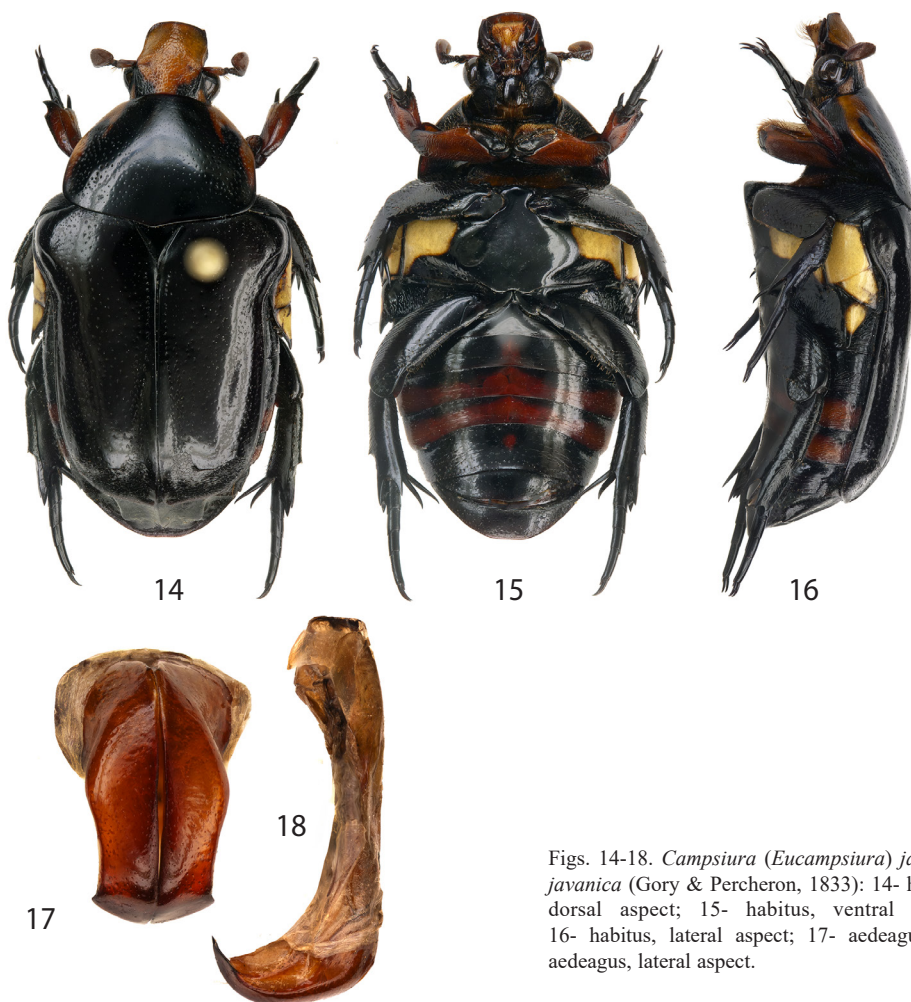
Type locality. „De Java“ (= Indonesia, Java Island).

Type material. Not located.

Material examined: 1 ♂, (SJCP) labelled: Indonesia, East Java / MALANG – city / I. 2008 / St. Jákl lgt; 1 ♀, (SJCP) labelled: Indonesia, East Java prov. / ARGOPURO MTS., 1200 m / BERMI vill. env. / 8. 2004, local collectors lgt; 1 ♂ (SJCP) labelled: INDONESIA, East Java Pr. / ARGOPURO MTS., 1200 m / Bermi vill. env., XII. 2020 / local collector leg; 1 ♂, (SJCP) labelled: Indonesia, Bali prov. / NUSA PENIDA ISL. / local coll., 6.2.1997; 1 ♂, (SJCP) labelled: Indonesia, BALI ISL. / NEGARA ENV., 600 m / 10. 2005, local coll.; 3 ♂♂, (SJCP) labelled: INDONESIA, Bali Prov. / BALI I., 300-700 m / 10 km N of NEGARA/ I.2016, local collector.

Distribution. Indonesia: Java, Bali and Nusa Penida Islands.

Note. In Sakai & Nagai (1998: 151) only fig. 1-1 belongs to *Campsiura* (*Eucampsiura*) *javanica javanica* (Gory & Percheron). All other figures belong to different species or different subspecies.



Figs. 14-18. *Campsiura* (*Eucampsiura*) *javanica javanica* (Gory & Percheron, 1833): 14- habitus, dorsal aspect; 15- habitus, ventral aspect; 16- habitus, lateral aspect; 17- aedeagus; 18- aedeagus, lateral aspect.

***Campsiura (Eucampsiura) javanica austrosundana* ssp. nov.**
(Figs. 19-26)

Type locality. INDONESIA, Lesser Sundas, Lombok Island.

Type material. Holotype (♂) (SJCP) labelled: INDONESIA, Lesser Sundas / LOMBOK ISLAND, 10/2001 / Local collector. Paratypes: (No. 1 ♂, Nos. 2-4 ♀♀) (SJCP) labelled: same as holotype; (Nos. 5-6 ♀♀) (SJCP) labelled: INDONESIA, Lesser / Sundas, LOMBOK I. / I.2014 / local collector leg.; (No. 7 ♀) (SJCP) labelled: INDONESIA, Lesser Sundas / LOMBOK I., 600 m, XII. 2021 / Pusuk Hill env. / local collector leg.; (No. 8 ♀) (SJCP) labelled: Indonesia, Lesser Sundas / SUMBAWA ISL., slopes of / MT. TAMBORA, I. 2007 / local collectors lgt.

Description of holotype. Dorsal side completely black, except part of head, part of anterolateral margins of pronotum reddish. Body size 19.5 mm (from apex of clypeus to apex of pygidium).

Head. Coloration of clypeus reddish to dark yellowish, major part of frons black. Apex of clypeus more or less rounded, in middle slightly sharpened and elevated. Punctuation of clypeus very fine and sparse, punctures in frons larger and denser. From eye canthus to apex of clypeus nearly parallel. Antennal club shorter than stalk. Antennal scape reddish, remainder dark brown to black.

Pronotum. Completely black, except narrow part of anterolateral margins and part of anterior half of sides. Pronotal disc nearly impunctate, sides with simple, moderately large, rounded punctures. Lateral margins without border, posterior halves of lateral sides parallel. Basal lobe only indistinctly developed.

Scutellum. Black, strongly shining, triangularly shaped, with very sharp and elongated apex.

Elytra. Completely black, shining. Disc with simple and fine, sparsely distributed punctures, lateral ridge with short wrinkles, specially on posterior half. Elytral apex with denser and deeper, horizontally running striolation. Both elytral calli obtuse. Sutural ridge flat on anterior half, on posterior half slightly elevated, but not protruding over elytral apex. Subhumeral emargination sharply developed.

Pygidium. Black with horizontally developed striolation. Central carina rather sharp, nearly reaching pygidial apex. Setation missing.

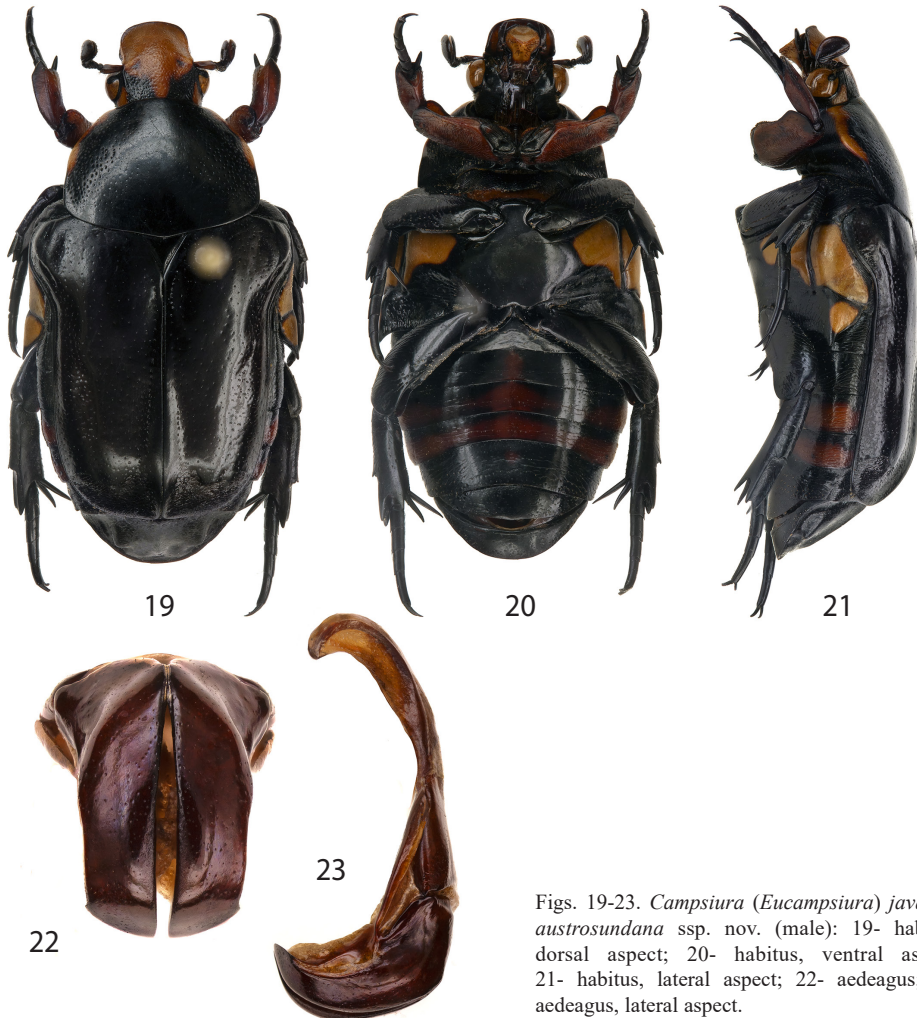
Venter. Coloration black, large part of third and fourth ventrite reddish, second and fifth ventrite black with patch of reddish. Posterolateral margins of metacoxae, mesepimeron and large part of anterolateral margins of metasternum dark yellow. Posterior margin of prosternum reddish, mentum yellowish. Abdominal impression rather deep, especially from second to fourth ventrite. Each ventrite with fine, horizontally developed striolation. Metasternum glabrous, strongly shining. Mesometasternal process short and wide, its apex much wider than long.

Legs. Meso- and metafemora, tibia and tarsi black, profemora and tibia reddish, protarsi black. Protarsi unidentate. Meso- and metatibia with carina on posterior half.

Genitalia. Similar to nominotypical subspecies, but apical outer hook of paramere absent (Figs. 22-23).

Variability. Size range 18.0-19.5 mm (from apex of clypeus to apex of pygidium). Reddish area on anterolateral margins of pronotum and in frons slightly different in each specimen. In other characters identical or nearly same.

Sexual dimorphism. Size of females 18.5-20.0 mm. Punctuation and striolation of both body sides more expressed. Protibia bidentate. Abdominal impression not developed. Reddish part on pronotum, frons and front legs usually reduced.



Figs. 19-23. *Campsiura (Eucampsiura) javanica austrosundana* ssp. nov. (male): 19- habitus, dorsal aspect; 20- habitus, ventral aspect; 21- habitus, lateral aspect; 22- aedeagus; 23- aedeagus, lateral aspect.



Figs. 24-26. *Campsiura (Eucampsiura) javanica austrosundana* ssp. nov. (female): 24- habitus, dorsal aspect; 25- habitus, ventral aspect; 26- habitus, lateral aspect.

Differential diagnosis. Nominotypical subspecies can be distinguished from newly described subspecies occurring in Lesser Sundas mainly by more expressed reddish area on anterolateral margins of pronotum and on frons. In the population from Lombok, Sumbawa and Flores Islands this reddish area is reduced. Dorsal punctation slightly more expressed in the nominotypical subspecies, especially in specimens from Java Island. Male parameres with apical, outer hook in the nominotypical subspecies. In the newly described subspecies this hook is very reduced or completely missing.

Etymology. Named after Australian type of fauna, which starts in many insect groups east of Wallace line.

Distribution. Indonesia: Lesser Sundas: Lombok, Sumbawa and Flores Islands.

Note. Illustrations from Sakai & Nagai (1998: 151, pl. 1, fig. 1-2 male, Flores) and Jákl (2018 figs. 469-471 female Lombok) belong to the newly described subspecies of *Campsiura javanica* (Gory & Percheron, 1833).

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REFERENCES

- ANTOINE P. 2006: Le genre *Campsiura* Hope, 1831: remarques et description d'une espèce nouvelle. *Coléoptères* 12(26) : 337-360.
- ARROW G. D. 1910: *The fauna of British India including Ceylon und Burma. Coleoptera (Cetoniinae and Dynastinae)*. Taylor & Francis, London, 322 pp.
- BEZDĚK A. 2016: Subfamily Cetoniinae. In: LÖBL I. & LÖBL D. (eds.): *Catalogue of Palaearctic Coleoptera. Volume 3. Scarabaeoidea-Scirtoidea-Dascilloidea-Buprestoidea-Byrrhoidea. Revised and Updated Edition*. Stenstrup: Brill, 983 pp.
- BURMEISTER H. 1842: *Handbuch der Entomologie. Dritter Band. Coleoptera Lamellicornia Melitophila*. Berlin: Theod. Chr. Friedrich. Enslin, XX + 826 + 1 pp.
- GORY M. H. & PERCHERON M. A. 1833: *Monographie des Cétonies et genres voisins, formant, dans les familles naturelles de Latreille, la division des Scarabées mélicophiles*. Paris: J.- B. Bailliére, 410 pp. + 77 pls.
- HEYNE A. & TASCHENBERG O. 1908: *Die Exotischen Käfer in Wort und Bild*. Munchen: J. F. Schreiber, 262 pp. + 50 pp. + 39 pp.
- HOPE F. W. 1831: [New taxa.] In: GRAY J. E. (ed.): *The Zoological Miscellany*. London, 12 pp.
- JÁKL S. 2018: Cetoniine beetles of the Indonesian Lesser Sundas (Coleoptera: Scarabaeidae: Cetoniinae). *Studies and Reports, Taxonomical Series* 14(2): 275-384.
- KRAJČÍK M. 1999: *Cetoniidae of the world. Catalogue - Part II. Zlatohlávkovití světa, Katalog - část II*. Most: Krajčík (published privately by author). 72 pp. + 23 pp.
- KRAJČÍK M. 2011: Illustrated catalogue of Cetoniinae, Trichiinae and Valginae of China. (Coleoptera, Cetoniidae). *Animma.x (supplement)* 1: 113 pp.
- KRIKKEN J. 1977: Notes on Asian Cremastochiliform genera, with descriptions of two new species. *Zoologische Mededeelingen*. Leyden 50(21): 309-320.
- LACORDAIRE T. 1856: *Histoire naturelle des Insectes. Genera des Coléoptères ou exposé méthodique et critique de tous les genres proposés jusqu'ici dans cet ordre d'Insectes. Atlas*. Paris: Libraire encyclopédique de Roret, 579 pp.
- MEDVEDEV S. I. 1964: *Plastinchatousyie (Scarabaeidae). Podsem. Cetoniinae, Valginae. Fauna SSSR. Zhestkokrylye. Tom X, vyp. 5 [Lamellicornia (Scarabaeidae). Subfam. Cetoniinae, Valginae. Fauna SSSR. Beetles. Vol. X. part 5]*. Moskva-Leningrad: Nauka, 374 + 2 unpag. Pp. (in Russian).
- MIKŠIČ R. 1987: Revision der Orientalischen und Palaearktischen arten der gattung *Campsiura*. *Entomologische Abhandlungen und Berichte aus dem Staatlichen Museum für Tierkunde in Dresden* 50(6): 135-152.
- MA W. Z. 1995: *Economic Insect Fauna of China. Vol. 46 Coleoptera: Cetoniidae, Trichiidae and Valgidae*. Science and Technology Press, Beijing, China, 210 pp. (in Chinese).
- PAULIAN R. 1960: Coléoptères Scarabeides de l'Indochine II (Rutelines et Cétonides). *Annales de la Société Entomologique de France* 130: 1-47.
- SAKAI K. & NAGAI S. 1998: The Cetoniine beetles of the World. Pp. 1-6 + 7-150 unpag. [pls. 1-144] + 151-421 + 3 unpag. In: FUJITA H. (ed.): *Mushi-Sha's iconographic series of insects* 3. Tokyo: Mushi-Sha, 2 unpag. + 342 + 5 unpag. (in Japanese and English).
- SCHENKLING S. 1921: Scarabaeidae: Cetoniidae. Pars 72. In: SCHENKLING S. (ed.): *Coleopterorum Catalogus. Volumen XXI*. Berlin: W. Jung, 2 unpag. + 431 pp.
- SCHOCH G. 1896: Einiges über Cetoniden. *Mitteilungen der Schweizerischen entomologischen Gesellschaft*. Lausanne 9(8): 356-370.
- SMETANA A. 2006: Subfamily Cetoniinae Leach, 1815. Pp. 283-312. In: LÖBL I. & SMETANA A. (eds.): *Catalogue of Palaearctic Coleoptera, Volume 3, Scarabaeoidea-Scirtoidea-Dascilloidea-Buprestoidea-Byrrhoidea*. Stenstrup: Apollo Books, 690 pp.
- WESTWOOD J. O. 1873: *Thesaurus Entomologicus Oxoniensis; or, Illustrations of new, rare, and interesting insects, for the most part contained in the collections presented to the University of Oxford by the Rev. F. W. Hope. Part II.-IV*. Clarendon Press, Oxford, Pp. 1-56, pl. 1-10.

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