



***DORYSTHENES (LOPHOSTERNUS) INCOGNITUS* – A NEW SPECIES FROM LAOS WITH TAXONOMIC COMMENTS ON *D. (L.) BUQUETII* AND RESURRECTION OF *D. (L.) SIMILIS* (CERAMBYCIDAE, PRIONINAE)**

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Abstract: The taxonomic concept of *Dorysthenes (Lophosternus) buquetii* Guérin-Méneville, 1844 (Coleoptera, Cerambycidae) based on the type study and examination of recently collected material is revised. The study of the type specimen of *Dorysthenes (L.) similis* Gahan, 1906 revealed that this taxon is not conspecific with *Dorysthenes (L.) buquetii*, but it represents a distinct species. Additionally, the new species *Dorysthenes (L.) incognitus* sp. nov. is described from Laos and Thailand. Differential diagnosis of all three species is given and principal characters are illustrated. Lectotypes of *Dorysthenes buquetii* and *Dorysthenes similis* are designated.

Key words: Oriental region, taxonomy

INTRODUCTION

Lophosternus was proposed by GUÉRIN-MÉNEVILLE (1844) as a genus. LAMEERE (1911) downgraded it to a subgenus of the genus *Dorysthenes* Vigors, 1826 recently comprising seven subgenera (DRUMONT & KOMIYA 2010). The subgenus *Lophosternus* is distinctive by the following combination of characters (LAMEERE 1919): a) disk of prosternal process convex, without protuberance; b) last maxillary palpomere not obviously dilated apically; c) lobes of tarsomere 3 not spinate on apex and d) antennae with sparsely distributed tubercles.

To date, the subgenus *Lophosternus* comprises nine species and one subspecies (LANSBERGE 1884, GAHAN 1906, GRESSITT & RONDON 1970, DANILEVSKY 2019, TAVAKILIAN & CHEVILLOTTE 2018): *D. (L.) angulicollis* (Fairmaire, 1886), *D. (L.) beli* Lameere, 1911, *D. (L.) buquetii* Guérin-Méneville, 1844, *D. (L.) dentipes* (Fairmaire, 1902), *D. (L.) florentinii* (Fairmaire, 1895), *D. (L.) gracilipes* (Lameere, 1915), *D. (L.) huegelii* (Redtenbacher, 1848), *D. (L.) indicus* (Hope, 1831) *D. (L.) zivetta* (Thomson, 1877) and *D. (L.) zivetta laosensis* Gressitt & Rondon, 1970. Species of this subgenus are distributed in Oriental and south-eastern part of Palaeartic region.

MATERIAL AND METHODS

The description is kept concise, characters evident from illustrations are omitted. Locality data of examined specimens are cited verbatim. Type specimens of a *D. (L.) incognitus* sp. nov. are labeled with the red label with status (holotype or paratype), the name of the species, its author and year, and with inscription R. Hergovits det. 2019. Lectotypes designated in this work were provided by the red printed label: Lectotype, taxon name in original generic combination, R. Hergovits designed, 2019.

Collection codens. **BMNH:** The Natural History Museum, London; **NM:** Národní muzeum, Praha, Czech Republic; **PPCS:** collection of Pavol Pekarovič, Slovak Republic; **PVCC:** collection of Petr Viktora, Czech Republic; **RHCS:** collection of Roman Hergovits, Slovak Republic; **SNM:** Slovenské národné múzeum, Bratislava, Slovak Republic; **ZSMC:** Zoologische Staatssammlung, München, Germany.

Other abbreviations and symbols: \ indicates data from separate labels; " " indicate verbatim text; [] enclose annotation or comment; [h] handwritten; [p] printed.

TAXONOMY

***Dorysthenes (Lophosternus) buquetii* (Guérin-Méneville, 1844)**

(Figs 1D-F, H, 2C, D, 3A-C, 4A-C, 5A)

Lophosternus Buquetii Guérin-Méneville, 1844: 209-210.

Type specimens. *Lophosternus buquetii* was described by Guérin-Méneville from an inexplicit number of syntypes from "Java" [Indonesia]. A single syntype of this species is preserved in BMNH, and designated herein as a lectotype in order to ensure nomenclatural stability and avoid confusions in the future. The lectotype of *Lophosternus buquetii* Guérin-Méneville (Fig. 5A) by present designation, ♀ (BMNH): "Cyrtognathus Buqueti Guerin Type [h] \ Type [p] [square label with black border] \ Ex Musaeo James Thomson [p] [black border] \ Type [p] [round label with red border]".

Remarks. *Dorysthenes buquetii* was considered a common species with a wide range in Oriental region. The type examination and study of recently collected specimens revealed that *Dorysthenes buquetii*, contrary to the accepted concept, is a species very rarely collected and known so far only from the type locality Java (Indonesia) and from the Peninsular Malaysia (Pahang). All records of this species cited northwards of Malaysia need re-examination. Specimens from Laos and Thailand are not conspecific with *D. buquetii* and

represent a new species described below. Another species, *Dorysthenes similis* described from Burma was considered conspecific with *D. buquetii* since 1919, but morphological differences of type justify resurrection of this taxon as a species. For more details see *D. similis* below.

Material examined. **MALAYSIA: Pahang.** 2 ♂ (RHCS): “Malaysia, Pahang distr., Cam. Highlands, Kampung Kuala Bohvill. env., 04°27,9'N; 101°34,8'E, 26.II.-3.IV.2001, 850-1050 m, R. Hergovits & M. Štrba leg.”; 4 ♂ (RHCS): “Malaysia, Pahang distr., 30km NE Raub, Lata Lembik 3°56'N; 101°38'E, 200-400 m 22.IV.-1.V., 8-15.V.2002 E. Jendek & O. Šauša leg.”; **INDONESIA: Java.** 2 ♂ (BMNH): “Java, Buitenzorg, J. B. Ledru, 1895, Ishigaki Sima, Oberthür Coll., 1900-186”; 6 ♂ (BMNH): “E. Java, 1000 m, November, B.M. 1924-486”.

Distribution. Indonesia: Java. Malaysia: Pahang.

***Dorysthenes (Lophosternus) similis* Gahan, 1906 resurrected species**

Figs 3F, 4G-I, 5B.

Lophosternus similis Gahan, 1906: 13.

Type specimens. *Dorysthenes similis* was described from an inexplicit number of syntypes from: “Ruby Mines district [near Mogok, Mandalay Region 22°55'N 96°30'E], Burma [Myanmar]”. A single syntype of this species is preserved in BMNH and designated herein as a lectotype in order to ensure nomenclatural stability and avoid confusions in the future. The lectotype of *Lophosternus similis* Gahan (Fig. 5B) by present designation, ♂ (BMNH): “Birmah RubyM^{es} [p] \ Cyrtosternus similis Gahan Type ♂ [h] \ Doherty [h] \ Fry Coll. 1905.100 [p] \ Holo-type [p] [round label with red border]”.

Material examined. The species is known only from the male type specimen.

Distribution. Myanmar: Mandalay Region.

Remarks. Lameere considered *D. similis* as a variety (LAMEERE 1911) and few years later (LAMEERE 1919) conspecific with *D. buquetii*. This concept was accepted until recently. Examination of the type specimen revealed that *D. similis* is a distinctive species which can be distinguished from *D. buquetii* and *D. incognitus* by combination of characters given in the table below.

***Dorysthenes (Lophosternus) incognitus* sp.nov.**

(Figs 1A-C, G, I, 2A,B, E, 3D, E, 4D-F)

Type locality. Laos, Houaphan province, Mount Phu Pane, altitude 1200-1900m, Ban Saluei village, 20°12'N; 103°59'E.

Type specimens. Holotype ♂ (RHCS): “Laos, Huaphanne prov., Mt. Phu Pane, 1200-1900m, Ban Saluei v. env, 3.-13.V. 2019, 20°12'N; 103°59'E, R. & A. Hergovits leg.”. **Paratypes** (BMNH, PPCS, PVCC, RHCS, SNM, ZSMC): **LAOS:**

Bolikhamsai. 1 ♀: “Laos, Centr., Bolikhamsai pr., Ban Nape, N18°22,3' E105°09', 18.4.-1.5. 1996 alt. 600m, R. Hergovits leg.”; 8 ♂, 2 ♀: “Laos, Bolikhamsai, Khoun Ngeunenv., 200m, 29.IV.-1.V. 2019, 17°42,8'N; 105°08,9'E, R. & A. Hergovits leg.”. **Houaphan.** 87 ♂, 55 ♀: same locality and date as the holotype; 2 ♂: “Laos, Huaphanne prov., Mt. Phu Pane, 1200-1900m, Ban Saluei vill. env., 21.-30.IV. 2017, 20°12'N; 103°59'E, R. & A. Hergovits leg.”; 11 ♂, 4 ♀: “NE Laos: Hua Phan prov., Ban Saluei env., Mt. Phu Pane, 1200-1600m, 6.-20.5.2014, P. Viktora et local coll. lgt.”; 1 ♂: “NE Laos, Hua Phan Prov., Mt. Phu Pane, 1200-1600m, 1.-10.VI.2011, 20,12N 103,59E, Lao collectors lgt.”; 2 ♂ “Laos, Hua Phan prov., 2004, 20,13N 103,59E, 6.-18.v., Ban Saluei, Phu Phan Mt. env., J. Bezděk leg., 1300-2000m.”. **Louang Namtha.** 9 ♂, 2 ♀: “Laos north, 5.-11.V.1997, 20km NW Louang Namtha, 21°09,2'N; 101°18,7'E, alt. 300m, R. Hergovits & M. Štrba leg.”. **THAILAND: Chiang Rai.** 1 ♂: “N Thailand, Chiang Rai, Wiang Pa Pao, May 2012, loc. coll.”

Description. Body 49 mm long (holotype), 13.2 mm wide across humeri (holotype). Body prolonged, robust (Figs 1A–C). Head (Figs. 2A–B) large, dark-brown; eyes, frons and mandibles almost black. Eyes with strongly convex, dark-brown or brownish-black protuberance along inner side of eye (Fig. 2E). Antennae with 11 narrow antennomeres, slightly angulately dilated from antennomere 5 (Fig. 1I). Mandibles (Fig. 2E) strong, slightly shorter than head with two tubercles on outer edge in apical half, and with asymmetric dentation on inner edge. Last maxillary palpomere slightly dilated apically. Pronotum (Figs 3D–E) brown with darker rim at anterior margin. Disk smooth with fine punctuation. Lateral margin with two obvious spines. Part between anterior margin and first spine distinctly dentate. Scutellum (Figs 3D–E) widest at anterior margin; posterior margin widely arcuate. Elytra (Figs 1A–C) widest in humeral part, gradually tapering posteriorly; finely rugose and densely punctate on disk with indication of two costae on each elytron. Metatarsus: (Fig. 1G). Underside brown; metathorax with reddish pubescence. Genitalia (Figs 4D–E). Last sternite (Fig. 4F).

Variability. Body length (23–52 mm). Elytra in smaller specimens are less convergent and sometimes subparallel up to 2/3 of elytral length. Body color varies from dark-brown to light-brown.

Sexual dimorphism. Body length (♂ 23–52 mm, ♀ 27–42 mm). Both extremes in body size (largest–smallest) occur in male. The length of antennae in male seems to be in negative correlation to the body size. Antennae in larger males extends to 2/3 of elytra while in smaller ones up to the elytral apices (Figs 1A, C). In female, the pronotal side between anterior margin and the first spine is more finely dentate than in male. The female has metathorax glabrous without reddish pubescence.

Differential diagnosis. *Dorysthenes (L.) incognitus* sp. nov. is very similar to *D. similis* and mostly to *D. buquetii* with which it was so far confused. The table below provides principal characters for distinguishing all three species.

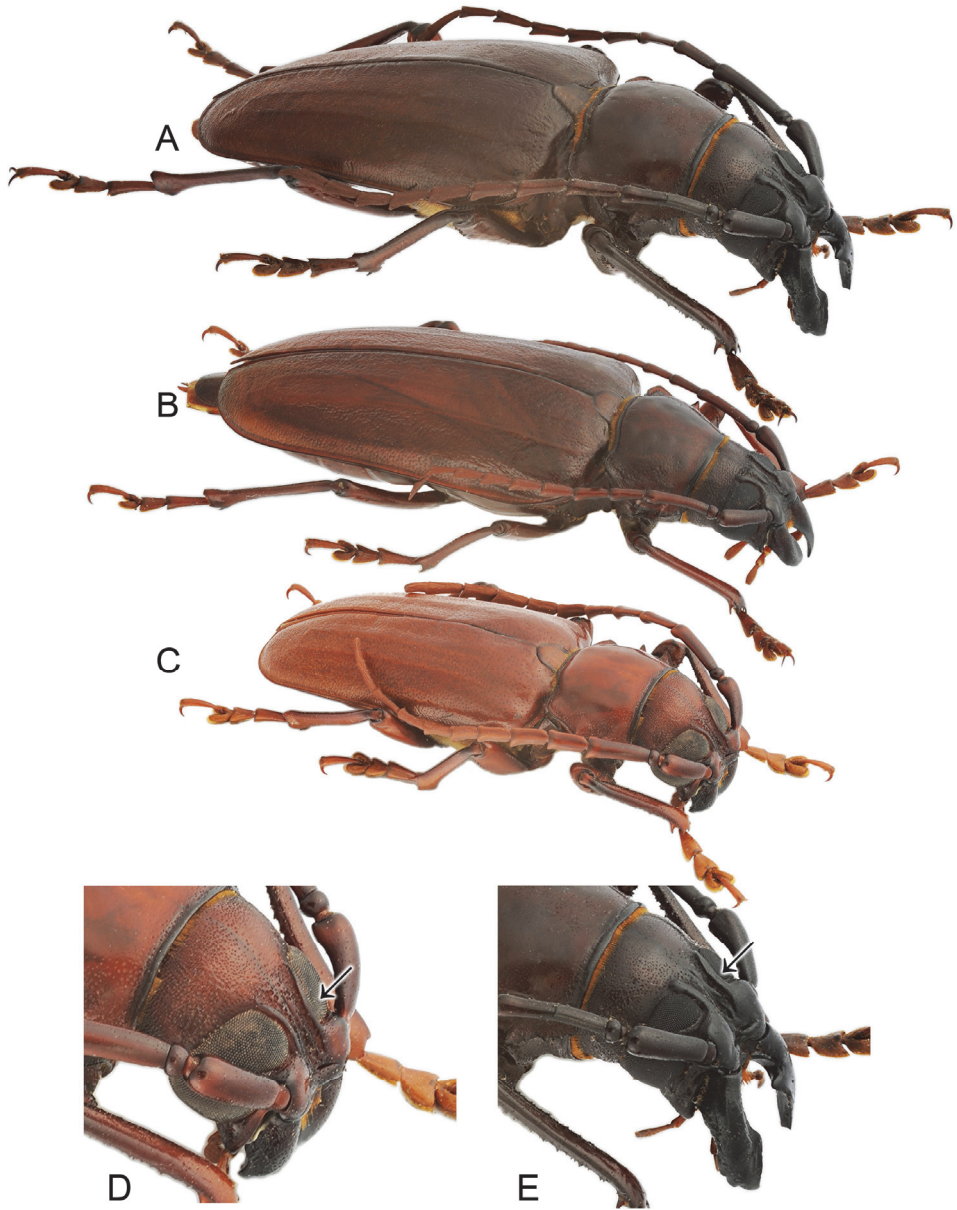
Etymology. The specific name *incognitus* (unknown) is a combination from the Latin prefix *in-* (not) and *cognitus* (known). The name refers to the fact that this commonly collected species was overlooked and confused with similar *D. (L.) buquetii*.

Distribution. Laos: Bolikhamxai, Houaphan, Louangnamtha provinces and Thailand: Chiang Rai province.

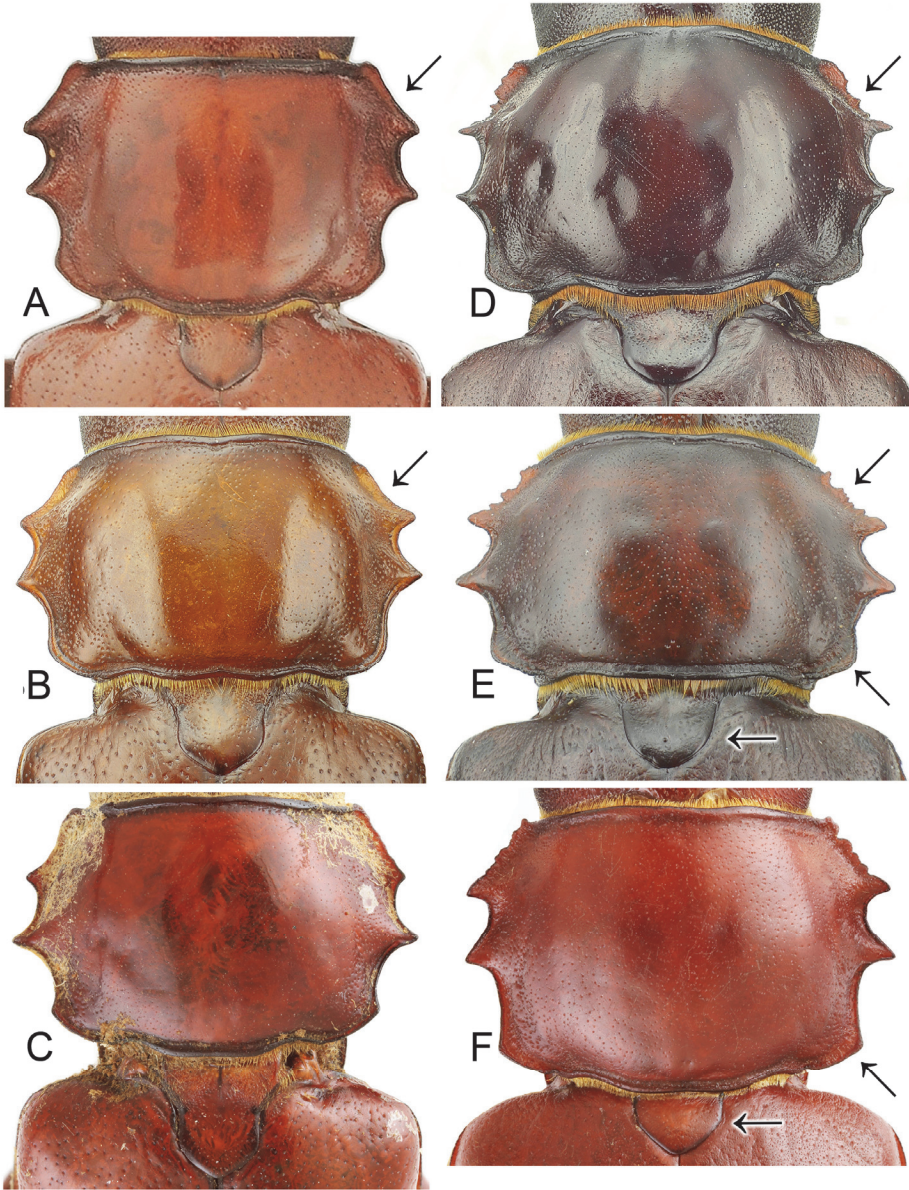
	<i>D. (L.) buquetii</i>	<i>D. (L.) incognitus</i> sp. nov.	<i>D. (L.) similis</i>
Body	Smaller (16–37 mm), less robust, orange-brown (Figs 1D–E)	Larger (23–52 mm), more robust, dark or light brown (Figs 1A–C)	Smaller (34 mm), orange-brown (Fig. 5B)
Head	Protuberance along inner side of eye flat and orange-brown (Fig. 2D)	Protuberance along inner side of eye strongly convex, dark-brown or brownish-black (Fig. 2E)	Protuberance along inner side of eye flat and orange-brown (Fig. 5B)
Antennae	Wider, dilated from antennomere 4 (Fig. 1H)	Narrower, dilated from antennomere 5 (Fig. 1I)	Longer, antennomere 3 extends to second pronotal spine (Fig. 5B)
Pronotum	Lateral margin between anterior pronotal margin and first lateral spine without dens; lateral margin between second lateral spine and posterior pronotal angle emarginate (Figs 3A–C)	Lateral margin between anterior pronotal margin and first lateral spine dentate; lateral margin between second lateral spine and posterior pronotal angle emarginate (Figs 3D–E)	Lateral margin between anterior pronotal margin and first lateral spine dentate; lateral spines oriented slightly backwards; lateral margin between second lateral spine and posterior pronotal angle straight (Fig. 3F)
Scutellum	Sides subparallel in anterior half; posterior margin subangulate (Figs 3A–C, 5A)	Widest at anterior margin; posterior margin widely arcuate (Figs 3D–E)	Pentagonal (Fig. 3F)
Elytra	Subparallel, smooth, sparsely punctate (Figs 1D–E)	Narrowed posteriorly, finely rugose and densely punctate (Figs 1A–C)	Subparallel, rugose and densely punctate (Fig. 5B)
Metatarsus	Wider (Fig. 1F)	Narrower (Fig. 1G)	Wider (Fig. 5B)
Aedeagus	Figs 4A–B	Figs 4D–E	Figs 4G–H
Last sternite	Emarginate apically (Fig. 4C)	Emarginate apically (Fig. 4F)	Arcuate apically (Fig. 4I)
Range	Malaysia: Pahang; Indonesia: Java	Laos, Thailand	Myanmar



Figures 1A-I. *Dorysthenes (Lophosternus)* spp. **A-E:** Habitus (dorsal view); **F-G:** Metatarsus; **H-I:** Antenna; **A-C, G, I:** *Dorysthenes (Lophosternus) incognitus* sp. nov.; **A:** Holotype ♂, 49 mm; **B:** Paratype ♀, 42 mm, Locality: Laos, Houaphan province, Mt. Phu Pane; **C:** Paratype ♂, 23 mm, Locality: same as B; **D-F, H:** *Dorysthenes (Lophosternus) buquetii* (Guérin-Ménéville, 1844); **D:** ♂, 27 mm. Locality: Malaysia, Pahang, Lata Lembik env.; **E:** ♂ 37 mm; Locality: Malaysia, Pahang, Kampung Kuala Boh. Photo: Roman Hergovits (A-E), Peter Kurina (F-I).



Figures 2A-C. *Dorysthenes (Lophosternus)* spp. **A-C:** Habitus, **D-E:** Head (both antero-lateral view); **A, B, E:** *Dorysthenes (Lophosternus) incognitus* sp. nov., Laos, Houaphan, Mt. Phu Pane; **A, E:** Paratype ♂, 52 mm; **B:** Paratype ♀, 42 mm; **C-D:** *Dorysthenes (Lophosternus) buquetii* (Guérin-Ménéville, 1844), ♂, 37 mm, Malaysia, Pahang, Kampung Kuala Boh. Photo: Roman Hergovits.



Figures 3A-F. *Dorysthenes (Lophosternus)* spp. Details of male prosternum (dorsal view); **A-C:** *Dorysthenes (Lophosternus) buquetii* (Guérin-Méneville, 1844); **A:** ♂, 37 mm; Locality: Malaysia, Pahang, Kampung Kuala Boh.; **B:** ♂, 27 mm. Locality: Malaysia, Pahang, Lata Lembik env.; **C:** Lectotype, 38mm; Locality: Java; **D-E:** *Dorysthenes (Lophosternus) incognitus* **sp. nov.**; **D:** Holotype; **E:** paratype; **F:** *Dorysthenes (Lophosternus) similis* Gahan, 1906 – Lectotype, Burma, Ruby Mines district. Photo: Peter Kurina (B, D, E), Roman Hergovits (A, C, F).



Figures 4A-I. *Dorysthenes (Lophosternus)* spp. Body parts. **A-B, D-E, G-H:** Aedeagus; **C, F, I:** Last sternite; **A-C:** *Dorysthenes (Lophosternus) buquetii* (Guérin-Ménéville, 1844); **D-F:** *Dorysthenes (Lophosternus) incognitus* sp. nov. – Holotype; **G-I:** *Dorysthenes (Lophosternus) similis* Gahan, 1906 – Lectotype. Photo: Peter Kurina.



Figures 5A-B. *Dorysthenes* (*Lophosternus*) spp. Habitus (dorsal view) and original labels. A: *Dorysthenes* (*L.*) *buquetii* (Guérin-Méneville, 1844), ♂ – lectotype; B: *Dorysthenes* (*L.*) *similis* Gahan, 1906, ♂ – lectotype. Photo: Roman Gergovits.

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