

## Six new species of the genus *Tmesisternus* from New Guinea and Seram (Coleoptera: Cerambycidae, Lamiinae, Tmesisternini)

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**Abstract:** Six new species in the genus *Tmesisternus* Latreille, 1829 were discovered. Four of the new species were found on the mainland of New Guinea, of which three in Papua New Guinea and one in Papua, Indonesia, one on Waigeo Island, Indonesia and one from the island Seram, Indonesia. The species are described and a comparison is made between some similar species. The habitus of the holotypes and male genital drawings are depicted when available.

**Rangkuman:** Ditemukan enam spesies baru pada genus *Tmesisternus* Latreille, 1829. Empat spesies ditemukan di daratan besar New Guinea, tiga spesies diantaranya ditemukan di Papua New Guinea dan satu spesies di Papua, Indonesia, satu spesies di Pulau Waigeo, Indonesia dan satu spesies ditemukan di Pulau Seram, Indonesia. Masing-masing spesies dideskripsikan dan dibuat perbandingan di antara beberapa spesies yang sama. Habitus dari holotype dan gambar genitalia jantan diberikan ilustrasi jika tersedia.

**Keywords:** New species, Cerambycidae, *Tmesisternus*, New Guinea, Waigeo, Seram, Indonesia, Papua New Guinea.

### Introduction

Six new species were recently discovered in the collections of BPBM, RMNH and MFNB. *Tmesisternus pindiuensis* **spec. nov.**, *T. busuensis* **spec. nov.** and *T. hunsteinensis* **spec. nov.** originate from Papua New Guinea, *T. wendesi* **spec. nov.** is found in Papua, Indonesia, *T. bernsteini* **spec. nov.** is found on Waigeo Island, Indonesia and *T. deyrollei* **spec. nov.** is from Seram, Indonesia. Of some species the male genitalia are depicted to support the status of the new species, female genitalia were not used for this purpose.

### Abbreviations used

BPBM – Bernice P. Bishop Museum, Honolulu, Hawaii, United States of America  
MFNB – Museum für Naturkunde (Humboldt Museum), Berlin, Germany  
RMNH – Naturalis Biodiversity Center, Leiden, The Netherlands

***Tmesisternus bernsteini* spec. nov.** (Fig. 1)

urn:lsid:zoobank.org:act: 69A6F5D8-1438-4D1D-ABB4-667BB99CEFE2

**Holotype:** ♂, Waigeo, Bernstein [RMNH].

**Diagnosis:** Judged from the key in Gressitt (1984) page 31.15 this species belongs to the *luteostratus* group, but *T. bernsteini* differs in being entirely covered with grey-white pubescens and the pronotal lateral tubercles being less strongly pronounced.

**Description:** Length: 14 mm, width: 4 mm. Female unknown.

Head pitchy, with red eyes, entirely with contiguous grey-white pubescens except for a central double ridged groove from base to labrum, lateral ridges and a small area behind the upper eye-lobe. In the depression of the ridges grey-white pubescens and deep punctures are present. Throat smooth and shiny.

Antenna orange, in holotype unfortunately not complete. Scape a little swollen to the apex. Pronotum pitchy, trapezoidal. Strong lateral ridges with a blunt tubercle before reaching the apex. Ventro-laterally with a shallow blunt tubercle. Dorsally with deep punctures and grey-white contiguous pubescens, except for a central area. Ventrally a smooth and shiny, strong elevated mesosternum and laterally covered with grey pubescens.

Scutellum pitchy and entirely covered with grey-white pubescens.

Elytra chestnut coloured. Round shoulders, a little wider than pronotal base, nearly parallel sided and gradually bent to a strong lateral spined apex. One strong ridge from base to the strong apical tubercle, on both sides of that ridge two less pronounced shorter ridges. Entirely covered with fine punctures, some arranged in rows with grey stiff hairs. Punctures most numerous at the base and decreasing off base, especially the punctures without pubescens.

Abdomen ventrally pitchy with grey short pubescens, pitchy spots and a smooth central area.

Legs with femora chestnut coloured, tibia and tarsi yellow. Entirely covered with very short grey pubescens.

The male genitalia are not depicted because they were not completely present in the holotype specimen, probably due to some old pest damage.

**Distribution:** Only known from Waigeo Island, Raja Ampat Islands, Papua Barat, Indonesia.

**Etymology:** *Tmesisternus bernsteini* is named in honor of the collector and researcher Heinrich Agathon Bernstein (1828-1865), who collected many insects for the Rijksmuseum voor Natuurlijke Historie (Leiden) in the Dutch Indies, mainly in Sulawesi and the North Moluccas.

***Tmesisternus busuensis spec. nov.*** (Figs 2, 7)

urn:lsid:zoobank.org:act: B2F3FECA-33AD-428E-8420-124F343721A8

**Holotype:** ♂, [Papua New Guinea] Busu R. 50-70 m. 7.viii.1964 [BPBM].

**Diagnosis:** *Tmesisternus busuensis* resembles very much *T. testegaus* Withaar, 2016, but is much smaller than the latter and has yellow spots on the front and has a more complicated structure of the genitalia.

**Description:** Length: 12 mm, width: 4 mm. Female unknown.

Head pitchy and shiny, with red eyes. Dorsally entirely covered with very fine grey pubescens, except for a double ridged groove from base to labrum and lateral ridges. Labrum with long stiff grey hairs. Ventrally with long contiguous grey pubescens. On front and vertex four dots of long contiguous grey pubescens. Two yellow pubescent spots on front between the eyes and the lateral ridges.

Antenna chestnut coloured, eleven segmented and just exceeding the elytra apex. First antennal segment clavate.

Pronotum pitchy, a somewhat wider than long, narrowing to the apex. Lateral ridges with a blunt tubercle just in front of the apex. Dorsally with scattered punctures, except for a central area. Entirely covered with transparent, transverse grey pubescens. Ventro-laterally with a large blunt tubercle in a grey pubescent area with dark spots.

Scutellum chestnut coloured with laterally scarce grey pubescens.

Elytra a little wider than the base of the pronotum, with pronounced round shoulders, gradually narrowing to the laterally strong spined apex. Pitchy with a few chestnut coloured areas. A large postscutellar smooth chestnut coloured area, except for a sutural ridge and three longitudinal ridges on the elytra. Between the ridges entirely covered with grey pubescens and some longitudinal white pubescent spots. On the epipleura four large white pubescent spots. On basal half some punctures, except for the post scutellar area.

Legs with femora pedunculate and with the tibia olive coloured. Tarsi red, entirely covered with fine transparent pubescens.

Abdomen ventrally smooth, chestnut coloured with grey pubescens.

Genitalia as in fig. 7.

**Distribution:** The holotype was found near Busu River, near Lae, Morobe Province, Papua New Guinea

**Etymology:** The species name *busuensis* is derived from the Busu River in Papua New Guinea where the holotype was found.

***Tmesisternus deyrollei spec. nov.*** (Figs 3, 8)

urn:lsid:zoobank.org:act: 4F0DAA92-2807-4FFD-9519-ED908F6EFFF7

**Holotype:** ♂, Ceram ill. 1882. E. Deyrolle [RMNH].

**Diagnosis:** The species resembles very much *Tmesisternus carlae* Withaar, 2017 but *deyrollei*

is much larger. It has pronotal tubercles (lacking in *carlae*) and the structure of the genitalia is different.

**Description:** Length: 19,5 mm, width: 5 mm. Female unknown.

Head black with black eyes. A double ridged groove from base to labrum, with on front an elliptical depression. Entirely covered with long grey contiguous pubescens, except for the ventral side, the central ridged groove, small lateral ridges and a small area behind the upper eye lobe. Antennae red, in holotype unfortunately not complete. Scape a little clavate. Entirely covered with very short transparent pubescens, except for the scape which is fringed beneath.

Pronotum black, with deep punctures, except for a central longitudinal area. From base bent to the tapering apex. No lateral ridges, but with sharp tubercles just in front of the apex. Vento-laterally another small blunt tubercle present, surrounded by long grey pubescens. Entirely covered with fine transverse grey pubescens. Ventrally smooth and glossy.

Scutellum black, nearly round with scarce fine grey pubescens.

Elytra black, basal half parallel sided, apical half tapering to the round apex. Entirely covered with fine punctures and fine grey pubescens, some arranged in rows, except for a wide postscutellar area. The sutural ridge and two weak longitudinal ridges are fused just behind the apex and thus reaching the apex.

Legs with femora black, glossy, strong clavate and covered with contiguous grey pubescens. Tibia and tarsi red with fine transparent pubescens.

Abdomen ventrally, black and glossy, covered with long contiguous grey pubescens, except for a small central area.

Genitalia as in fig. 8.

**Distribution:** It has been found on the island Seram (Moluccas, Indonesia).

**Etymology:** *Tmesisternus deyrollei* is named in honor of collector Emile Deyrolle (1838-1917), a naturalia trader from Paris (France), who obtained the holotype for the collection of the Rijksmuseum voor Natuurlijke Historie (Leiden), but probably did not collect it himself on Seram island.

***Tmesisternus hunsteinensis* spec. nov.** (Fig. 4)

urn:lsid:zoobank.org:act: 28DB2E37-BAFB-46E5-814F-A80E4839084A

**Holotype:** ♀, D[eutsch].N[eu].Guinea, Hunsteinspitze, 5.iii.1913, Kais[erin]. Augusta [Fluss] exp., S.G. Burgers [MFNB].

**Paratypes:** 1 ♀, as holotype, no date, [MFNB]; 1 ♀, as holotype, 4.ii.1913 [RMNH].

**Diagnosis:** Judged from the key in Gressitt (1984) page 31.9 this species belongs to the *subchlorus* group. But *T. hunsteinensis* only resembles slightly *T. subchlorus* Breuning, 1945, but certainly not the other three species in this group.

**Description:** Length: 16-19 mm, width: 5-6 mm. Male unknown.

Head pitchy, dorsally and ventrally entirely covered with short grey pubescens, except for a double ridged groove with on frons an elliptical depression and lateral ridges bent from

labrum along the antennal insertions, rounding the upper eye lobes and running straight to the base. Eyes red. On front a few and on vertex numerous small punctures. Antennae in all three type specimens not complete, chestnut coloured, shiny and covered with very short transparent pubescens and with short fringes beneath. The scape swollen at the apex.

Pronotum pitchy and shiny, twice as wide as long, laterally constricted in the middle. Entirely covered with deep punctures, except for a narrow medial line. Short contiguous grey pubescens, particularly at laterally. At base ventro-laterally a sharp tubercle, not visible from above, and long contiguous grey pubescens.

Scutellum pitchy, shiny, at base round and apically pointed, with laterally grey pubescens. Elytra pitchy, with strong pronounced shoulders, gradually narrowing to the lateral strong spined apex. Basally shiny, entirely covered with very short contiguous grey pubescens, except for a large postscutellar area. Four strong longitudinal ridges which are almost covered by the pubescens. Basally with a few deep punctures, more apically with smaller punctures, some arranged in rows. Some areas on the elytra have whitish pubescens: behind the shoulders a large area along the epipleura, some spots apically from the smooth postscutellar area, a subapical transverse oblique line from sutur to the sides and more apically a shorter less oblique transverse line and on the epipleura two or three extra white spots.

Legs with tarsi and tibia entirely chestnut coloured with fine grey pubescens. The femora pedunculate and dark brown to black.

Abdomen ventrally chestnut coloured, smooth and shiny. Entirely covered with fine grey pubescens with tiny chestnut coloured spots. In the centre a narrow smooth area.

Female genitalia not depicted.

**Distribution:** The types were collected in former German New Guinea at the Hunsteinspitze, at present known as Mount Hunstein, East Sepik Province, Papua New Guinea.

**Etymology:** The species is named after Mount Hunstein, where the types have been collected.

***Tmesisternus pindiuensis spec. nov.*** (Figs 5, 9)

urn:lsid:zoobank.org:act: 8668DD4C-11B3-47FA-B405-CBF30164910A

**Holotype:** ♂, Papua New Guinea, Huon penn. Pindiu, 870-1300m, 21-22.iv.1963 [BPBM].

**Paratypes:** 1 ♂, Papua New Guinea, Tifalmin, Telefomin. Subd. W. Sepik 11.xi.1970 [BPBM]; 1 ♀, [Papua New Guinea] S.E. New Guinea, Betege, 20 km. N.E. of Koroba, 1600 m, 23.ix.1963, Leg. Straatman [RMNH].

**Diagnosis:** The species has dorsally barely any pubescens and therefore appears almost entirely black and cannot be placed in any presently known species group.

**Description:** Length: 9mm, width: 3mm. Female unknown.

Head pitchy and shiny, ventrally smooth and shiny, dorsally with very fine transparent pubescens, except for some elevated ridges. A double ridged groove from base to labrum, with in the middle on front an elliptical depression, lateral ridges from labrum to the antennal insertions and continuing around the upper eye lobe to the base.

Antennae brown with eleven segments. Scape somewhat darker brown and clavate. Pronotum pitchy, shiny and from base gradually narrowing to the apex. Dorsally with punctures, except for a central area. Laterally with a small sharp tubercle in front of the apex and ventro-laterally another sharp tubercle in the middle. Ventrally with transparent pubescens.

Scutellum black, smooth and shiny and with a round apex.

Elytra pitchy and shiny. At base much wider than base of pronotum and acutely narrowing to a laterally spined apex. A wide smooth shield-shaped postscutellar area, covering the basal third of the elytra. Two strong ridges running from this smooth area, fusing and ending just behind the apex, a short ridge runs in the middle of those two ridges. Elytra entirely covered with strong punctures, some arranged in rows. At the sides of the scutellum with three deep punctures.

Legs shiny, the clavate femur and the tibia olive-brown coloured. Tarsi chestnut coloured, entirely covered with very short transparent pubescens.

Abdomen ventrally chestnut coloured, covered with transparent pubescens, except for a wide central area.

Genitalia as in fig. 9.

**Distribution:** Widely distributed in eastern New Guinea, at higher altitudes.

**Etymology:** The species is named after the village Pindiu (Huon Peninsula, Morobe Province, Papua New Guinea) where the holotype was found.

***Tmesisternus wendesi* spec. nov.** (Figs 6, 10)

urn:lsid:zoobank.org:act: E14F23E5-3CAB-4637-8942-949DD1BD7512

**Holotype:** ♂, [Indonesia] Papua Exp. 1903, Wendesi [RMNH].

**Diagnosis:** Judged from the key in Gressitt (1984) page 32.20 this species belongs to the *griseus* group.

**Description:** Length: 10 mm, width: 3 mm. Female unknown.

Head chestnut coloured. Dorsally and ventrally with grey pubescens, except dorsally for a central shallow ridged groove from base to labrum, lateral ridges from antennal insertions to the front but not reaching the labrum and two small bands behind the lower eye lobes. Eyes red, entirely covered with fine punctures.

Antennae in holotype unfortunately not complete, only the clavate scape present which is chestnut coloured.

Pronotum chestnut coloured, almost square, somewhat tapering to the apex. Shallow lateral ridges, apically with a tiny blunt tubercle. Entirely covered with deep punctures and with very fine transparent pubescens, except for a small central area. Dorsally long yellow contiguous stiff hairs along the lateral ridges. Ventro-laterally a second small, indistinct blunt tubercle.

Scutellum pitchy and shiny.

Elytra yellow-brown, with a darker brown postscutellar area. Basal three-quarter parallel sided, apically gradually bent to a strong lateral spined apex. Elytra basally with deep

punctures apically continued by small punctures covered with a transparent layer, entirely covered with fine transparent pubescens, at some areas the pubescens is grey, at both sides of the sutur scattered short stiff yellow hairs. Subapically and apically with a faint oblique transverse of pale yellow pubescens.

Legs with olive-green coloured femora. Tibia and tarsi yellow.

Abdomen ventrally chestnut coloured with scarce grey pubescens.

Genitalia as in fig. 10.

**Distribution:** Only the holotype is known, from Wendesi at the southside of the Birdshead Peninsula at the Wandammen Bay, Papua Barat, Indonesia.

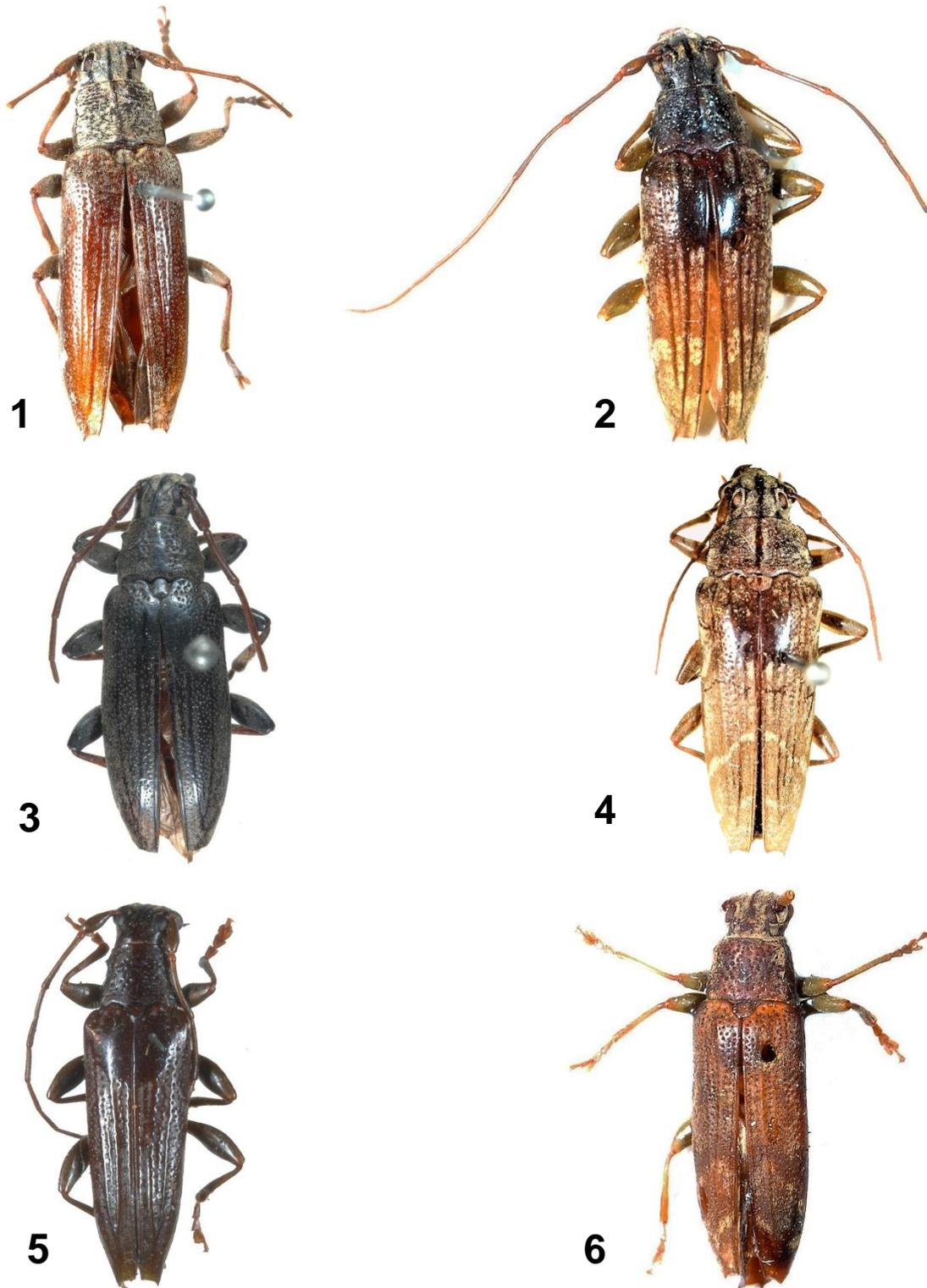
**Etymology:** The species is named after the village Wendesi where the holotype was found.

### Acknowledgments

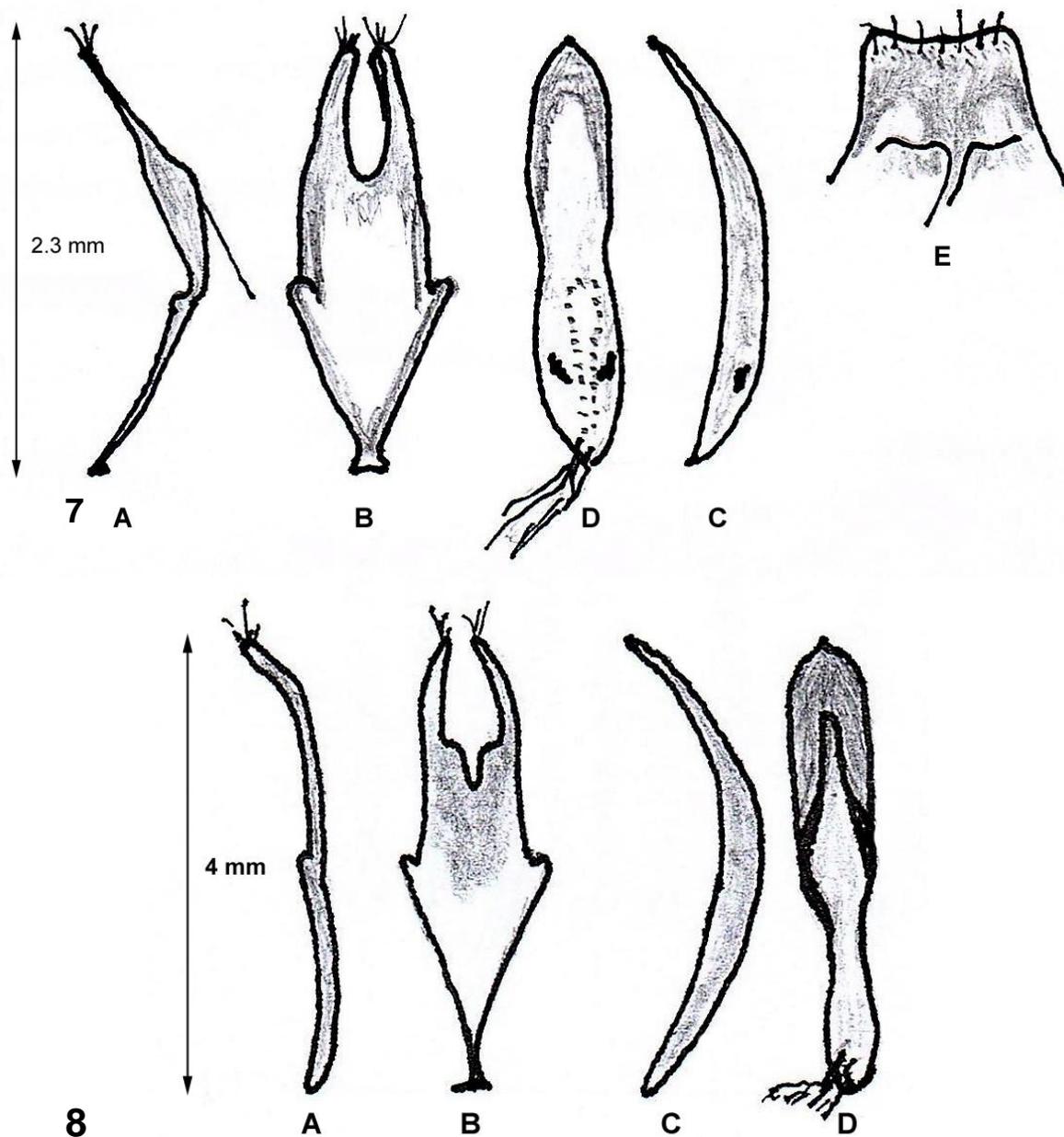
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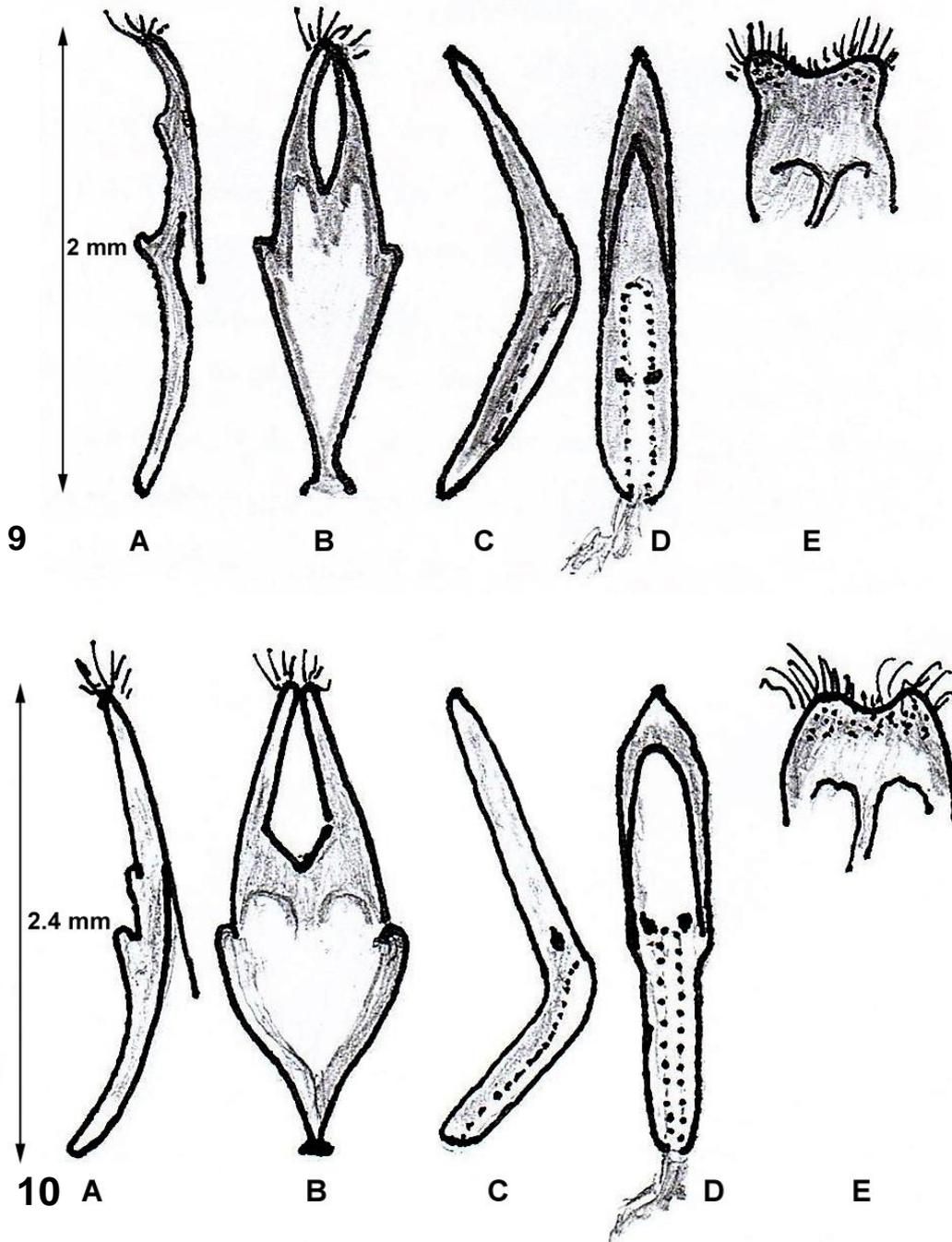
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**Figs 1-6.** *Tmesisternus* species, adults. **Fig. 1.** *T. bernsteini* **spec. nov.** holotype ♂, Waigeo Island, Papua Barat, Indonesia (RMNH); **Fig. 2.** *T. busuensis* **spec. nov.** holotype ♂, Busu River, Papua New Guinea (BPBM); **Fig. 3.** *T. deyrollei* **spec. nov.** holotype ♂, Seram Island, Moluccas, Indonesia (RMNH); **Fig. 4.** *T. hunsteinensis* **spec. nov.** holotype ♀, Hunstein Spitze, East Sepik Province, Papua New Guinea (MFNB); **Fig. 5.** *T. pindiuensis* **spec. nov.** holotype ♂, Pindiu, Morobe Province, Papua New Guinea (BPBM); **Fig. 6.** *T. wendesi* **spec. nov.** holotype ♂, Wendesi, Papua Barat, Indonesia (RMNH).



**Figs 7-8.** Male genitalia of *Tmesisternus*, a. paramere lateral; b. paramere ventral; c. aedeagus ventral; d. aedeagus lateral. **Fig. 7.** *T. busuensis* spec. nov.; **Fig. 8.** *T. deyrollei* spec. nov.



**Figs 9-10.** Male genitalia of *Tmesisternus*, a. paramere lateral; b. paramere ventral; c. aedeagus ventral; d. aedeagus lateral; e. 8<sup>th</sup> ventral tergite. **Fig. 9.** *T. pindiuensis* **spec. nov.**; **Fig. 10.** *T. wendesi* **spec. nov.**