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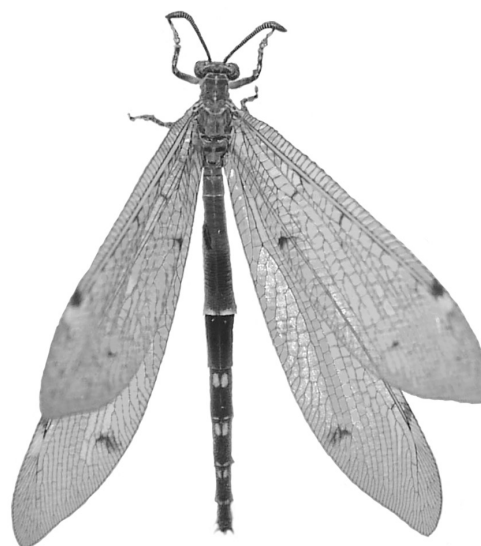


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The longicorn beetle genus *Trypogeus* Lacordaire, 1869 (Coleoptera: Cerambycidae) in Vietnam, with descriptions of three new species

Жуки-дровосеки рода *Trypogeus* Lacordaire, 1869 (Coleoptera: Cerambycidae) фауны Вьетнама с описанием трех новых видов

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Ключевые слова: Coleoptera, Cerambycidae, *Trypogeus*, Вьетнам, обзор, новые виды.

Abstract. All four species of the genus *Trypogeus* Lacordaire, 1869 currently known from Vietnam are discussed. Three of them, namely, *T. taynguyensis* sp. n., *T. pygmaeus* sp. n. and *T. tonkinensis* sp. n., are described as new.

Резюме. Рассматриваются все четыре вида рода *Trypogeus* Lacordaire, 1869, известные с территории Вьетнама. Три из них, *T. taynguyensis* sp. n., *T. pygmaeus* sp. n. и *T. tonkinensis* sp. n., описываются как новые.

Until now, only one species of the genus *Trypogeus* Lacordaire, 1869 has been known to occur in Vietnam [Pic, 1922, 1927; Miroshnikov, 2014; Vives, 2015]. But these scanty data simply reflect a poor knowledge of the genus both in this region and in Indochina generally, as well as beyond.

The present work describes further three new species from Vietnam. Thus, the fauna of this country currently contains four species of *Trypogeus*.

The material this paper is based upon comes from the following institutional and private collections:

MNHN – Muséum national d’Histoire naturelle (Paris, France);

ZIN – Zoological Institute of the Russian Academy of Sciences (St. Petersburg, Russia);

cAM – collection of Alexandr Miroshnikov (Krasnodar, Russia);

cEV – collection of Eduard Vives (Barcelona, Spain).

Trypogeus superbus (Pic, 1922)
(Color plate 1: 4, 5, 7; Color plate 2: 12, 13)

Toxotus superbus Pic, 1922: 22 (“Tonkin”). Type locality: Tonkin (now part of northern Vietnam), Ha Giang (= “Ha-Djiang”) (according to the original description and the label of the holotype).

Toxotus superbus var. *innotatus* Pic, 1927: 16 (“Hoa-Binh”).

Paranthophylax superbus: Gressitt, Rondon, 1970: 34 (partim).

Trypogeus superbus: Hayashi, Villiers, 1985: 4, 29, 31 (partim); Vives, 2007: 54 (partim); Miroshnikov, 2014: 54, figs 6–10, 18, 22, 23, 26, 30; Vives, 2015: 57, figs 23, 24 (partim).

Material. Holotype (by monotypy), ♂ (MNHN), “Ha-Djiang, Tonkin”, “*Toxotus superbus* Pic”, “Type”, “Museum Paris, Coll. M. Pic” (Color plate 1: 8), “Holotype”; holotype (by monotypy), ♀ (MNHN) (Color plate 2: 13), “Hoa Binh”, “[*Toxotus superbus*] var. *innotatus*”, “Museum Paris, Coll. M. Pic”, “Holotype”; 1♂ (ZIN) (Color plate 1: 4), N Vietnam, Lao Cai Prov., Sapa env., 1600–2000 m, 9.08.1962 (leg. O. Kabakov), “*Paranthophylax superbus* Pic, Kabakov det. 02.1974”; 1♀ (MNHN) (Color plate 2: 12), “[illegible epithet; “Lukbiho”, according to Vives, 2015: 58], Tonkin”, “Museum Paris, Coll. M. Pic”, “*Toxotus superbus* var. *innotatus* Pic, ♀, E. Vives det. 2011”.

Distribution. Northern Vietnam. This species has also been recorded from Laos [Vives, 2015].

Trypogeus taynguyensis Miroshnikov, sp. n.
(Color plate 2: 9, 10)

Trypogeus superbus: Vives, 2015: 58 (partim, S Vietnam: Bao Lôc) (non *Trypogeus superbus* var. *innotatus* Pic, 1922).

Material. Holotype, ♀ (cEV): S Vietnam, Bao Lôc Distr., 25.04.1993 (leg. Siniav, Simonov) (see Remarks), “*Trypogeus superbus* ♀ E. Vives det. 2015”.

Diagnosis. Based on female characters, this new species is very similar to *T. superbus* (Pic, 1922) and *T. gressitti* Miroshnikov, 2014 (Color plate 2: 14), but differs clearly from both by the completely light antennae, with noticeably, yet not contrasting, lightest antennomeres 9–11 and the generally lighter coloration of the body, femora and tibiae; in addition, it differs at least from the former species by the somewhat shorter antennae and the slightly more strongly elongated elytra.

Description. Female. Body length 16.9 mm, humeral width 4.7 mm. Coloration of integument almost completely combines yellow, reddish yellow and reddish tones, only eyes and partly mandibles black; antennomeres 9–11 noticeably, but not too

contrastingly lighter than other antennomeres, as in Color plate 2: 9, 10.

Head significantly narrower than pronotum at level of lateral tubercles; with moderately developed antennal tubercles; with a well-expressed median groove between bases of antennae and eyes; with a dense, predominantly scabrous puncturation dorsally; mandibles long, strongly curved; right mandible, like in all congeners, with a large tooth at inner margin; eyes deeply emarginate, slightly convex, with not too large, but distinct ocelli; genae relatively short; gula with irregular wrinkles and punctures; on either side of it with coarse oblique folds; antennae barely longer than elytra, extending beyond apex of elytra by last antennomere; length ratio of antennomeres 1–11, 32 : 8 : 33 : 32 : 33 : 32 : 31 : 28 : 28 : 28 : 38; antennomere 2 subequal in length and width.

Pronotum at level of lateral tubercles 1.26 or 1.34 times as wide as width at base and length, respectively; at apex slightly narrower than at base; lateral tubercles very well-developed, sharpened apically; disc with clear tubercles, three at base and further two in the middle; with a small dense puncturation.

Scutellum triangular, rounded apically, with a very small unclear puncturation.

Elytra 2.19 times as long as humeral width; moderately narrowed towards apex; slightly diverging along suture at apex; each elytron rounded at apex; with a clear, more or less uniform puncturation.

Prosternal process very narrow between coxae; mesosternal process rather broad, almost 3 times as wide as gula at apex; mesosternum with a small rugose puncturation; metepisterna very wide, moderately narrowed towards apex; metasternum and sternites with a small dense puncturation; last (visible) sternite with a wide distinct emargination at apex.

Legs robust, moderately long; femora thickened, but not claviform; metatibiae clearly emarginate at apex; metatarsomere 1 most robust among other tarsomeres, 1.3 times as long as metatarsomeres 2 and 3 combined.

Recumbent setation well-developed; its silky looks and location on elytra being there contrasting iridescent like in other similar congeners.

Etymology. The name of this new species is derived from its provenance, a place in the Western Highlands (Tây Nguyên in Vietnamese) (or Central Highlands) in the southern part of Vietnam.

Remarks. The geographical label of the holotype is indicated an altitude of “H = 1800 m”, which is also noted by Vives [2015: 58]. However, taking into account the coordinates available on the label (11°46'N / 108°24'E), the elevation above sea-level at this locality does not exceed 1300 m. The terrains within the Lâm Đông Province that have an altitude of about 1800 m (or more) lies somewhat north or south of the above coordinates. In this connection, either the altitude or the coordinates given on the label are erroneous.

Distribution. Southern Vietnam.

Trypogeus pygmaeus Miroshnikov, **sp. n.**
(Color plate 1: 1–3, 8)

Material. Holotype, ♂ (cAM): S Vietnam, Dong Nai Prov., Nam Cat Tien Nat. Park, 17–30.11.2004, window trap (leg. D. Fedorenko).

Diagnosis. Based on male characters, this new species seems to be especially similar to *T. superbus* and *T. gressitti* (Color plate 1: 6), but differs very clearly from both by the significantly more strongly convex and more strongly developed eyes, the shorter genae, the peculiar sculpture and the distinctly less strongly developed setation of the submentum, the somewhat longer antennae, the coloration of the tarsi, including the last tarsomere, the generally paler

coloration of the light areas of the body, antennae and legs, and the smaller body. Besides this, *T. pygmaeus* **sp. n.** differs from the former species by the more contrasting coloration of the base of the elytra and that of their remaining parts (reminding of *T. gressitti* in this respect), while it differs from the latter species by the less sharp impression in front of the discal tubercles at the base of the pronotum and the elytra being less strongly diverging along the suture at the apex (resembling *T. superbus* in this respect).

Description. Male. Body length 7.5 mm, humeral width 2.35 mm. Coloration of integument mainly combines yellow and brown tones; head dorsally, pronotum (except for two dorsal tubercles at base), scutellum completely, base of elytra in the form of fascia, metasternum mostly, apex of abdomen, coxae almost entirely, femora (except for apex and spots near the middle), antennomere 1 almost completely, last antennomere, last tarsomere and tarsomere 3 almost entirely or partly yellow or yellowish; eyes completely and mandibles partly black; antennomeres 2–10 combines brown and reddish, partly yellow tones, thereby brown coloration predominates dorsally, while reddish and yellowish colorations prevail ventrally; tarsomeres 1–2 and tarsomere 3 partly reddish; remaining parts of body and legs with brown tones.

Head at level of eyes subequal to pronotum at level of lateral tubercles; with a well-expressed median groove between bases of antennae and eyes; with moderately developed antennal tubercles; with a dense weakly expressed puncturation dorsally; mandibles long, strongly curved; right mandible, like in all congeners, with a large tooth at inner margin; eyes deeply emarginate, relatively strongly convex, with not too large but distinct ocelli; genae rather short; submentum with coarse and rough, heterogeneous, partly arc-shaped folds; gula with gentle, poorly visible, transverse wrinkles; antennae long, nearly reaching apex of elytra by apex of antennomere 8; length ratio of antennomeres 1–11, 19 : 4 : 22 : 23 : 23 : 21 : 21 : 20 : 19 : 18 : 25; antennomere 2 barely transverse.

Pronotum at level of lateral tubercles 1.21 or 1.19 times as wide as width at base and length, respectively; at apex slightly narrower than at base; lateral tubercles well-developed, sharpened apically; disc with clear tubercles, two at base and further two in the middle; with a weakly expressed puncturation.

Scutellum triangular, narrowly rounded apically, with a very small unclear puncturation.

Elytra 2.14 times as long as humeral width; strongly narrowed towards apex; slightly diverging along suture at apex; each elytron rounded at apex; with a small, predominantly weak, in places unclear, puncturation.

Prosternal process very narrow between coxae; mesosternal process rather broad, about 3 times as wide as gula at apex; mesosternum with a small rugose puncturation; metepisterna very wide, moderately narrowed towards apex; metasternum and sternites with a small dense puncturation, most sharp on sternites; last (visible) sternite with a wide well-expressed emargination at apex.

Legs robust, moderately long; femora thickened but not claviform; metatibiae clearly emarginate at apex; metatarsomere 1, 1.5 times as long as metatarsomeres 2 and 3 combined.

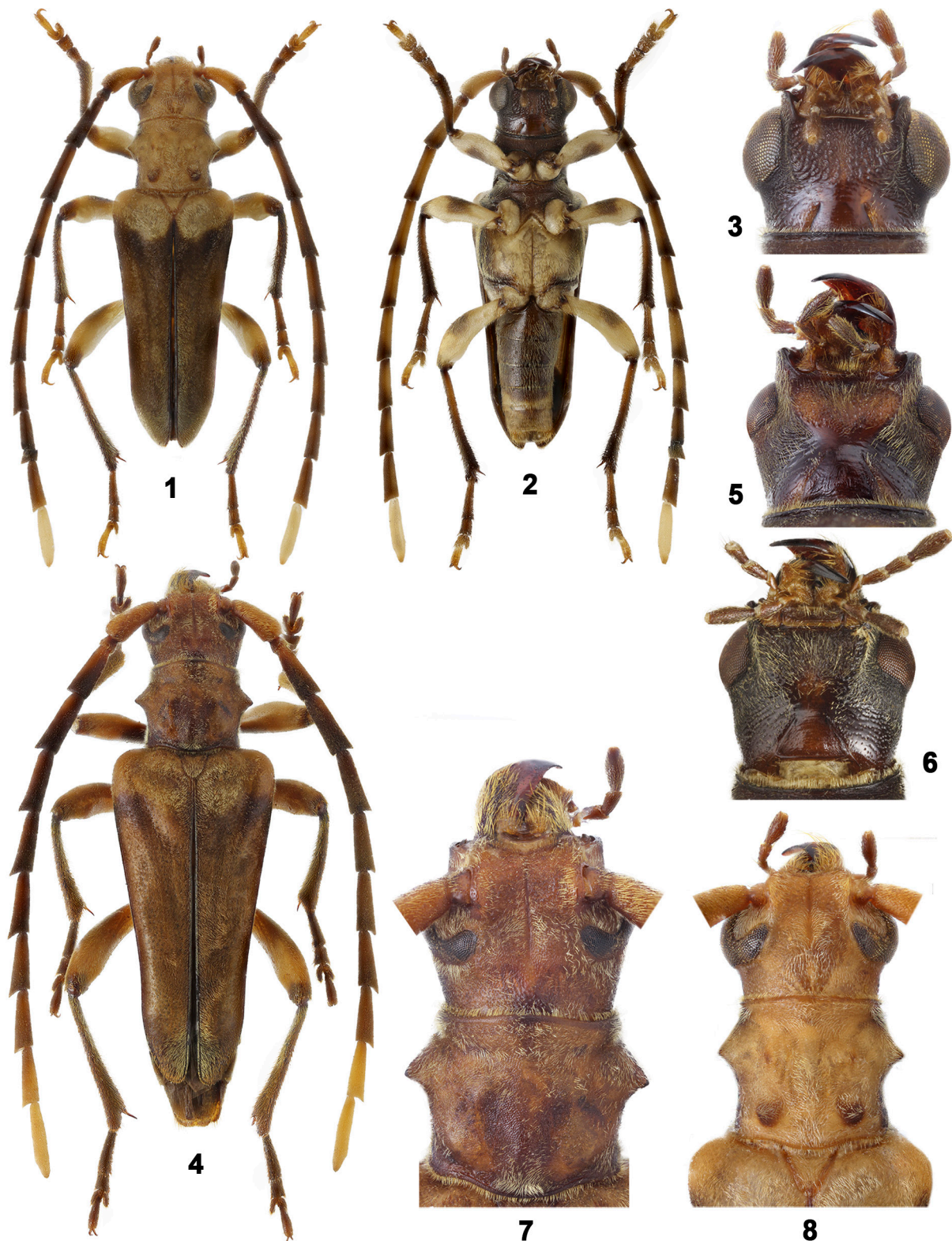
Recumbent setation well-developed; its silky looks and location on elytra being there contrasting iridescent like in other similar congeners.

Etymology. The name of this new species is associated with its smallest body amongst congeners.

Distribution. Southern Vietnam.

Trypogeus tonkinensis Miroshnikov, **sp. n.**
(Color plate 2: 11)

Trypogeus superbus: Vives, 2015: 58 (partim, Vietnam: “W Tonkin, region of Hoa Binh”) (non *Trypogeus superbus* var. *innotatus* [Pic, 1922: 16]).

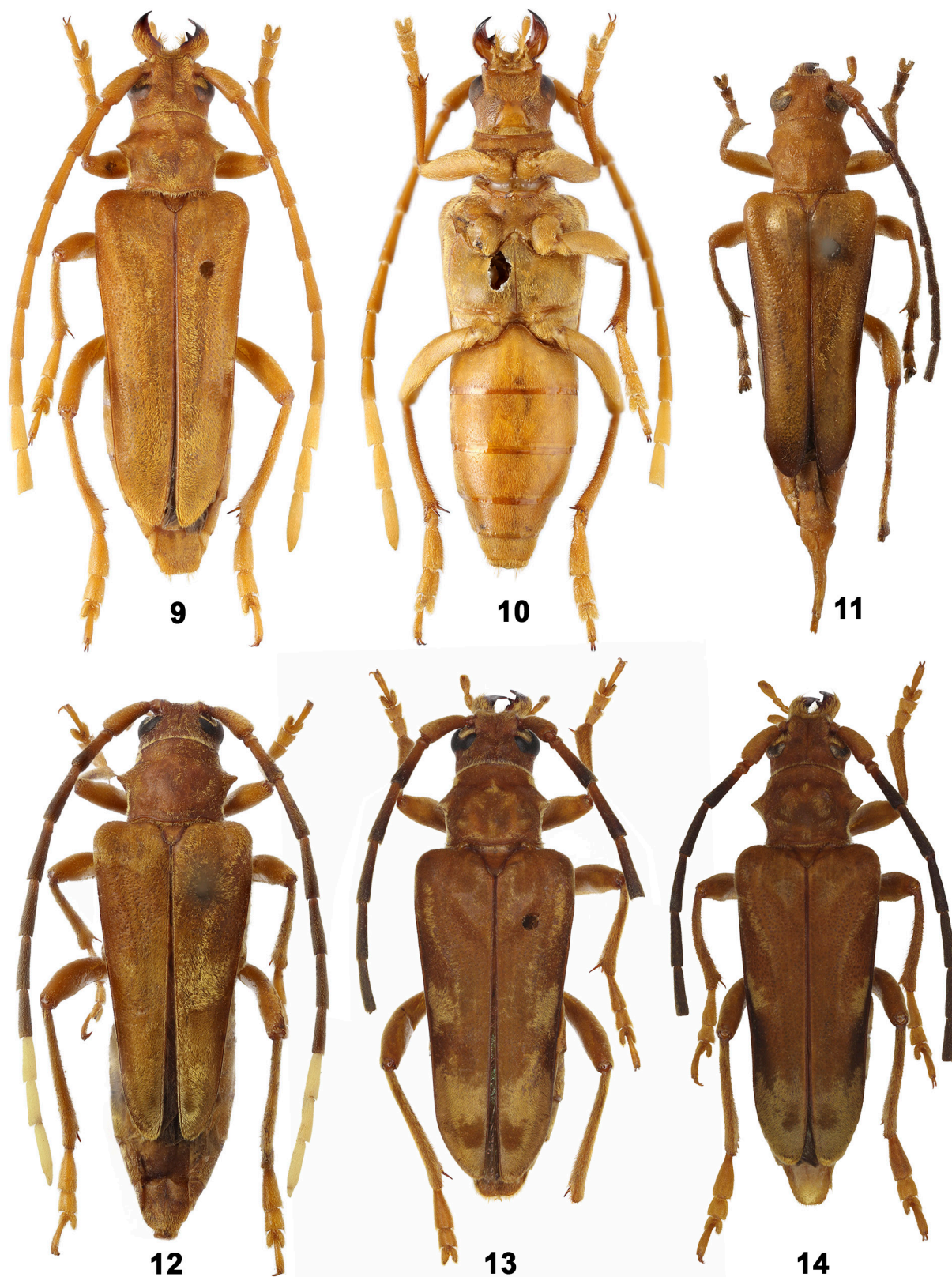


Figs 1–8. *Trypogeus* Lacordaire, 1869, males.

1–3, 8 – *T. pygmaeus* sp. n., holotype; 4–5, 7 – *T. superbus* Pic, 1922; 6 – *T. gressitti* Miroshnikov, 2014, holotype. 1–2, 4 – habitus; 1, 4 – dorsal view, 2 – ventral view; 3, 5–6 – head, ventral view; 7 – head and pronotum; 8 – head, pronotum and base of elytra.

Рис. 1–8. *Trypogeus* Lacordaire, 1869, самцы.

1–3, 8 – *T. pygmaeus* sp. n., голотип; 4–5, 7 – *T. superbus* Pic, 1922; 6 – *T. gressitti* Miroshnikov, 2014, голотип. 1–2, 4 – общий вид; 1, 4 – сверху, 2 – снизу; 3, 5–6 – голова снизу; 7 – голова и переднеспинка; 8 – голова, переднеспинка и основание надкрылий.



Figs 9–14. *Trypogeus* Lacordaire, 1869, females.

9–10 – *T. tainguyensis* sp. n.; 11 – *T. tonkinensis* sp. n.; 12–13 – *T. superbus* Pic, 1922; 14 – *T. gressitti* Miroshnikov, 2014. 9–11 – holotypes; 13–14 – paratypes; 9, 11–14 – habitus, dorsal view; 10 – habitus, ventral view.

Рис. 9–14. *Trypogeus* Lacordaire, 1869, самки.

9–10 – *T. tainguyensis* sp. n.; 11 – *T. tonkinensis* sp. n.; 12–13 – *T. superbus* Pic, 1922; 14 – *T. gressitti* Miroshnikov, 2014. 9–11 – голотипы; 13–14 – паратипы; 9, 11–14 – общий вид сверху; 10 – общий вид снизу.

Material. Holotypus, ♀ (MNHN): “Tonkin occ. Rég. de Hoa Binh, R.P.A. de Cooman, 1918”; “Muséum Paris 1952 coll. R. Oberthur”; “*Trypogeus superbus* (Pic), ♀, E. Vives det. 2011”.

Diagnosis. Based on female characters, this new species seems to especially strongly resemble *T. javanicus* Aurivillius, 1925, but differs by many antennomeres being more strongly elongated, the generally longer antennae, the elytra being clearly less contrasting darkened on the sides and apically. From the geographically closest *T. albicornis* Lacordaire, 1869, which is also similar in some important features like the above species, *T. tonkinensis* **sp. n.** differs at least by the elytra being less strongly diverging along the suture in the apical part and less strongly darkened apically, the partly darkened tarsi, and the more strongly elongated protasomeres.

The new species differs from *T. superbus*, as well as from other similar species, by the shiny elytra, the distinctly peculiar light setation (formed by more or less dense, very short, suberect or partly erect setae), the obtusely angulate, apically nearly obtuse (but not too sharpened) lateral tubercles of the pronotum (on the contrary, it is by these features that *T. tonkinensis* **sp. n.** clearly resembles *T. javanicus*, *T. albicornis* and some other congeners).

Description. Female. Body length 13 mm (without ovipositor), humeral width 3.7 mm. Coloration of integument mainly combines red yellow and yellow tones; each elytron along lateral margin and at apex, mandibles and tarsi partly, tibiae apically obscured; eyes black; antennomere 3, except for base, and antennomeres 4–8 (see Remarks) dark brown; elytra with a clear shine.

Head slightly narrower than pronotum at level of lateral tubercles; with moderately developed antennal tubercles; with a heterogeneous, scabrous, confluent puncturation dorsally, most coarse in area of antennal tubercles; with a well-expressed median groove between bases of antennae and eyes; mandibles long, strongly curved; right mandible, like in all congeners, with a large tooth at inner margin; eyes deeply emarginate, slightly convex, with not too large, but distinct ocelli; genae short; gula with clear transverse wrinkles; on either side of it with same sculpture; length ratio of antennomeres 1–8, 24 : 7 : 27 : 28 : 28 : 27 : 26 : 24 (antennomeres 9–11 missing); antennomere 2 subequal in length and width.

Pronotum at level of lateral tubercles 1.11 times as wide as long; at base barely wider than at apex; lateral tubercles moderately developed, not too sharpened apically, as in Color plate 2: 11; disc with weakly developed tubercles, three at base and further two in the middle; with a heterogeneous, small partly, very dense and confluent puncturation.

Scutellum triangular, rounded apically, with a very small, mainly unclear puncturation.

Elytra 2.12 times as long as humeral width, relatively strongly narrowed towards apex, in apical third partly about parallel-sided, noticeably diverging along suture at apex; each elytron rounded at apex; with a very clear, more or less uniform punctures from base to almost until apex of elytra.

Prosternal process very narrow between coxae; mesosternal process rather broad; metasternum with a small dense puncturation and clear median groove; metepisterna very wide, moderately narrowed towards apex; sternites with a small, dense,

partly unclear puncturation; last (visible) sternite widely rounded apically; last (visible) tergite at apex truncate.

Legs moderately long; femora thickened but not claviform.

Due partly to character of elytral setation (see Diagnosis), elytra look shiny.

Etymology. The name of this new species is related to the historical and geographical region Tonkin (now northern Vietnam) which it inhabits.

Remarks. The antennae and legs of the holotype are badly damaged (Color plate 2: 11).

Distribution. Northern Vietnam.

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References

- Gressitt J.L., Rondon J.A. 1970. Cerambycids of Laos (Disteniidae, Prioninae, Philinae, Aseminae, Lepturinae, Cerambycinae). In: Gressitt J.L., Rondon J.A., Breuning S. von. Cerambycid-beetles of Laos. Pacific Insects Monograph. Vol. 24. Honolulu: Entomology Department, Bernice P. Bishop Museum: 1–314.
- Hayashi M., Villiers A. 1985. Revision of the Asian Lepturinae (Coleoptera: Cerambycidae). With special reference to the type specimens' inspection. Part I. *Bulletin of the Osaka Jonan Women's Junior College*. 19–20: 1–75 + pls 1–15.
- Miroshnikov A.I. 2014. The genus *Trypogeus* Lacordaire, 1869: an annotated check list and descriptions of new species from Cambodia and Laos (Coleoptera: Cerambycidae). In: Advances in studies on Asian cerambycids (Coleoptera: Cerambycidae). Papers by Alexandr I. Miroshnikov, dedicated to the memory of Dr. Judson Linsley Gressitt. Krasnodar – Moscow: KMK Scientific Press Ltd.: 51–71.
- Pic M. 1922. Mélanges Exotico-Entomologiques. Fasc. 36. Moulins: Imprimeries Réunies: 33 p.
- Pic M. 1927. Mélanges Exotico-Entomologiques. Fasc. 50. Moulins: Imprimeries Réunies: 36 p.
- Vives E. 2007. Notes on Lepturinae (XV). El género *Trypogeus* Lacordaire, 1869 (Coleoptera, Cerambycidae) y su posición sistemática. *Nouvelle Revue d'Entomologie* (N.S.). 24(1): 53–59.
- Vives E. 2015. Revision of the genus *Trypogeus* Lacordaire, 1869 (Cerambycidae, Dorcasominae). *ZooKeys*. 502: 39–60.

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