

## **Four new species of the genus *Tmesisternus* Latreille, 1829 (Coleoptera: Cerambycidae, Tmesisternini), from New Guinea.**

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*Abstract:* Four species, new to science, of the genus *Tmesisternus* Latreille, 1829 are described, new to science. Three species originate from Papua, Indonesia: *Tmesisternus abmisibilis*, *T. bodemensis* and *T. bazuini*. One species, *T. lordbergia* is found in Papua New Guinea.

*Rangkuman:* Empat spesies, baru untuk ilmu, dari genus *Tmesisternus* Latreille, 1829 dipertelakan. Tiga di antaranya berasal dari Papua, Indonesia; sedangkan yang keempat ditemukan di Papua New Guinea.

### **Depositories**

The abbreviations given below have been used throughout the text.

- AWW - Collection Andreas Weigel, Wernburg, Germany
- BPBM - Bernice P. Bishop Museum, Honolulu, U.S.A.
- NCB-ZMAN - Netherlands Centre for Biodiversity (NCB Naturalis), section ZMAN, Leiden, The Netherlands (former Zoological Museum of Amsterdam, The Netherlands)
- PNG - Papua New Guinea
- ZMAN - (former) Zoological Museum of Amsterdam, The Netherlands
- ZMHB - Museum für Naturkunde Humboldt-Universität, Berlin, Germany

### **Introduction**

Examination unidentified material of the genus *Tmesisternus* in various museums, leads to the recognition of four new species, collected in New Guinea over the last five – six decades (although for one species no exact collecting data is available).

## Descriptions of four new species

### *Tmesisternus bazuini* spec. nov.

(figs 1, 5)

**Holotype:** ♀, Indonesia, Papua, Nabire, Geelvink Bay, 0-30 m, 2-9-1962, NCB-ZMAN.

**Diagnosis:** Characterized by a big groove on the front and two large yellow spots along that groove, this species can be placed in the *jaspideus* group, as described by Gressit (1984). It is quite similar to *T. laensis*, but differs by not having two small yellow spots along the lateral sides of the elytra. *T. bazuini* also looks like *bodemensis* (see below), but it differs by absence of lateral ridges on the front, by having a front completely covered with dense yellow toment and by a yellow spot on the cheek; the small lateral spots on the elytra are closer to the large spot in this species than it is in *bodemensis* and by a clearly different abdominal tergite.

**Description:** Head dark brown, with a grooved weak ridge in the middle on front and vertex; covered with yellow pubescence except an area along the central ridge with a small squarish area on front, and behind the upper and lower eye lobes; there are no lateral ridges and no punctures. Antenna in this specimen not complete, dark brown, completely covered with grey toment and black fringed beneath. Segment 4 slightly longer than segment 3; each longer than the scape, about reaching the apex of the elytra. Pronotum: dark brown, at base smaller than elytra, tapering forward. Lateral sinuated ridges with a strong rounded tubercle and a second lower tubercle smaller and pointed. Dispersed and deep punctated, except a narrow longitudinal area in the middle, not reaching the base. Completely covered with confused yellow and grey pubescence. Scutellum dark brown, covered with grey pubescence except the front border. Elytra dark brown with very fine dark grey toment, dispersed and not deep punctated. Also with confused drawings of longer white/grey toment: on a broad area along base, a broad area around the middle of the elytra and two narrow lines, one after the other, zigzagging from suture oblique to the lateral sides, and another small area on the apex of the elytra. On the brown grey area between the broad bands of longer grey toment at the base and around the middle of the elytra, there are two yellow spots on each elytron, a large one in the middle and a smaller one, a little more to the apex, on the lateral side. Elytra emarginated

and spined laterally. Legs: brown, completely covered with grey toment. Venter: except a glabrous brown area in the middle, covered with grey toment with small brown dots. Length: 15 mm. Width 4.5 mm.

Male: unknown.

**Etymology:** This species is named after Ing. Alexander J. C. Bazuin for his grateful help with the website for the **Papua Insects Foundation**.

***Tmesisternus abmisibilis spec. nov.***

(figs 2, 6)

**Holotype:** ♀, Indonesia, Papua, Star Mountains, Abmisibil, 1950-2000 m, 2-2004, NCB-ZMAN.

**Paratype (1):** ♀, Indonesia, Papua, Jayawijaya Prov. Okloma 1650-1800 m, 30-9-1993, leg. Riedel, AWW.

**Diagnosis:** The front and habitus does match the *herbaceus* group (Gressitt, 1984), but *abmisibilis* differs by having a glabrous postscutellar area. It also looks similar to *T. ludificator* in the *irregularis* group (Gressitt, 1984), but differs by absence of lateral spines at the elytral apex and by the elytra which is not longitudinal ridged.

**Description:** Head black, covered with white toment, except a swollen mid-area with a deep grooved ridge on front and vertex, with an elliptical depression on the front. Strong lateral ridges and the front along the mid-groove, some punctures. Labrum red brown. Antenna dark brown, eleven segmented, reaching elytral apex, scape narrowed to base. Completely grey tomented and fringed beneath. Pronotum black, at base broader than head, smaller than elytra base and narrowed to front. Lateral sides with a blunt tubercle at one third from front, followed by a sinuating ridge to the base. Under that ridge a second sharp tubercle visible from above and one third from base. Covered with fine grey toment and scattered punctated except for a longitudinal glabrous area in the middle. Scutellum black, pointed at top and rounded at base, with lateral sides narrow grey tomented. Elytra black brown, completely covered with yellow toment with fine brown spots, except for a square postscutellar glabrous area with on the lateral sides two longitudinal fine ridges from the elytral base, parallel to sutur, until before apex of the

longitudinal fine ridges from the elytral base, parallel to sutur, until before apex of the elytra, sometimes only partly visible. Two yellow tomented oval spots on both sides of the scutellum in depressions between the start of the two black costa and positioned in the black squarish postscutellar area. The elytra scattered, fine punctated on first half, except the postscutellar area. A post central, large, round, white tomented spot on each elytron on the lateral sides but not reaching epipleura and surrounded by a brown tomented area. The elytral apex emarginated with strong lateral spines. Legs dark brown, femora red on top, tarsi red/brown, completely covered with grey toment. Venter red/brown, with a small glabrous central area and the lateral sides with brown spotted grey/ brown toment. Length: 15 mm. Width: 5 mm.

Male: unknown.

**Etymology:** This species is named after the village Abmisibil, where this specimen is found by the expedition ZMAN in 2004.

***Tmesisternus bodemensis spec. nov.***

(figs. 3, 7)

**Holotype:** ♀, Indonesia, Papua, Bodem, Sarmi area, 7-10-1959, leg. Maa, BPMB.

**Diagnosis:** This species looks like *T. laensis* Gressit, 1984 in the *marmoratus* group (Gressit, 1984), but differs by having only one spot on the lateral side of the elytra, instead of two and by its lateral ridges on the front (absent in *laensis*). *T. bodemensis* also looks similar to *T. bazuini* (see above), but differs by a strong lateral ridge on the front, by not having a front completely covered with dense yellow toment, by lacking a yellow spot on the cheek and by the small lateral spot on the elytra more separated from the large spot and more to the middle. The genitalia are different, especially the 8<sup>th</sup> tergite.

**Description:** Head dark brown, dispersed dull yellow tomented except for a grooved central ridge, lateral ridges from labrum to antennal insertions and a very small area behind the upper eye lobes. Some fine punctures on the front. Antenna not complete in this specimen. Dark brown, fringed beneath and segment 4 a little longer than 3. Pronotum dark brown, at base a little smaller than elytra base and tapering to the front. Lateral sides with a large blunt tubercle at one third from front and a second lower

tubercle, pointed and visible from above. Covered with grey toment and irregular coarse punctated except for a small central area, not reaching base and top. Scutellum dark brown, nearly circular; in the middle with grey toment. Elytra dark brown, very dispersed yellow tomented and completely but scarcely punctated. Apex weak emarginated with a weak lateral spine. Pattern of dense yellow toment: one large round spot at one fourth from base in the middle of each elytron, a second smaller spot at the lateral sides of the elytra about in the middle of each elytron. On each elytron starts a line in the middle, along the suture downwards, postmedially bending obliquely zigzagging to the lateral sides. Parallel with this zigzag line is a second one a little more to the apex, also from suture to the lateral sides. The zigzagging two lines are touching each other in the middle of each elytron. Legs dark brown, covered with very fine grey toment. Tarsi red/brown with yellow toment. Venter dark brown, a smooth area in the middle and lateral sides with brown spotted grey toment. Length: 15 mm. Width: 5 mm.

Male: unknown.

**Etymology:** This species is named after the village in the Sarmi area where the specimen was found by Mr. Maa.

***Tmesisternus lordbergia spec. nov.***

(figs 4, 8)

**Holotype:** ♂, PNG, Lordberg, ZMHB.

**Diagnosis:** With a slender body, a pronotum twice as broad as long and strongly narrowed elytra, this species can be placed in the *latithorax* group (Gressitt, 1984: p.31). *T. lordbergia* has some similarity with *T. multilineatus* (Breuning, 1954) in this group, but the latter has a pronotum with a lateral side with two tubercles, while *lordbergia* has a simple arched lateral side. It is therefore considered to be a new species in this group, though "the pronotum is less than twice as wide as long" (Gressitt, 1984:31.5).

**Description:** Head dark brown, narrowed on base. Completely covered with grey toment, except for a grooved ridge in the middle, two lateral ridges and a small area behind the upper eye lobes, more tomented around the eye lobes. Front and vertex scattered punctated. Antenna eleven segmented, reaching the apex of elytra, dark brown, scape narrowed at base. Segments 3 and 4 about equal in length. All segments very fine grey

tomented, a few short stiff hairs and fringed beneath. Pronotum dark brown. Twice as broad as long, a little broader than elytra base, lateral sides expanded and rounded with a lateral tubercle not visible from above. Completely scattered punctated, except a longitudinal area in the centre. The borders covered with fine grey toment. Scutellum triangular with apical corner rounded, covered with grey toment on lateral sides. Elytra dark brown, strongly narrowed apically; completely covered with grey toment, except a post scutellar area. Very fine punctated except for the base that is more deep punctated. The second half of the elytra with 5 weak longitudinal ridges including a sutural one. Apex emarginated and spined ectoapically. Some drawings in yellow toment: one from base around the shoulders and epipleura, oblique back to dorsum until one quarter of the elytra, a second one starts a little before the middle of the elytra, M-shaped from both lateral sides going oblique up and down along sutural black area, back to suture, continuing backwards along suture and after the middle of the elytra to the lateral side parallel to outer lines of the M, ending before epipleura. In the so embraced areas on both sides a yellow longitudinal stripe on the lateral sides in the middle. Before apex two winding stripes from suture backwards to lateral sides also ending before epipleura. Legs femora black. Knees, tibia and tarsi red/brown. All fine grey toment. Venter completely covered with grey toment with some dark punctures and some stiff hairs except a smooth central area.

Length: 17mm. Width: 6mm.

Female: unknown.

**Etymology:** This species is named after the mountain in PNG where it was found.

### Discussion

Recent results and description of new species of the genus *Tmesisternus* Latreille, 1829 show several shortcomings in the complete key to separate the members of the genus *Tmesisternus* (Gressit, 1984) in various groups. Within the *latithorax* group is a problem, as the prothorax is defined as "usually less than twice as wide as long" (p. 31.5), while on page 84.27 –where Gressit renamed *T. laticollis* Breuning, 1948 as *T. latithorax* – *T. laticollis* with a prothorax more than twice as wide as long, is placed in the same *latithorax* group, a valid reason to also place *Tmesisternus lordbergia* in this group. However, the arrangements in groups and the keys published by Gressit, 1984 is becoming disputable, as many exceptions have recently been found that raise questions. It will be a rewarding for an entomologist, specialized on the genus *Tmesisternus*, to review the keys and division of the various groups, as done by Gressit in 1984.

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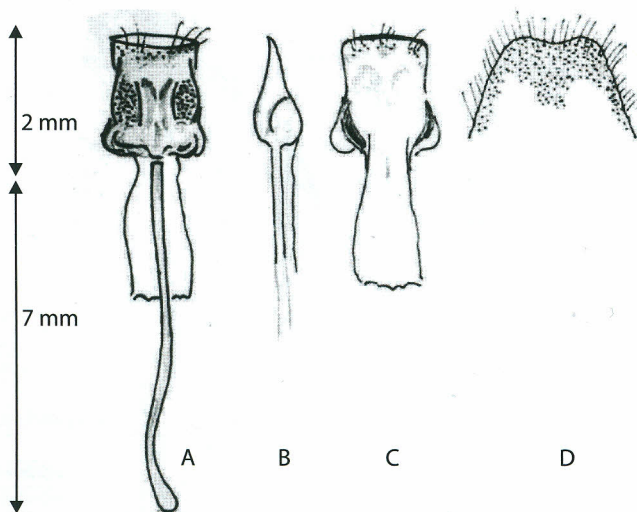
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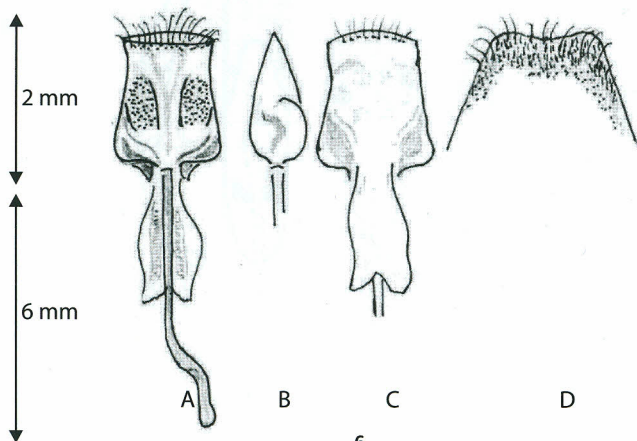
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**Figs 1- 4.** Holotypes *Tmesisternus*: 1. *T. bazuini* ♀; 2. *T. abmisibilensis* ♀; 3. *T. bodemensis* ♀; 4. *T. lordbergia* ♂.





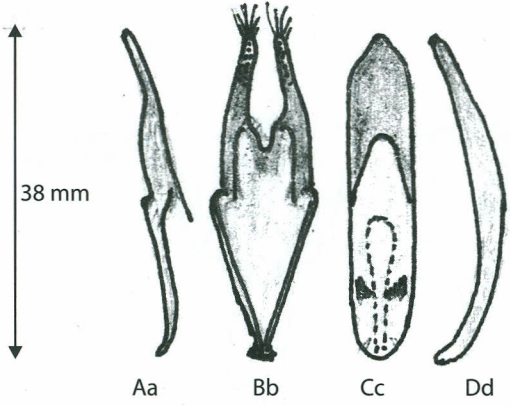
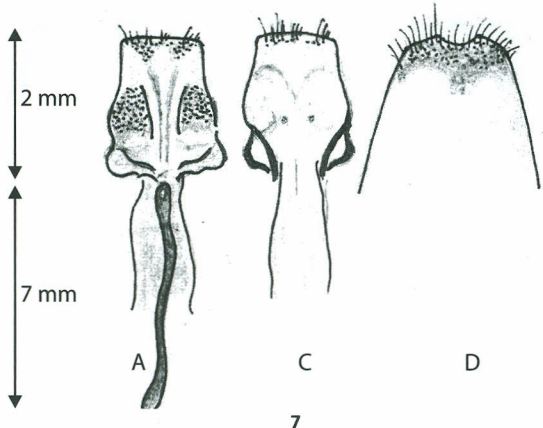
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**Figs 5-6.** Female genitalia: 5. *T. bazuini*; 6. *T. abmisibilis*.

(A= 8<sup>th</sup> sternite with ovipositor; B= lateral side of that sternite; C= dorsal side of that sternite; D= ventral side of 8<sup>th</sup> tergite).



**Fig.7.** Female genitalia of *T. bodemensis* (A= 8<sup>th</sup> sternite with ovipositor; B= lateral side of that sternite; C= dorsal side of that sternite; D= ventral side of 8<sup>th</sup> tergite);  
**Fig.8.** Male genitalia of *T. lordbergia* (Aa= lateral side of tegmen; Bb= ventral side of tegmen; Cc= ventral side of aedeagus; Dd= lateral side of aedeagus).