New Taxa of Papuan Net-Winged Beetles (Lycidae, Coleoptera)

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Abstract: A new genus Spinotrichalus gen. nov. and seven new species, Spinotrichalus telnovi sp. nov., Cautires kristinae sp. nov., Microtrichalus halmaheraensis sp. nov., M. villosipes sp. nov., Flabellotrichalus talagaranus sp. nov., Xylobanomorphus elongatissimus sp. nov., and X. balkei sp. nov. are described from the Papuan region. Xylobanus villosus KAZANTSEV, 2006 is transferred to Xylobanomorphus Ptc, 1935 as Xylobanomorphus villosus (KAZANTSEV, 2006) comb. nov.

Key words: Coleoptera, Lycidae, new genus, new species, taxonomy, Papuan and Oriental regions.

Introduction

The lycid fauna of New Guinea is very rich (Kleine 1933) and apparently inexhaustible, almost any new collecting in the area yielding undescribed forms. The recent expeditions to New Guinea and adjacent islands of the Erfurt Naturkundemuseum and the Entomological Society of Latvia (latter was held by D.Telnov) were not an exception and a few new species and a new genus were found in their material. Descriptions of these taxa, with some additions from material of the Insect Centre, Moscow, are presented below.

Methods

For examination the copulatory organs of the studied specimens, after extraction, were cleared for several hours in room temperature KOH. The cleared material was then placed in microvials with glycerine. For dissection and preparing illustrations MSP-1 stereo dissecting microscope with 8x – 80x magnification range was used.

Acronyms are used in the paper:

DTC – private collection D.Telnov, Riga; NME – Naturkundemuseum, Erfurt; ICM – Insect Centre, Moscow.

Results

Spinotrichalus gen. nov.

Type species: Spinotrichalus telnovi sp. nov.

Derivatio nominis: The name is derived from the Latin for “thorn” and “Trichalus”, alluding to the acute femoral and tibial thorns and similarity to the genus Trichalus.

Description: Alate, elongate. Head transverse, slightly narrowed behind eyes. Fastigium ca. 75°. Eyes moderately large, spherical. Labrum roundish, sclerotised, completely exposed. Mandibles small, curved near apices. Maxillary palps relatively small, 4-segmented, with ultimate palpomere slightly narrowing and flattened distally. Labium consisting of paired prementum and a pair of small 3-segmented palps; ultimate labial palpomere distally narrowing and flattened. Gula absent. Antennal prominence conspicuous, antennal sockets separated by minute lamina. Antenna 11-segmented, moderately long, flattened, narrow and parallel-sided, with antennomere 2 small, much shorter than antennomere 3 (Fig. 1); antennomeres 4-11 with short sub-erect pubescence. Pronotum transverse, ca. 6 times shorter than elytra, with median cell; posterior angles small, but acute, anterior angles pronounced (Fig. 1). Prosternum small, its triangular median portion separated from sternopleural processes by suture. Mesothoracic spiracle narrow, elongate, with long ventro-anterior hood. Mesoventrite
transverse, triangular, concave anteriorly, without median suture, separated from mesepisternum by suture and posterior triangular sclerite; mesepimeron ca. one third shorter and 4 times narrower than mesepisternum. Mesonotum with scutellum attaining to anterior margin, mesoscutal halves not divided; scutellum with relatively short postnotal plate, broadly concave at apex. Elytra long, parallel-sided, with four primary costae, costa 1 vanishing in anterior one sixth; interstices with doubles rows of small square cells; pubescence short, decumbent, distributed along costae. Metanotum transverse, slightly widening anteriorly; scuto-scutellar ridge almost straight and 1.5 times longer than allocrista; intrascutal suture small, emerging at allocristal half; scutellum almost straight posteriorly, with median suture; postnotal plate transverse, concave posteriorly, with median suture in posterior half. Metaventrite transverse, with almost straight posterior angles; discrmen (metasternal suture) attaining to slightly over three fourths. Metathoracic wing with elongate anal cell; wedge cell absent; Cu veins merged to M; cu-a brace connecting Cu₂ and A₁ at Cu veins branching point. Male: Posterior femur and tibia with acute spines (Fig. 1). Spiculum gastrale relatively short, broad, proximally bifurcate and closed distally (Fig. 3). Paraproct (tergite 9) with median suture; proctiger (tergite 10) medially widely separated from paraproct. Aedeagus symmetric, except for median lobe proximally, with elongate pointed distally median lobe, internal sack without sclerotized structures; phallobase relatively long, without median suture, phallobasal membrane longer than half of median lobe (Fig. 5-7).

Differential diagnose: Spinotrichalus gen. nov. is readily differentiated from all Metriorrhynchini or Trichalini genera by the claws provided with prominent acute basal tooth (Fig. 4) and spines on posterior male femurs and tibiae (Fig. 1). Otherwise similar to Trichalus WATERHOUSE, 1879 or Microtrichalus PIC, 1921.

Spinotrichalus telnovi sp. nov. (Fig. 1, 3-8) Material: Holotype ♂, Indonesia, North Moluccas, Halmahera, Halmahera tengah (Central), Weda Selatan distr., S Loleo, 15-18 km SW Tilope, Oham, 0˚14’45.74”N 127˚52’38.19”E, 150 m, primary lowland forest, UV light, 13-14.IX.2007, leg. D.Telnov & K.Greke (NME). Paratypes 14 ♂♂, 11 ♀♀ same label (DTC, NME and ICM).

Derivatio nominis: The new species is named after Dr. D.Telnov, who together with Ms. K.Greke collected the type series. Description: Male. Orange testaceous; head dorsally, antennae, except antennomeres 1 and 3 proximally, labrum, palpomeres distally, metaventrite, abdomen, femurs apically, tibiae and tarsi black. Eyes relatively large, interocular distance ca. 2 times greater than eye radius. Antennae attaining to elytral two thirds, with antennomeres 1 and 3 proximally, labrum, palpomeres distally, metaventrite, abdomen, femurs apically, tibiae and tarsi black. Eyes relatively large, interocular distance ca. 2 times greater than eye radius. Antennae attaining to elytral two thirds, with antennomere 3 four times longer than antennomere 2 and subequal in length to antennomere 4. Pronotum transverse, ca. 1.3 times as wide as long, concave basally, slightly convex anteriorly, with widening posteriorly, but parallel-sided near posterior angles laterals margins; with blunt anterior and slightly posteriorly produced posterior angles; median cell open posteriorly and connected with anterior margin by short carina. Scutellum transverse, rectangular, slightly concave at apex (Fig. 1). Elytra long, 3.8 times as long as
wide at humeri, parallel-sided; interstices with rather weak, but relatively regular rows of cells.
Aedeagus with narrowing and slightly bent median lobe, phallobasal membrane almost attaining to two thirds of median lobe (Fig. 5-7).
Female: Similar to male, including in the structure of claws. Coxites of external genitalia as long as valvifers (Fig. 8).
Length: 6.6-8.2 mm. Width (humerally): 1.5-1.9 mm.
Differential diagnose: *Spinotrichalus telnovi* sp. nov. is the only species so far discovered in this genus and is easily differentiated from other metriorrhynchines by the generic characters.

**Cautires kristinae** sp. nov. (Fig. 2, 9)

Derivatio nominis: The new species is named after one of the collectors of the type series, Ms. Kristina Greke (Rīga).
Description: Male. Dark brown to black; proximal spots on antennomeres 3 and 4, palps, pronotal disk, basal elytral eighth, ventrite 8

Figures 1-2. General view of Metriorrhynchini and Trichalini: 1 – *Spinotrichalus telnovi* gen. nov., sp. nov.; 2 – *Cautires kristinae* sp. nov.
and tergites 9 and 10 orange testaceous.
Eyes large, interocular distance subequal in length to eye radius. Antennae flattened, serrate, attaining to elytral two thirds, with antennomere 3 5 times longer than antennomere 2 and ca. 1.2 times shorter than antennomere 4 (Fig. 2).

Pronotum with seven areoles, almost as wide as long, bisinuate basally, triangularly produced anteriorly, with noticeable blunt anterior and latero-posteriorly produced acute posterior angles; sides conspicuously incised at middle; all pronotal carinae equally developed. Scutellum transverse, rectangularly incised at apex (Fig. 2).

Elytra long, ca. 4 times as long as wide at humeri, slightly widening posteriorly; interstices with even rows of elongate cells; pubescence short, decumbent, distributed along costae.

Aedeagus with strongly widened distally median lobe (Fig. 9).

Female is unknown.

Length: 5.7 mm. Width (humerally): 1.1 mm.

Differential diagnose: Cautires kristinae sp. nov. differs from all congeners by the coloration and broad median lobe of the aedeagus (Fig. 9).

**Microtrichalus halmaheraensis** sp. nov. (Fig. 10-13)

Material: Holotype ♂, Indonesia, N Moluccas, Halmahera, Talagaranu Mt., 15 km SE Baru, 600 m, primary forest, 22-31.1.1996, Siniav & Tarasov leg. (ICM). Paratypes 17♂♂, 19♀♀ Indonesia, North Moluccas, Halmahera, Halmahera tengah (Central), Weda Selatan distr., S Loleo, 15-18 km SW Tilope, Oham, 0˚14’45.74”N 127˚52’38.19”E, 150 m, primary lowland forest, UV light, 13-14.IX.2007, leg. D.Telnov & K.Greče (DTC, NME and ICM). Paratype 1♂ Indonesia, North Moluccas, Halmahera, Halmahera tengah (Central), Weda Selatan distr., 10 km W Wairoro, Gunung Benteng Mt. range, 0˚12’20.19”N 127˚48’44.87”E, 350 m, primary rain forest, river valley, beating, 18.IX.2007, leg. D.Telnov & K.Greče (NME).

Derivatio nominis: The name of the new species is derived from the name of the island where the type series was collected.

Description: Male. Black; palps distally, head ventrally, pro- and mesothorax, basal elytral two thirds, trochanters and very bases of femurs, ventrites 6-8 and tergites 8 and 9 orange testaceous.

Eyes relatively small, interocular distance 3 times greater than eye radius. Antennae flattened, but narrow, only slightly serrate, attaining to elytral two thirds, with antennomere 3 ca. 8 times longer than antennomere 2 and 1.3 times shorter than antennomere 4.

Pronotum with one median areole and swollen lateral ribs, transverse, 1.2 times as wide as long, concave basally, constricted anteriorly; with almost straight anterior margin and conspicuous acute anterior and latero-posteriorly produced acute posterior angles; lateral margins parallel-sided near posterior angles. Scutellum almost quadrate, oval, triangularly incised at apex.

Elytra long, ca. 3.8 times as long as wide at humeri, parallel-sided; costa 1 vanishing in basal fifth; interstices with even rows of transverse cells; pubescence extremely short, decumbent, distributed along primary and secondary costae.

Aedeagus with straight constricted apically median lobe (Fig. 10-12).

Female: Similar to male. Coxites of external genitalia shorter than valvifers; valvifers distally fused, bridge with a median and two lateral incisions at distal margin (Fig. 13).

Length: 9.6-14.5 mm. Width (humerally): 2.1-3.3 mm.

Differential diagnose: Microtrichalus halmaheraensis sp. nov. differs from all congeners by the straight constricted apically median lobe of the aedeagus (Fig. 10-12) and distal incisions of the valviferal bridge of the external female genitalia (Fig. 13). This species, as well as Microtrichalus villosipes KAZANTSEV sp. nov., which is described below, are classified in Microtrichalus, although the latter taxon may prove to be a synonym of Trichalus, as, despite some differences between the type species of the two genera noted by Bocák (2002), transition forms between the two genera seem to be not infrequent.

**Microtrichalus villosipes** sp. nov. (Fig. 14-15)

Material: Holotype ♂, Indonesia, North Moluccas, Halmahera, Halmahera tengah (Central), Weda Selatan distr., 10 km W Wairoro, Gunung Benteng Mt. range, 0˚12’20.19”N 127˚48’44.87”E, 350 m, primary rain
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forest, river valley, beating, 18.IX.2007, leg. D.Telnov & K.Greke (NME). Paratype 1♀, same label; Paratypes 1♂, 1♀. Indonesia, North Moluccas, Halmahera, Halmahera tengah (Central), Weda Selatan distr., S Loleo, 15-18 km SW Tilde, Oham, 0°14'45.74"N 127°52'38.19"E, 150 m, primary lowland forest, UV light, 13-14.IX.2007, leg. D.Telnov & K.Greke (NME and ICM).

Derivatio nominis: The name of the new species is derived from the Latin for “with hairy legs”, alluding to the long erect vestiture on the posterior margin of male femurs.

Description: Male. Orange testaceous; antennae, except scapus basally, labrum, palps, proximal elytral three eighths, legs, except trochanters and bases of femurs, and ventrites 1-5 black.

Eyes relatively small, interocular distance twice as great as eye radius. Antennae flattened, serrate, attaining to elytral three fourths, with antennomere 3 ca. 5 times longer than antennomere 2 and 1.2 times shorter than antennomere 4.

Pronotum with one median areole reaching anterior margin and noticeable near sides lateral ribs, transverse, 1.4 times as wide as long, concave basally, with convex anterior margin and conspicuous anterior and small acute posterior angles; lateral margins briefly parallel-sided near posterior, then gradually narrowing towards anterior angles. Scutellum transverse, narrowing distally, shallowly and broadly emarginate at apex.

Elytra long, ca. 3.7 times as long as wide at humeri, parallel-sided; costa 1 vanishing in basal fourth; interstices with even rows of small square and transverse cells; pubescence short, decumbent, distributed along primary and secondary costae.

Femurs with conspicuous brush of hairs on the posterior margin; tibiae straight.

Aedeagus with straight, constricted near apex median lobe (Fig. 14-15).

Female: Similar to male, but antennae somewhat shorter and less serrate and posterior margin of femurs without long erect hairs.

Length: 8.7-10.8 mm. Width (humeraly): 2.0-2.5 mm.

Differential diagnose: Resembling *Trichalus acutangulus* Waterhouse in coloration, *Microtrichalus villosipes* sp. nov. differs by the more elongate body, conspicuous brush of hairs on the posterior margin of male femurs and constricted near apex median lobe of the aedeagus (Fig. 14-15).

*Flabellotrichalus talagaranus* sp. nov. (Fig. 16-18)

Material: Holotype ♂, Indonesia, N Moluccas, Halmahera, Talagaranu Mt., 15 km SE Baru, 600 m, primary forest, 22-31.I.1996, Siniaev & Tarasov leg. (ICM).

Derivatio nominis: The new species is named after the Talagaranu Mt. where the unique type specimen was collected.

Description: Male. Black; pedicel distally, pronotum and elytral two thirds proximally orange.

Eyes large, interocular distance only 1.25 times greater than eye radius. Antennae flattened, flabellate, attaining to elytral three fourths, with flabellum of antennomere 3 slightly longer and flabellum of antennomere 4 1.3 times longer than antennomeres proper; antennomere 3 ca. 6 times longer than antennomere 2 and 1.1 times longer than antennomere 4 (Fig. 16).

Pronotum transverse, 1.25 times as wide as long, bisinuate basally, with convex anterior margin, small anterior and acute posterior angles; lateral margins briefly parallel-sided near posterior, then constricted towards anterior angles; median areole connected with anterior margin via carinae constituting slightly less than third of pronotal length; fronto-lateral and lateral carinae weak, but clear-cut, the latter obliterated near median cell. Scutellum transverse, rounded and feebly emarginate at apex.

Elytra long, ca. 3.5 times as long as wide at humeri and 1.6 times wider than pronotum basally, parallel-sided; costa 1 vanishing in basal fourth; interstices with even rows of strongly transverse cells; pubescence short, decumbent, distributed along primary and secondary costae.

Aedeagus with narrow stiletto-like straight median lobe (Fig. 17-18).

Female is unknown.

Length: 13.4 mm. Width (humeraly): 3.3 mm.

Differential diagnose: *Flabellotrichalus talagaranus* sp. nov. differs from *F. bilineatis*
Ptc, 1921 and *F. notatithorax* Ptc, 1921, the other two *Flabellotrichalus* species known from the Moluccas (described from Batjan, now Bacan), by the uniformly orange pronotum, orange basal elytral two thirds and uniformly black legs, as well as by the narrow stiletto-like median lobe of the aedeagus (Fig. 17-18).

*Xylobanomorphus elongatissimus* sp. nov. (Fig. 19-21)


*Derivatio nominis:* The name of the new species is derived from the Latin for “longest”, alluding to its very elongate body.

*Description:* Male. Dark brown; trochanters yellowish.

Eyes small, bulging, interocular distance ca. 3 times greater than eye radius. Palps slender; ultimate palpomeres strongly constricted, pointed and glabrous near apices. Antennae filiform, narrow, attaining to elytral five sixths; antennomeres 3-11 gradually diminishing in length, with antennomere 3 ca. 6 times longer than antennomere 2 and subequal in length to antennomere 4; pubescence of antennomeres 3-11 long and erect.

Pronotum transverse, ca. 1.5 times as wide as long, bisinuate basally, convex anteriorly, with noticeable anterior and long acute posterior angles; median cell diamond-shaped; frontolateral carinae vestigial. Scutellum subquadrate, narrowing distally, deeply emarginate at apex (Fig. 19).

Elytra very long, 10 times longer than pronotum and 5 times as long as wide at humeri, parallel-sided, slightly concave at sides in the middle (Fig. 19); interstices with elongate rectangular cells of irregular length; pubescence relatively long, erect, distributed along costae.

Legs long, slender; pro-, meso- and metatrochanters subequal in length, ca. 5 times longer than wide; femurs and tibiae straight, narrow, medially longitudinally grooved on each side; tarsi narrow, tarsomeres 1-4 without plantar pad.

Aedeagus with dilated distally median lobe; internal sack with ring-like structure and pair of dents (Fig. 20-21).

Female is unknown.

*Length:* 4.6 mm. *Width* (humerally): 0.8 mm.

*Differential diagnose:* *Xylobanomorphus elongatissimus* sp. nov. differs from *X. transformis* KLEINE, 1935, so far the only known species of the genus, by the conspicuously widened distally median lobe of the aedeagus (Fig. 20-21).

*Xylobanomorphus balkei* sp. nov. (Fig. 22-24)

*Material:* Holotype ♀, Indonesia, Irian Jaya, Nabire area, road Nabire-Ilaga, 03'29'517'S 135'43'913'E, 750 m, X.1997, LEK, M.Balke leg. (NME). Paratypes 10 ♂♂, same label (NME and ICM).

*Derivatio nominis:* The new species is named after Mr. Michael Balke (Zoologische Staatsammlung München, DE), the collector of the type series.

*Description:* Male. Dark brown; first maxillary palpomere, labial palps, pedicel, elytral costae and outer elytral margin near humeri and trochanters yellowish brown.
Figures 3–24. Details of Metriorrhynchini and Trichalini: 3 – *Spinotrichalus telnovi* gen. nov., sp. nov., male sternite 9; 4 – same, claws of male protarsus; 5 – same, aedeagus, ventrally; 6 – same, aedeagus, laterally; 7 – same, aedeagus, dorsally; 8 – same, external female genitalia; 9 – *Cautires kristinae* sp. nov., aedeagus, dorsally; 10 – *Microtrichalus halmaheraensis* sp. nov., aedeagus, dorsally; 11 – same, ventrally; 12 – same, laterally; 13 – same, external female genitalia; 14 – *M. villosipes* sp. nov., aedeagus, dorsally; 15 – same, laterally; 16 – *Flabellotrichalus talagaranus* sp. nov., antennomeres 1-4; 17 – same, aedeagus, dorsally; 18 – same, laterally; 19 – *Xylobanomorphus elongatissimus* sp. nov., body outline; 20 – same, aedeagus, dorsally; 21 – same, laterally; 22 – *X. balkei* sp. nov., pronotum; 23 – same, aedeagus, ventrally; 24 – same, laterally.
Eyes small, bulging, interocular distance ca. 2.4 times greater than eye radius. Ultimate palpomeres strongly constricted and glabrous near apices. Antennae flattened, slightly serrate, attaining to elytral three fourths; antennomeres 4-10 subequal in length; antennomere 3 6.3 times longer than antennomere 2 and ca. 1.2 times longer than antennomere 4; pubescence of antennomeres 3-11 long and erect.

Pronotum transverse, ca. 1.6 times as wide as long, bisinuate basally, convex anteriorly, with blunt anterior and long acute posterior angles; median cell diamond-shaped, reaching anterior margin; fronto-lateral and lateral carinae developed (Fig. 22). Scutellum subquadrate, somewhat narrowing distally, deeply triangularly emarginate at apex.

Elytra long, 8 times longer than pronotum and 4 times as long as wide at humeri, slightly widening distally; interstices with elongate or square cells; pubescence relatively long, erect, distributed along costae.

Legs relatively robust; pro-, meso- and metatrochanters subequal in length, ca. 2.8 times longer than wide; femurs and tibiae straight, medially inconspicuously grooved on each side; tarsomeres 3 and 4 with minute apical plantar pad.

Aedeagus with dilated and rounded distally median lobe; internal sack with sclerotized ring-like structure (Fig. 23-24).

Female is unknown.

Length: 4.7-5.8 mm. Width (humerally): 1.0-1.2 mm.

Differential diagnose: Xylobanomorphus balkei sp. nov. differs from X. elongatissimus sp. nov. by the less elongate body, flattened antennae, developed fronto-lateral and lateral pronotal carinae (Fig. 22) and absence of evident dents of the internal sack of the median lobe of the aedeagus (Fig. 23-24). It differs from X. transformis KLEINE by the pronotal structure (Fig. 22) and widened distally median lobe of the aedeagus (Fig. 23-24).

Xylobanomorphus villosus (KAZANTSEV, 2006)

Comb. nov.

Original placement: Xylobanus villosus KAZANTSEV, 2006: 130


Remarks. Xylobanus villosus is characterized by the pointed distal palpomeres, vestigial fronto-lateral and lateral pronotal carinae, elongate cells of the elytral reticulation and ring-like sclerotized structure in the distal portion of the internal sack of the median lobe of the aedeagus (Kazantsev 2006). As such combination of characters is considered to be the autapomorphy of Xylobanomorphus KLEINE, 1935 (Bocák 2002), the species is transferred from Xylobanus WATERHOUSE, 1879 to Xylobanomorphus.

Discussion

Attributing Xylobanus villosus from Sri Lanka to Xylobanomorphus considerably expands the distribution area of the genus, which so far was known only from New Guinea (Bocák 2002). On the other hand, description of Xylobanomorphus balkei sp.n., which shares the ring-shaped sclerotized structure of the internal sack of the median lobe of the aedeagus (Fig. 23-24), the only unique autapomorphy of Xylobanomorphus, with the congenerics, seems to expand the morphological delineation of the genus as well, as the described species has noticeable fronto-lateral and lateral pronotal carinae (Fig. 22), widespread among many other Metriorrhynchini.

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References


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