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The Bornean Genus *Metaxylostiba* STEEL, 1960 (Coleoptera, Staphylinidae, Omaliinae), with the Description of Two New Species

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Abstract The three presently known species of the genus *Metaxylostiba* STEEL, 1960, all from Borneo, are treated. Two of them, *M. monticola* (Sabah, Mt. Kinabalu National Park), and *M. hanskii* (Sarawak, Gunung Mulu National Park) are described as new and illustrated. A key to the species is provided.

Introduction

The genus *Metaxylostiba* was erected by STEEL (1960, p. 171) for *Phloeonomus castaneipennis* CAMERON, 1928 from Sarawak (Mt. Murud). STEEL described and illustrated the important character states of the genus and redescribed the only included species. He pointed out the similarity of the ligula of the species of *Metaxylostiba* to those of the species of the Palearctic genus *Xylostiba* GANGLBAUER, 1895 (like most other genera of Omaliini), giving at the same time the external character states that distinguish these two genera. The distinctive shape of the "accessory sclerite" (STEEL, 1960) of the female genital segment in the species of *Metaxylostiba*, illustrated here (Figs. 7, 14), may be another synapomorphy characterizing the genus (but females of *M. castaneipennis* are not available at present).

During the two field trips (1987 and 1988) to the Mt. Kinabalu National Park in Sabah, northern Borneo, a series of an undescribed species of *Metaxylostiba* was collected at high elevations on Mt. Kinabalu. Specimens of an additional new species of the same genus were recently collected in Sarawak and recognized as such by P. M. HAMMOND in the collection of the British Museum (Natural History), London.

The purpose of this paper is to describe the two new species and to provide a key to the three species of *Metaxylostiba* known at present.

Acknowledgments

I thank Mr. R. ALDRIDGE, The Natural History Museum, London, for making the holotype of *Metaxylostiba castaneipennis* available for study, and Mr. G. SATO, Centre for Land and Biological Resources Research, Ottawa, for finishing the line drawings. I also thank the authorities at the Headquarters of Mt. Kinabalu National Park for their invaluable assistance during my fieldwork in the Park.

The comments of my colleagues Y. BOUSQUET and J. M. CAMPBELL, and Margaret K. THAYER, Field Museum of Natural History, Chicago, were greatly appreciated.

The material this paper is based on is deposited in several collections. The following abbreviations are used when referring to these collections in the text:

ASCC – A. SMETANA Collection, Ottawa, Canada (to be eventually deposited in the Muséum d'Histoire naturelle, Geneva, Switzerland)
BMNH – British Museum (Natural History), London
CNCC – The Canadian National Collection, Ottawa
FMNH – Field Museum of Natural History, Chicago

Key to Species of *Metaxylostiba*

1. Interspaces between punctures on entire pronotum, particularly on postero-lateral portions, with distinct microsculpture of minute striae. Length 3.6 mm .... *M. castaneipennis* (CAMERON)
— Interspaces between punctures on pronotum without microsculpture, except rudimentary microsculpture may be present near anterior angles and/or basal margin of pronotum. 2
2. Punctation on disc of pronotum relatively fine, punctures rarely coalescent, surface therefore not appearing rugulose; diameter of most punctures not larger than width of base of second antennal segment. Apex of median lobe of aedoeagus truncate, minutely emarginate medially (Fig. 4). Length 2.8–3.1 mm .... *M. monticola* sp. nov.
— Punctation on disc of pronotum coarse, punctures often coalescent, surface therefore appearing more or less rugulose; diameter of most punctures slightly larger than width of base of second antennal segment. Apex of median lobe of aedoeagus subacute (Fig. 11). Length 2.7–2.9 mm ..... *M. hanskii* sp. nov.

Metaxylostiba castaneipennis (CAMERON, 1928)

Phloeonomus castaneipennis CAMERON, 1928, 433.
Metaxylostiba castaneipennis: STEEL, 1960, 171.

The species was well described and illustrated by STEEL (1960, 171). I therefore present here only some additional comments under the discussion.

Type material. The male holotype (the only known specimen) is deposited in the collection of the British Museum (Natural History), London. It was received dissected, with the aedoeagus in a glycerin microvial, and the mouthparts mounted on a permanent microslide. The terminal abdominal segments and right front tarsus are missing. The specimen is labelled as follows: "Mt. Murud 5,000–6000 f."/"M. Cameron. Bequest. B. M. 1955–147." (two identical labels)/"*Phloeonomus castaneipennis* CAM."/"*Metaxylostiba* STEEL. Type. gen.".

Distribution. *Metaxylostiba castaneipennis* is at present known only from Mt.

Murud in Sarawak, Borneo.

Bionomics. No details are known about the habitat requirements of this species.

Discussion. Metaxylostiba castaneipennis differs from the two other species of the genus, in addition to the differently shaped aedoeagus (see Fig. 118 in STEEL, 1960, 170), mainly by the finer, more evenly distributed punctation on both the pronotum and the elytra, and by the presence of microsculpture on the entire surface of the pronotum. The pronotal microsculpture, in the form of microstriae connecting the punctures, is rather coarse in the postero-lateral impressions, but is still distinct even in the middle of the pronotal disc.

Metaxylostiba monticola sp. nov.

(Figs. 1–7)

Piceous, head piceous-black to black, pronotum with postero-lateral portions and narrow area along basal margin indefinitely, inconspicuously paler, elytra rufo-brunneous, vaguely darkened postero-laterally and apically in some specimens, abdomen rufo-brunneous both dorsally and ventrally; antennae black, first segment piceous with variably paler apex, segments 2–5 rufo-testaceous; maxillary palpi brown to piceous-brown; labial palpi testaceous; legs rufo-testaceous. Head wider than long (ratio 1.43); clypeus smooth, impunctate, but with fine and dense microsculpture of transverse striae; vertex slightly elevated, with indistinct, more or less smooth, elevated obtuse V-shaped carina in front of ocelli in most specimens; punctation of dorsal side of head dense, moderately coarse; interspaces between punctures somewhat smaller than diameters of punctures, those in areas medial to eyes with distinct microsculpture of microstriae, gradually becoming obsolete toward middle of vertex; eyes large, highly convex, tempora each half as long as length of eye seen from above, each with postocular ridge, situated far from posterior margin of eye, distance equal to combined diameters of about five ommatidia of eye. Antenna moderately long, segment 1 distinctly wider and about 1/4 longer than segment 2, segment 3 slenderer and about 1/4 longer than segment 2, segments 4 and 5 slightly longer than wide, segment 6 about as long as at apical margin wide, segments 7–10 wider than long (ratio 1.40), last segment obtusely rounded apically, slightly shorter than two preceding segments combined. Pronotum wider than long (ratio 1.47), wider than head (ratio 1.32), moderately convex, slightly explanate and impressed postero-laterally on each side, with small, inconspicuous round impression at base of explanate part; with arcuate, obtuse carina on each side in apical third close to lateral margin; with two vague, difficult to observe impressions on middle portion in front of basal margin; lateral margins each arcuately narrowed toward obtuse front angles, in posterior half narrowed in almost straight line toward subangulate hind angles; punctation on disc relatively fine, punctures rarely coalescent, surface therefore not appearing rugulose; diameter of most punctures not larger than width of base of second antennal segment; interspaces between punctures without microsculpture, except rudimentary microsculpture may be

present near anterior angles and/or basal margin. Scutellum with dense microsculpture of minute striae, with a few fine punctures on apical portion. Elytra long, at suture considerably longer than pronotum at midline (ratio 2.45), hardly widened posteriad, at base distinctly wider than pronotum (ratio 1.20); punctation similar to that on pronotum, but punctures on average coarser and deeper, coalescent here and there, gradually forming longitudinal rugae in front of posterior margin; interspaces between punctures without microsculpture, except rudimentary microstriae connecting punctures present here and there on basal portion of each elytron. Wings fully developed. Lateral portions of prosternum coarsely, densely punctate. Middle portion of mesosternum with dense, irregularly meshed microsculpture and with a few fine punctures. Metasternum with sparse, moderately coarse punctation gradually becoming finer toward midline, surface with fine microsculpture of mostly oblique striae. Abdomen with tergite 7 (fifth visible) with apical seam of palisade fringe; tergite 4 (second visible) with 2 small, paramedial patches of wing-folding microtrichia; tergites extremely finely, sparsely punctulate, surface with dense, fine meshed microsculpture.

Male. Sternite 8 as in Fig. 1, apical margin very broadly, arcuately emarginate; tergite 8 as in Fig. 2. Genital segment as in Fig. 3. Aedoeagus (Fig. 4) small, rather wide, median lobe evenly, inconspicuously constricted around middle, narrowed into truncate, minutely emarginate apex; parameres thin, not reaching apex of median lobe, each with two minute setae at apex and one similar seta below apex; internal sac with numerous small teeth, without larger sclerotized structures, as in Fig. 4.

Female. Sternite 8 as in Fig. 5, apical margin arcuate. Tergite 8 and genital segment, including "accessory sclerite" (STEEL, 1960) as in Figs. 6–7. Sclerotized spermatheca of a spherical shape with middle constriction, similar to those of the species of *Paraphloeostiba* STEEL, 1960 (not drawn).

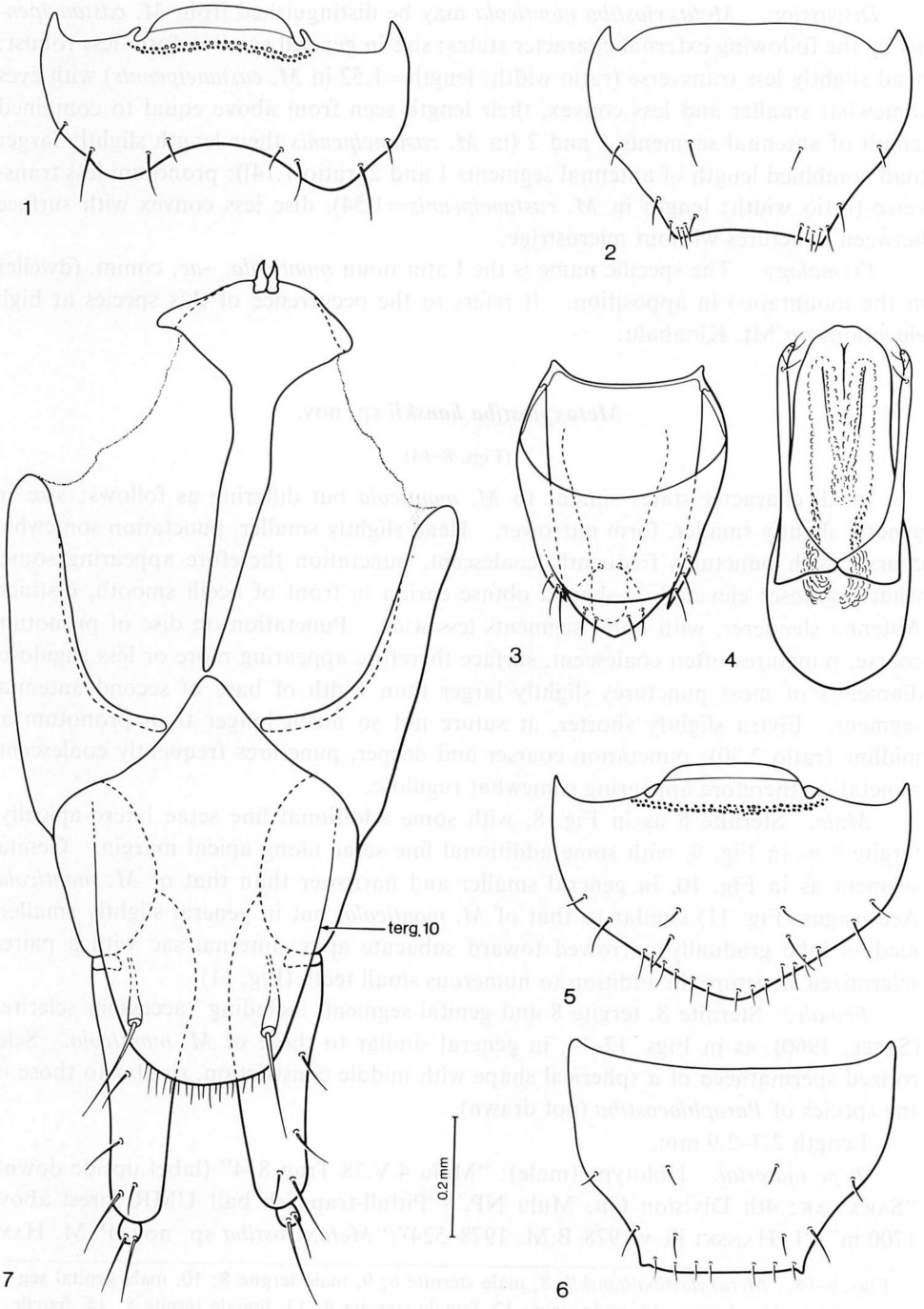
Length 2.8–3.1 mm.

Type material. Holotype (male): Sabah: "BORNEO SABAH Mt. Kinabalu N. P. below Laban Rata 3150 m 5. V. 1987 A. SMETANA". Allotype (female): Sabah: "BORNEO SABAH Mt. Kinabalu N. P. Laban Rata 3200–3250 m 4.V.1987 A. SMETANA". Both holotype and allotype in the SMETANA collection, Ottawa, Canada.

Paratypes: Sabah: "BORNEO SABAH Mt. Kinabalu N. P. blw Layang Layang 2600 m, 2–8.V.87 [or "9–20.V.87"] Int. Trap A. SMETANA" (ASCC, BMNH, CNCC, FMNH) 10.

Bionomics. The holotype was taken by sifting fallen leaves, rotting twigs and other debris under a large, dense *Rubus* bush. The allotype was taken by sifting thick moist layers of dead grass and other low vegetation on large rock blocks. All paratypes come from a flight intercept trap set up in a small opening among the shrubby vegetation just above the microwave station.

Figs. 1–7. *Metaxylostiba monticola*; 1, male sternite 8; 2, male tergite 8; 3, male genital segment, dorsal view; 4, aedoeagus; 5, female sternite 8; 6, female tergite 8; 7, female genital segment, including "accessory sclerite" (STEEL, 1960), ventral view.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Discussion. *Metaxylostiba monticola* may be distinguished from *M. castaneipennis* by the following external character states: size in general smaller, form less robust; head slightly less transverse (ratio width: length=1.52 in *M. castaneipennis*) with eyes somewhat smaller and less convex, their length seen from above equal to combined length of antennal segments 1 and 2 (in *M. castaneipennis* their length slightly larger than combined length of antennal segments 1 and 2 [ratio 1.14]); pronotum less transverse (ratio width: length in *M. castaneipennis*=1.54), disc less convex with surface between punctures without microstriae.

Etymology. The specific name is the Latin noun *monticola*, *-ae*, comm. (dweller in the mountains) in apposition. It refers to the occurrence of this species at high elevations on Mt. Kinabalu.

Metaxylostiba hanskii sp. nov.

(Figs. 8–14)

In all character states similar to *M. monticola* but differing as follows: size in general slightly smaller, form narrower. Head slightly smaller, punctation somewhat coarser with punctures frequently coalescent, punctation therefore appearing somewhat rugulose; elevated, V-shaped obtuse carina in front of ocelli smooth, distinct. Antenna slenderer, with outer segments less wide. Punctation on disc of pronotum coarse, punctures often coalescent, surface therefore appearing more or less rugulose, diameters of most punctures slightly larger than width of base of second antennal segment. Elytra slightly shorter, at suture not so much longer than pronotum at midline (ratio 2.30); punctation coarser and deeper, punctures frequently coalescent, punctation therefore appearing somewhat rugulose.

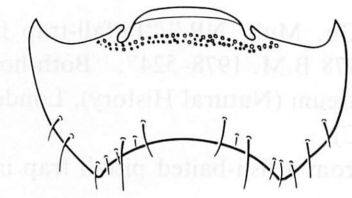
Male. Sternite 8 as in Fig. 8, with some additional fine setae latero-apically; tergite 8 as in Fig. 9, with some additional fine setae along apical margin. Genital segment as in Fig. 10, in general smaller and narrower than that of *M. monticola*. Aedoeagus (Fig. 11) similar to that of *M. monticola*, but in general slightly smaller; median lobe gradually narrowed toward subacute apex; internal sac with a paired sclerotized structure, in addition to numerous small teeth (Fig. 11).

Female. Sternite 8, tergite 8 and genital segment, including "accessory sclerite" (STEEL, 1960), as in Figs. 12–14, in general similar to those of *M. monticola*. Sclerotized spermatheca of a spherical shape with middle constriction, similar to those of the species of *Paraphloeostiba* (not drawn).

Length 2.7–2.9 mm.

Type material. Holotype (male): "Mulu 4.V.78 Trap 8–4" (label upside down)/ "SARAWAK: 4th Division Gn. Mulu NP."/"Pitfall-trap fish bait UMR forest above 1700 m"/"I. HANSKI iii–v.1978 B.M. 1978–524"/"*Metaxylostiba* sp. nov. P. M. HAM-

Figs. 8–14. *Metaxylostiba hanskii*; 8, male sternite 8; 9, male tergite 8; 10, male genital segment, dorsal view; 11, aedoeagus; 12, female sternite 8; 13, female tergite 8; 14, female genital segment, including "accessory sclerite" (STEEL, 1960), ventral view.



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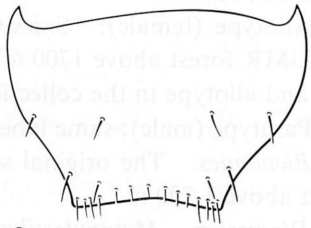

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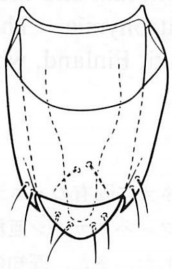

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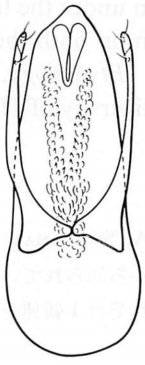

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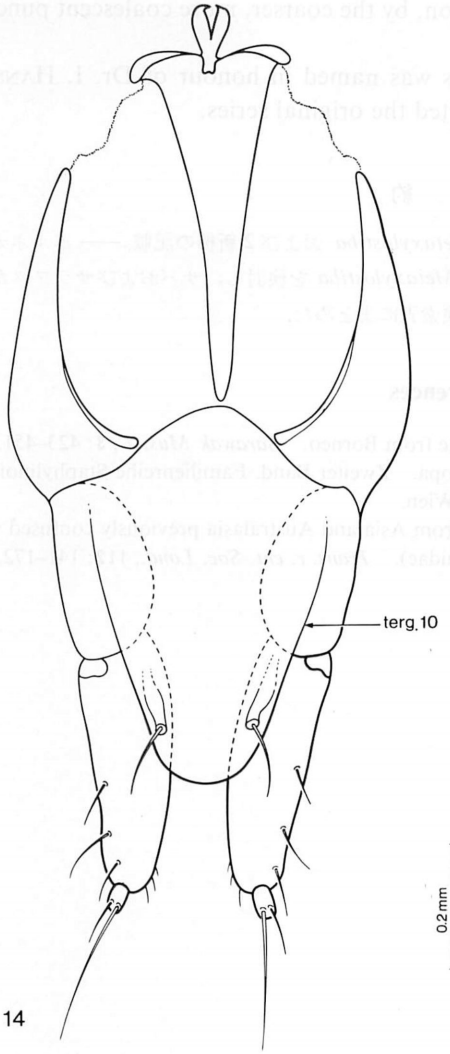

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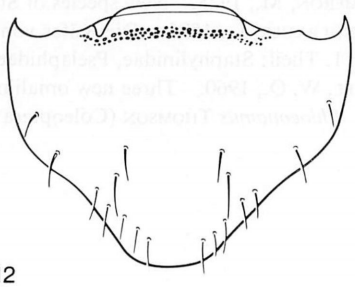

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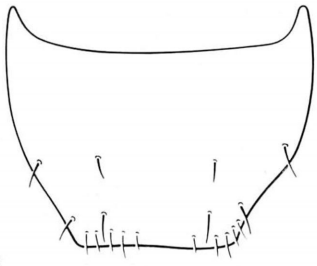

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Allotype (female): "SARAWAK: 4th Division Gn. Mulu NP."/"Pitfall-trap fish bait UMR forest above 1700 m"/"I. HANSKI iii–v.1978 B.M. 1978–524". Both holotype and allotype in the collection of the British Museum (Natural History), London.

Paratype (male): same labels as allotype (CNCC).

Bionomics. The original series was collected from a fish-baited pitfall trap in a forest above 1,700 m.

Discussion. *Metaxylostiba hanskii* may easily be distinguished from *M. castaneipennis* by the same set of character states that distinguish *M. monticola* (see the discussion under the latter species), and, in addition, by the coarser, more coalescent punctation on both the pronotum and the elytra.

Etymology. Patronymic. The species was named in honour of Dr. I. HANSKI, University of Helsinki, Finland, who collected the original series.

要　　約

A. SMETANA: ボルネオに固有のハネカクシ *Metaxylostiba* および2新種の記載.—— ボルネオのみから知られているヨツメハネカクシ亜科の1属 *Metaxylostiba* を検討し，サバおよびサラワクからそれぞれ1新種を記載した．また，既知の3種を検索表にまとめた.

References

CAMERON, M., 1928. New species of Staphylinidae from Borneo. *Sarawak Mus. J.*, **3**: 423–451.

GANGLBAUER, L., 1895. Die Käfer von Mitteleuropa. Zweiter Band. Familienreihe Staphylinoidea. 1. Theil: Staphylinidae, Pselaphidae. 880 pp. Wien.

STEEL, W. O., 1960. Three new omaliine genera from Asia and Australasia previously confused with *Phloeonomus* THOMSON (Coleoptera: Staphylinidae). *Trans. r. ent. Soc. Lond.*, **112**: 141–172.