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The first new species of *Pelecotoides* Laporte, 1833 (Coleoptera: Ripiphoridae) from the Greater Sunda Islands in a century

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Abstract

Pelecotoides kadazandusun **sp. nov.**, a new ripiphorid species from Malaysian Borneo, is described and illustrated. This represents the second species of *Pelecotoides* Laporte, 1833 documented from Borneo. We briefly discuss the Ripiphoridae Laporte, 1840 fauna of Borneo and present new records of *Micropelecotoides* Pic, 1910 from the island. A new combination is made for *Pelecotomoides nigrolateralis* var. *fulvonotata* Pic, 1924—*Pelecotoides nigrolateralis* ssp. *fulvonotatus* **comb. nov.**

Key words: Taxonomy, Sundaland, wedge-shaped beetle

Introduction

Pelecotoides Laporte, 1833, previously known as *Trigonodera* Dejean, 1834 (Batelka *et al*. 2025), is the most speciose subgroup of Ptilophorinae Gerstaecker, 1855 ripiphorids. The genus comprises over 70 species (Falin 2002; Lawrence *et al*. 2010; Batelka & Chaboo 2015; Jiang *et al*. 2025; Wang 2026) and occurs mostly in the tropics and subtropics. The group, in spite of attracting elevated taxonomic attention in recent years, remains understudied and underrecorded.

Borneo is one of the main islands in the Sundaland biogeographical region of Southeast Asia. The region is characterized by the vast areas of closed canopy evergreen lowland to montane rainforests, nowadays largely deforested or converted to plantations outside the designated protected areas (Gaveau *et al*. 2016). Three ecoregions, namely Borneo lowland rainforests, Borneo montane rainforests and Borneo peat swamp forests, are recognized on the island of Borneo, from where the new species is described.

The aim of the present work is to present a description of a new species of *Pelecotoides* from Sabah, Borneo, supplemented with a checklist of all Ripiphoridae species yet documented from Borneo. The checklist includes first records of 3 *Micropelecotoides* species from the island: *M. corporaali* Pic, 1923, *M. irregularis* Pic, 1922, and *M. multimaculatus* Pic, 1945. Additionally, the following combination is made: *Pelecotoides nigrolateralis* ssp. *fulvonotatus* (Pic, 1924) **comb. nov.** (for *Pelecotomoides nigrolateralis* var. *fulvonotata).*

Material and methods

For morphological studies, a Leica S6D binocular stereomicroscope (Leica Microsystems, Wetzlar, Germany) was used. Digital images of habitus were made with a Canon 5D SLR camera (Canon Inc., Tokyo, Japan) mounted on a stand with a Canon 65 mm macro lens. Helicon Focus 7 software (Helicon Soft, Kharkiv, Ukraine) was used for image stacking. Further image manipulations were done using GNU Image Manipulation Program (GIMP).

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All label text is reproduced verbatim, with no corrections or additions. Labels, if more than one on the same specimen, are separated by a double slash. Authors' comments are placed in square brackets. The type specimens of the new species are provided with a black-framed label on red paper with "HOLOTYPUS" or "PARATYPUS," respectively.

The discussed material is deposited at the Natural History Museum (formerly British Museum, Natural History), London, United Kingdom (BMNH).

Results

Ripiphoridae Laporte, 1840

Ptilophorinae Gerstaecker, 1855

Pelecotoides Laporte, 1833
Pelecotoides kadazandusun **sp. nov.** (Figs. 1,2)

Type material designated. Holotype female, BMNH: BORNEO, Sabah Mount. Trus Madi, 21.iv.2007. 1000m Steven Chew [printed] // BMNH{E} 2009-6 [printed]. Paratypes 4 specimens. 3 females, BMNH: same labels as holotype; 1 female, BMNH: BORNEO, Sabah Tenom 10.iii.2009 Steven Chew [printed] // BMNH{E} 2009-6 [printed].

Etymology. Named after the Kadazandusun—the major ethnic group and the language around the Mt. Trus Madi in Sabah, Borneo. Noun in apposition.

Measurements. Female, holotype, total body length 7.4 mm, maximum width (across base of pronotum) 2 mm; Paratypes (exposed abdominal ventrite, if present, not counted): 8.9 mm × 2.4 mm, 8.8 mm x 2.4 mm, 8.3 mm x 2.25 mm, 6.1 mm x 1.6 mm.

Description. Female. Holotype body black, tarsi brown; pale yellow-grey setae on head, border of pronotum and lateral band, elytra except along suture and two apical patches, coxae and legs except tarsi, metasternite, and sternites.

Antennae hardly longer than pronotal length, with 11 antennomeres; antennomeres I–IV cylindrical, antennomeres I–II short, antennomere II shortest; antennomeres V–X slightly serrate (fifth antennomere only feebly so), asymmetrical (stronger lobate distally at anterior margin).

Head longer than wide, dorsally rather regularly covered with shallow subcircular punctures; intervening spaces as wide as to hardly wider than puncture diameter; frons not depressed; frontoclypeal suture not present; anterior clypeal margin truncate; visible portion of labrum transverse, anterior margin subtruncate, anterolateral angles with long anteriorly pointed golden setae; mandibles broadly bounded laterally, apically scooped, 2.75× as long as basal antennomere; maxillary palpomeres moderate, palpomeres 2–3 slightly widened distally, terminal maxillary palpomere elongate, slightly asymmetrical, apically subtruncate, approximately twice as long as penultimate palpomere. Anterior margins of compound eyes notched at antennal insertion.

Pronotum approximately 1.25× as long as head, anterior margin medially shallowly emarginate (concealed by head), sinuous basally, median lobe slightly protruding posteriorly, posterolateral angles protruding posteriorly to approximately same extent as median pronotal lobe; disc hardly convex at center, punctures similar as those on dorsal head; lateral edge slightly but entirely margined, margin not visible in dorsal view. Scutellar shield small, flattened, apically subtruncate to rounded.

Elytra long, complete, narrowed posteriorly, rounded apically, setose.

Femora moderately long, flattened dorso-ventrally; tibiae subequal to corresponding femora, tibial spur formula 2-2-2, spurs of prothoracic tibia subequal, inner meso- and metathoracic tibial spur slightly longer than outer spur; pretarsal claws distinctly shorter than corresponding terminal tarsomere, pretarsal claw of prothoracic tarsus with 8 teeth (basal tooth short), of meso- and metathoracic tarsus with 5 teeth (basal one very small).

Abdomen with 5 free ventrites, 4 fully covered by elytra and last ventrite exposed; sternites finely, rather densely and shallowly punctate, intervening spaces microstrigose but moderately glossy. Posterior margin of ventrite V broadly rounded, posterior margin of tergite VII subtruncate.

FIGURE 1. Lateral habitus of *Pelecotoides kadazandusun* **sp. nov.** holotype (BMNH).

FIGURE 2. Dorsal habitus of *Pelecotoides kadazandusun* **sp. nov.** holotype (BMNH).

FIGURE 3. *Pelecotoides nigrolateralis* ♀ (Lea, 1917) from "Kuranda, N. Queensland" (BMNH).

Diagnosis

The new species can be distinguished from the other *Pelecotoides* species by the bold pattern of grey and black setae, primarily. The dorsal coloration (= the color of the dorsal vestiture) somewhat resembles that of the Australian

P. nigrolateralis (Lea, 1917) (Fig. 3) and Chinese *P. xui* Wang, 2026, but the distribution of the pale setae on the pronotum and elytra is different. New Guinean *Pelecotomoides nigrolateralis* var. *fulvonotata* Pic, 1924 has the dorsal vestiture with grey markings ('avec les dessins gris peu tranchés') according to the original description (Pic 1924c). We propose the combination *Pelecotoides nigrolateralis* ssp. *fulvonotatus* (Pic, 1924) **comb. nov.** following article 34.2 and 45.6.4 of the Code (ICZN 1999). The authors are not familiar with the taxonomic status of this taxon, as the type material was not studied. Acknowledging that, the authors hypothesize that, if it has not gone extinct, *fulvonotatus* is likely a distinct species from *nigrolateralis* due to geographic isolation.

Discussion

The studied specimens of the new species were collected at approximately 1000 m elevation making it impossible to align them to an ecoregion, since Borneo lowland rainforests and Borneo montane rainforests ecoregions overlap at around 1000 m. There is no additional information available on the collecting method or ecology of the species. Other *Pelecotoides* are usually collected at lights and in Malaise traps.

Citizen (or community) science has proven invaluable to modern biodiversity research, including rediscovery of rare and forgotten Coleoptera around the globe (Charles *et al*. 2025). At time of writing, there were ~9,720 observations of Ripiphoridae on the iNaturalist platform, with 21 of those observations generally from SE Asia and Wallacea (GBIF 2026). These observations consist of:

- the only known *in situ* photograph of *Pelecotoides malaccanus* Pic, 1913,
- 4 records of *Micropelecotoides* (including *M. auratus* from Borneo),
- 3 presumed undescribed species of *Ripiphorus* Bosc, 1791,
- *Ripiphorus* cf. *conocephalus* ♀ (Heller, 1920),
- 3 observations of *Macrosiagon* Hentz, 1830,
- and 8 observations of larviform female plus 1 adult male Ripidiini.

The authors encourage continued exploration and specimen collecting in this region to detect more range extensions and enable description of additional species.

Checklist of Bornean Ripiphoridae Laporte, 1840

All taxa are arranged alphabetically in the present list since phylogenetic arrangement is not yet possible.

Subfamily *Ptilophorinae* Gerstaecker, 1855

Genus *Micropelecotoides* Pic, 1910

Micropelecotoides atricolor Pic, 1923
Type locality: 'Kina Balu,' Malaysia, Sabah (Borneo).
Distribution: Endemic to Borneo, Greater Sunda Islands.
Oblong to elongated body, black with grey pubescence; said to be darker than *M. ternatensis* Pic, 1923; 4 mm long (Pic 1923).

Micropelecotoides auratus Pic, 1923
Type locality: 'Kina Balu,' Malaysia, Sabah (Borneo).
Distribution: Endemic to Borneo, Greater Sunda Islands.
Elongated, piceous with reddish abdomen and golden-yellow pubescence; said to be longer than *M. atricolor*; 5 mm long (Pic 1923).

Micropelecotoides bruneiensis Pic, 1922
Type locality: 'Bornéo', supposedly Brunei from the species epithet (Borneo).

Distribution: Endemic to Borneo, Greater Sunda Islands.
Oblong, yellow pubescence, reddish, with antennae at the tip, legs, and body below black; said to be very similar to *M. irregularis*; 7 mm long (Pic 1922).

Micropelecotoides corporaali Pic, 1923
Type locality: 'Sumatra,' Indonesia.
New material examined: Malaysia (Borneo: Mt. Matang, W. Sarawak) (BMNH).
1♂: Mt. Matang, W. Sarawak. G. E. Bryant. [printed] 13. 2. 14. 1000 ft [handwritten] // Ea 13 [handwritten]; 1♀: Mt. Matang, W. Sarawak. G. E. Bryant. [printed] xii. 1913 [handwritten].
Distribution: Greater Sunda Islands (Borneo, Sumatra).
An elongated species, black with reddish thorax and grey-yellow pubescence; 4–5 mm long (Pic 1923).

Micropelecotoides irregularis Pic, 1922
Type locality: 'Java,' Indonesia.
New material examined: Indonesia (Sumatra), Malaysia (Borneo) (BMNH).
1♀: Native collected. [printed] // SARAWAK: Mt. Dulit. 4,000 ft. Moss forest. [printed] 18. [handwritten] x.1932. [printed] // Oxford Univ. Exp. B.M.Hobby & A.W.Moore. B.M. 1933-254. [printed]; 1♂: Light traps. [printed] // SARAWAK: Mt. Dulit. 4,000 ft. Moss forest. [printed] 28. [handwritten] x.1932. [printed] // Oxford Univ. Exp. B.M.Hobby & A.W.Moore. B.M. 1933-254. [printed]; 1♂: Light traps. [printed] // SARAWAK: Mt. Dulit. 4,000 ft. Moss forest. [printed] 21. [handwritten] x.1932. [printed] // Oxford Univ. Exp. B.M.Hobby & A.W.Moore. B.M. 1933-254. [printed]; 1♂: Light traps. [printed] // SARAWAK: Mt. Dulit. 4,000 ft. Moss forest. [printed] 22. [handwritten] x.1932. [printed] // Oxford Univ. Exp. B.M.Hobby & A.W.Moore. B.M. 1933-254. [printed].
Distribution: Greater Sunda Islands (Borneo, Java).
Ventrites reddish-brown, elytra speckled with lighter, pubescent spots; said to be very similar to *M. bruneiensis* (Pic 1922) [Determination of Sarawak specimens based on comparison with BMNH metatype].

Micropelecotoides multimaculatus Pic, 1945
Type locality: 'Malacca,' Malaysia, Kedah, Perak (west coast of the Malay Peninsula).
New material examined: Malaysia (Borneo) (BMNH).
1♂: Primitive forest. [printed] // SARAWAK: foot of Mt. Dulit, Junction of rivers Tinjar & Lejok. 20. [handwritten] xi.1932. [printed] // Oxford Univ. Exp. B.M.Hobby & A.W.Moore. B.M. 1933-254. [printed] // Micropelecotoides multimaculatus Pic, 1945 J. Batelka det. 2006 [handwritten].
Distribution: Malay Peninsula, Greater Sunda Islands (Borneo).
Striking and unique among *Micropelecotoides* with yellow-grey spots evenly spaced on a black body (Pic 1945).

Micropelecotoides parallelus Pic, 1924
Type locality: 'Kina Balu,' Malaysia, Sabah (Borneo).
Distribution: Greater Sunda Islands (Borneo).
Patterned like *M. rufithorax* Pic, 1924; elytra purplish basally and lacking pre-sutural grey bands (Pic 1924b).

Genus *Pelecotoides* Laporte, 1833

Pelecotoides borneensis Pic, 1924
Type locality: 'Bornéo' (no exact locality known).
Distribution: Greater Sunda Islands (Borneo).
An elongated species, reddish and shiny body with sparse grey pubescence; said to be very similar to *P. niasensis* Pic, 1913; 9 mm long (Pic 1924a).

Pelecotoides kadazandusun **sp. nov.**
Described herein.
Distribution: Greater Sunda Islands (Borneo).

Subfamily *Ripidiinae* Gerstaecker, 1855

Tribe *Ripidiini* Gerstaecker, 1855

Genus *Rhipidocyrtus* Falin & Engel, 2014

Rhipidocyrtus muiri Falin & Engel, 2014
Type locality: 'Mowong Borneo,' Indonesia, Kalimantan Barat (W Borneo).
Distribution: Greater Sunda Islands (Borneo).
Larger and "more hump-backed" than typical Ripidiini, brown, with unfused palpi and 11 antennomeres; estimated 6mm long (Falin and Engel 2014).

Genus *Ripidius* Thunberg, 1806

Ripidius angusticollis Pic, 1943
Type locality: 'Bornéo' (no exact locality known).
Distribution: Greater Sunda Islands (Borneo).
Ferruginous brown, a little shiny, parts of elytra and upper legs yellow, elytra long and narrow with apical groove; 6 mm long (Pic 1943).

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