

**New genera of Alleculinae
(Coleoptera: Tenebrionidae: Alleculinae: Gonoderini)
from the Oriental Region XIV - *Malaymira* gen. nov.;
with a redescription of the genus *Micrisomira* Pic, 1930**

Vladimír NOVÁK

Nepasické náměstí 796, CZ-190 14 Prague 9 - Klánovice, Czech Republic
e-mail: alleculinae.vn@centrum.cz

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Abstract. A new genus of Alleculinae (Gonoderina) *Malaymira* gen. nov. with the species *Malaymira jeni* sp. nov. as a type species from Malaysia are described, illustrated and compared with similar genera *Isomira* Mulsant, 1856 (subgenera *Mucheimira* Novák, 2016 and *Paraisomira* Dubrovina, 1982) *Kralia* Novák, 2013 and *Micrisomira* Pic, 1930. The genus *Micrisomira* Pic is redescribed and new distributional data (Malaysia) for its type species *Micrisomira ruficollis* Pic, 1930 is added.

INTRODUCTION

Mulsant (1856) described the genus *Isomira* Mulsant, 1856. Species of two subgenera have space between eyes very narrow (subgenus *Mucheimira* Novák, 2016 and subgenus *Paraisomira* Dubrovina, 1982). There are also similar genera *Kralia* Novák, 2013 and *Micrisomira* Pic, 1930 in the subtribe Gonoderina Seidlitz, 1896.

Malaymira gen. nov. with the type species *Malaymira jeni* sp. nov. from Malaysia differs from species of similar genera and subgenera mainly by the following characters: body oval, wide pronotum (wider than semicircular), relatively short antenna (in males slightly exceeding and in females not reaching half body length), ultimate protarsomere long, almost 2.5 times longer than protarsomere 1, antennomere 2 shortest, antennomere 3 almost two times longer than antennomere 2 and dorsal surface of elytra with irregular tomentose areas (places with sparse and places with relatively dense setation) and rows of punctures in elytral striae indistinct. The new genus *Malaymira* gen. nov. is described and compared with similar genera and subgenera, and *Malaymira jeni* sp. nov. is described and illustrated.

Monotypical genus *Micrisomira* Pic, 1930 is redescribed and illustrated (including male genitalia) and species *Micrisomira ruficollis* Pic, 1930 is first reported from the territory of mainland Malaysia.

MATERIAL AND METHODS

Two important morphometric characteristics used for the descriptions of species of the subfamily Alleculinae, the 'ocular index' dorsally (Campbell & Marshall 1964) and 'pronotal index' (Campbell 1965), are used in this paper as well. The ocular index equals $(100 \times \text{minimum dorsal distance between eyes}) / (\text{maximum width of head across eyes})$. The pronotal index is calculated as $(100 \times \text{length of pronotum along midline}) / (\text{width across basal angles of pronotum})$.

In the list of type material, a slash (/) separates data in separate rows.

The following collection codes are used:

NMPC National Museum, Praha, Czech Republic;

VNPC private collection of Vladimír Novák, Praha, Czech Republic;
ZSMG Zoologische Staatssammlung, München, Germany.

Measurements of body parts and corresponding abbreviations used in text are as follows: AL - total antennae length, BL - maximum body length, EL - maximum elytral length, EW - maximum elytral width, HL - maximum length of head (visible part), HW - maximum width of head, OI - ocular index dorsally, PI - pronotal index dorsally, PL - maximum pronotal length, PW - pronotal width at base, RLA - ratios of relative lengths of antennomeres 1-11 from base to apex ($3=1.00$), RL/WA - ratios of length / maximum width of antennomeres 1-11 from base to apex, RLT - ratios of relative lengths of tarsomeres 1-5 respectively 1-4 from base to apex ($1=1.00$).

Measurements were made with Olympus SZ 40 stereoscopic microscope with continuous magnification and with Soft Imaging System AnalySIS. Snapshots were taken by using camera Canon EOS 550 D and Canon Macro Photo Lens MP-E and software Helicon Focus 5.2.

TAXONOMY

***Malymira* gen. nov.**

(Figs. 1-6)

Type species. *Malymira jeni* sp. nov.

Description. Habitus as in Fig. 1, body small, elongate oval, convex, dorsal surface slightly shiny, with punctuation, fine microgranulation and pale setation. Widest near one third elytra length. Head (Fig. 3) small, longer than wide, dorsal surface with relatively dense, shallow punctuation, long, pale setation and microgranulation, rather matte. Clypeus with long setation, mandibles rounded, glabrous dorsally, shiny, lateral margins darker. Eyes large, transverse, excised, space between eyes narrow, distinctly narrower than diameter of one eye and approximately as wide as length of antennomere 2. Antenna (Fig. 4) short, slightly exceeding half body length, antennomeres with long setation, microgranulation and shallow punctures. Antennomeres 1-3 slightly shiny, rest of antennomeres matte. Antennomere 2 shortest, antennomere 3 almost twice longer than antennomere 2, antennomeres 4-10 distinctly longer than antennomere 3 and slightly widened anteriorly. Maxillary palpus rather matte, with setae. Ultimate palpomere triangular, axe-shaped. Pronotum (Fig. 3) wide, widest near middle of lateral margins, wider than semicircular, approximately as wide as elytra at base, convex, narrow. Dorsal surface rather matte, with dense and long, recumbent setation near margins, dense punctuation and fine microgranulation, punctures very small. Disc with very sparse setae. Border lines narrow. Lateral and anterior margins arcuate. Posterior margin bisinuate, anterior angles indistinct, posterior angles obtuse. Elytra oval, convex, widest near one third elytra length. Dorsal surface rather matte, with irregular tomentose areas (places with sparse and places with relatively dense setation), with microgranulation and dense punctuation, punctures small and shallow. Rows of punctures in elytral striae indistinct. Scutellum roundly triangular, rather matte, with microgranulation and long setae. Elytral epipleura well developed, with long and dense, recumbent setation, slightly narrowing to ventrite 1, then leading wide and parallel. Legs narrow, tarsi slightly paler than tibiae. Dorsal surface with pale setation, very small punctures and microgranulation. Protibiae with a row of short, strong setae on outer side. Penultimate tarsomeres not lobed, ultimate protarsomere very long, almost 2.5 times longer than protarsomere 1. Both anterior tarsal claws with visible teeth. Ventral side of body with pale setation and very small punctures. Abdomen with five visible ventrites, more distinctly matte, with

long, recumbent, pale setation, fine microgranulation and shallow punctures. Aedeagus as in Figs. 5 and 6 slightly shining. Basal piece rounded in lateral view and almost parallel in dorsal view. Apical piece elongate triangular, beak-shaped dorsally and laterally, respectively.

Female (Fig. 2) have space between eyes wider and antenna is shorter compared to male. Anterior tarsal claws have less teeth compared to male.

Differential diagnosis. Similar genera are *Kralia* Novák, 2013, *Micrisomira* Pic, 1930 and subgenera of *Isomira* Mulsant, 1856 (*Muheimira* Novák, 2016 and *Paraisomira* Dubrovina, 1982).

Species of *Malaymira* gen. nov. distinctly differ from similar species of the genera *Kralia* and *Micrisomira* or species of subgenera *Muheimira* and *Paraisomira* mainly by pronotum wide, wider than semicircular, by short antenna, by antennomere 3 almost twice longer than antennomere 2, by dorsal surface of elytra with irregular tomentose areas, by ultimate protarsomere almost 2.5 times longer than protarsomere 1.

Etymology. The compound name formed by "Malay" marking place of living species of new genus and the ending - "mira" marking similarity to the genus *Isomira* Mulsant, 1856. Gender: feminine.

Distribution. Malaysia.

Malaymira jeni sp. nov.

(Figs. 1-6)

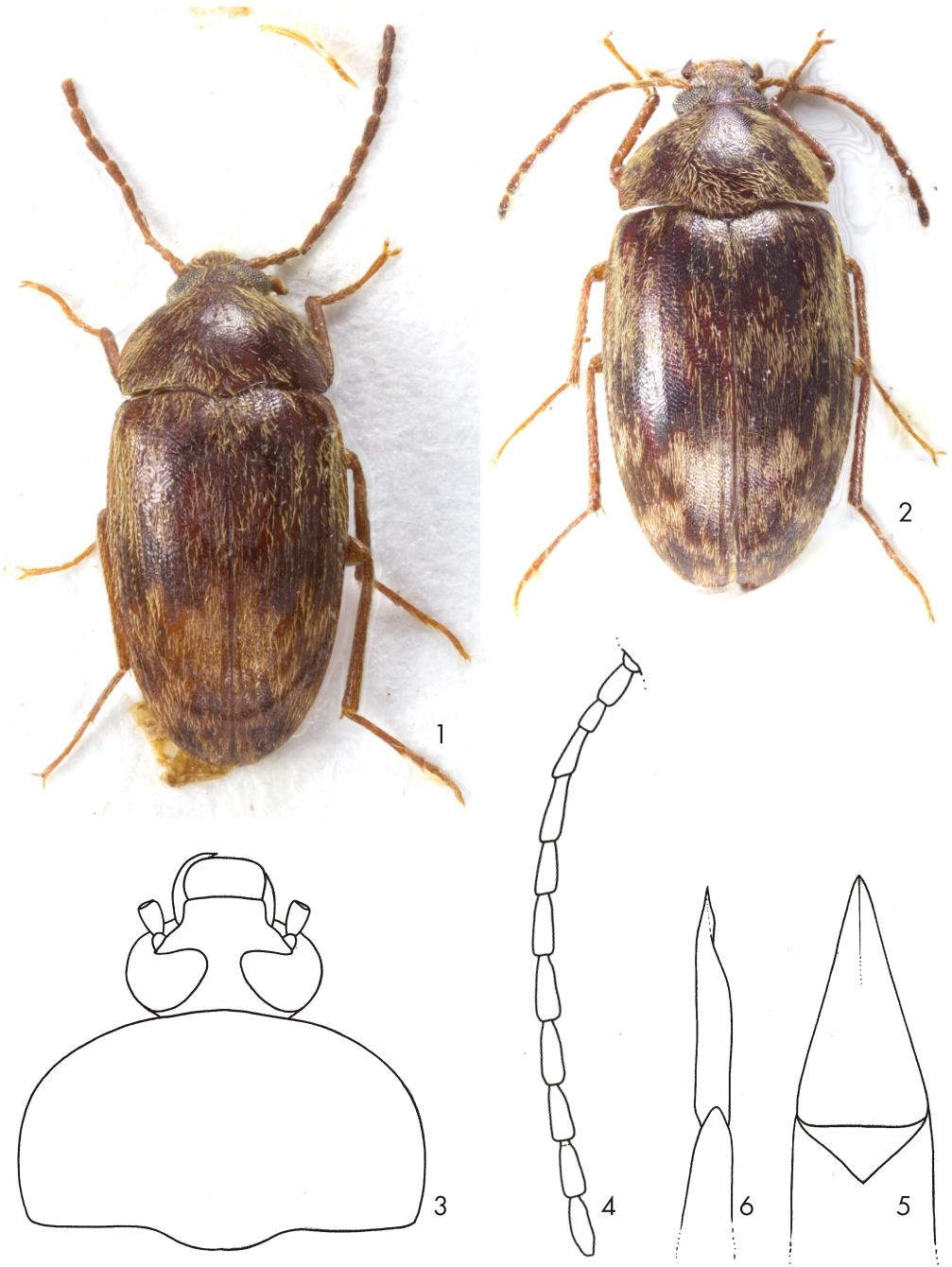
Type locality. Western Malaysia, Perak, 25 km Northeastern of Ipoh, Banjaran Titi Wangsa mountains, mount Korbu, 2100 m.

Type material. Holotype (♂): MALAYSIA-W, Perak / 25 km NE of IPOH, 2100 m, / Banjaran Titi Wangsa mts., / KORBU mt., 4.-13. iii. / 1998, P. Čechovský leg., (VNPC). Paratypes: (1 ♀): same data as holotype, (VNPC); (1 ♂): same data as holotype, but 1200 m and 27.i.-2.ii.1999, (VNPC); (2 ♀♀): MALAYSIA W., KELANTAN / Road between Kampong Raja / and Gua Musang, 1400-1700m, / (Ladang Pandrak), 1.-4.iv.2006 / 4°63'N-101°45'E/4°88'N - / 1401°95'E, Cechovsky Petr lgt., (VNPC); (1 ♀): MALAYSIA - Perak / Banjaran Bintang / Maxwell Hill (Talping) / 18.-19.2.1997 / Ivo Jeniš leg., (ZSMG); (1 ♀): MALAYSIA - Perak / Cameron Highlands / Tanah Rata / 13.-17.2.1997 / Ivo Jeniš leg., (ZSMG). The types are provided with a printed red label: 'Malaymira / jeni sp. nov. / HOLOTYPUS [or PARATYPUS] / V. Novák det. 2020'.

Description of holotype. Habitus as in Fig. 1, body small, elongate oval, convex, dorsal surface brown, slightly shiny, with punctuation, fine microgranulation and pale setation, BL 4.95 mm. Widest near one third elytra length; BL/EW 2.36.

Head (Fig. 3) small, longer than wide, dorsal surface with relatively dense, shallow punctuation, long, pale setation and microgranulation, rather matte. Posterior part brown, distinctly darker than reddish brown anterior part. Clypeus pale brown, with long setation, mandibles rounded, glabrous dorsally, shiny, lateral margins dark. HW 0.92 mm; HW/PW 0.53. HL (visible part) 0.72 mm. Eyes large, transverse, excised, space between eyes narrow, distinctly narrower than diameter of one eye and approximately as wide as length of antennomere 2; OI equal to 18.70.

Antenna (Fig. 4). Relatively short (AL 2.69 mm, slightly exceeding half body length, AL/BL 0.53), antennomeres with long setation, microgranulation and shallow punctures. Antennomeres 1-3 pale brown, slightly shiny, rest of antennomeres brown, matte. Antennomere 2 shortest,



Figs. 1-6. *Malaymira jensis* sp. nov. (1, 3-6 - male holotype): 1- habitus; 2- habitus of female; 3- head and pronotum; 4- antenna; 5- aedeagus, dorsal view; 6- aedeagus, lateral view.

antennomere 3 almost two times longer than antennomere 2, ultimate antennomere and antennomere 8 longest, antennomeres 4-10 distinctly longer than antennomere 3 and slightly widened anteriorly.

RLA(1-11): 0.78 : 0.54 : 1.00 : 1.58 : 1.24 : 1.42 : 1.52 : 1.64 : 1.42 : 1.38 : 1.64.

RL/WA(1-11): 1.77 : 1.54 : 2.27 : 2.82 : 2.48 : 2.45 : 2.53 : 2.73 : 2.37 : 2.38 : 2.83.

Maxillary palpus brown, rather matte, with pale setae. Ultimate palpomere triangular, axe-shaped.

Pronotum (Fig. 3) brown, wide, widest near middle of lateral margins, wider than semicircular, approximately as wide as elytra at base, convex, narrow. Dorsal surface rather matte, with dense and long, recumbent, golden setation near margins, fine microgranulation and dense punctuation, punctures very small. Disc with very sparse setae. Border lines narrow. Lateral and anterior margins arcuate. Posterior margin bisinuate, anterior angles indistinct, posterior angles obtuse. PL 1.08 mm; PW 1.73 mm; PI equal to 62.43.

Elytra oval, convex, widest near one third elytra length. Dorsal surface rather matte, brown with reddish brown places, with irregular long, golden, recumbent setation (places with sparse and places with relatively dense setation), with microgranulation and dense punctuation, punctures small and shallow. Rows of punctures in elytral striae indistinct. EL 3.15 mm; EW 2.10 mm; EL/EW 1.50.

Scutellum. Brown, roundly triangular, rather matte, with microgranulation and long golden setae.

Elytral epipleura well developed, reddish brown, with long and dense, recumbent, pale setation, slightly narrowing to ventrite 1, then leading wide and parallel.

Legs narrow, reddish brown, tarsi slightly paler than tibiae. Dorsal surface with pale setation, very small punctures and microgranulation. Protibiae with a row of short, strong setae on outer side. Penultimate tarsomeres not lobed, ultimate protarsomere very long, almost 2.5 times longer than protarsomere 1. RLT: 1.00 : 0.63 : 0.63 : 1.10 : 2.48 (protarsus), 1.00 : 0.45 : 0.35 : 0.27 : 0.90 (mesotarsus), 1.00 : 0.38 : 0.25 : 0.51 (metatarsus).

Both anterior tarsal claws with 6 visible teeth.

Ventral side of body brown, with pale setation and very small punctures. Abdomen with five visible ventrites, reddish brown, more matte, with long, recumbent, pale setation, fine microgranulation and shallow punctures.

Aedeagus (Figs. 5 and 6). Ochre yellow, slightly shining. Basal piece rounded in lateral view and almost parallel in dorsal view. Apical piece elongate triangular, beak-shaped dorsally and laterally, respectively. Ratio of length of apical piece to length of basal piece from dorsal view 1 : 4.82.

Female (Fig. 2) has space between eyes wider OI in range 25-31, antenna is shorter (AL/BL 0.46) than in male, only antennomeres 8 and 11 are longer than antennomere 3. Anterior tarsal claws with 5 visible teeth.

Measurements of female body. BL 5.78 mm; HL 0.77 mm; HW 0.99 mm; OI 25.83; PL 0.95 mm; PW 2.06 mm; PI 46.12; EL 4.06 mm; EW 2.53 mm; AL(1-11) 2.63 mm; AL(1-11)/BL 0.46; BL/EW 2.29; HW/PW 0.48; EL/EW 1.61.

RLA(1-11): 0.74 : 0.57 : 1.00 : 0.99 : 0.94 : 0.97 : 0.97 : 1.10 : 0.96 : 0.97 : 1.26.

RL/WA(1-11): 1.66 : 2.35 : 4.67 : 3.66 : 3.00 : 3.09 : 2.61 : 2.85 : 2.48 : 2.72 : 3.52.

RLT: 1.00 : 0.68 : 0.48 : 0.71 : 1.80 (protarsus); 1.00 : 0.50 : 0.34 : 0.32 : 1.87 (mesotarsus); 1.00 : 0.35 : 0.25 : 0.59 (metatarsus).

Variability. The type specimens somewhat vary in size; each character is given as its mean value, with full range in parentheses. Males (n=2). BL 5.03 mm (4.95-5.11 mm); HL 0.71 mm (0.70-0.72 mm); HW 0.91 mm (0.90-0.92 mm); OI 18.91 (18.70-19.11); PL 1.10 mm (1.08-1.12 mm); PW 1.76 mm (1.73-1.78 mm); PI 62.68 (62.43-62.92); EL 3.22 mm (3.15-3.29 mm); EW 2.10 mm. Females (n=5). BL 5.73 mm (5.46-5.95 mm); HL 0.75 mm (0.74-0.77 mm); HW 0.97 mm (0.95-0.99 mm); OI 28.84 (25.83-30.77); PL 0.97 mm (0.95-1.02 mm); PW 2.01 mm (1.94-2.06 mm); PI 48.45 (46.12-50.25); EL 4.00 mm (3.77-4.18 mm); EW 2.52 mm (2.38-2.66 mm).

Differential diagnosis. See Differential diagnosis in *Malaymira* gen. nov.

Etymology. Name of the new species is dedicated to one of the collectors, Czech entomologist Ivo Jeniš (Náklo, Czech Republic).

Distribution. Malaysia.

genus *Micrisomira* Pic, 1930

(Figs. 7-11)

Type species. *Micrisomira ruficollis* Pic, 1930.

Type locality. Island Borneo.

Original description by Pic (1930): Corpus minutus, oculis grandis, approximatis, antennis sat robustis, articulo 2° breve, 3° minutissimo, 4° et sequentibus elongatis; tarsis gracilibus et simplicibus.

Redescription of the genus *Micrisomira* Pic, 1930. Body very small, elongate oval, slightly convex, habitus as in Fig. 7. Dorsal surface with recumbent, pale setation, punctuation and microgranulation. Head (Fig. 8) rather matte, approximately as wide as long, dorsal surface with dense, recumbent setation, microgranulation and dense punctuation, punctures small and shallow, intervals between punctures narrow. Eyes very large, transverse, space between eyes very narrow, distinctly wider than length of antennomere 3, approximately as wide as length of antennomere 2. Mandibles shining, dorsal surface glabrous and paler than clypeus. Clypeus with long setation, slightly excised in the middle of anterior margin. Maxillary palpus with pale setation, microgranulation and punctures, slightly shining. Ultimate palpomere more knife-shaped than axe-shaped. Antenna (Fig. 9) long, exceeding three quarters body length, antennomeres 1-3 slightly shining, rest of antennomeres matte. Dorsal surface with dense punctuation, microgranulation and recumbent, short setation. Antennomere 2 short, approximately two times longer than shortest antennomere 3, antennomeres 4-11 more than 7 times longer than antennomere 3. Pronotum (Fig. 8) slightly convex, almost semicircular, approximately as wide as elytra in humeri, border lines narrow, but distinct, only in the middle of base not clearly conspicuous. Lateral and anterior margins arcuate, base finely bisinuate. Posterior angles sharp, very finely dilated backwards. Dorsal surface with recumbent setation and shallow punctuation, punctures small. Scutellum long, pentagonal, with small punctures, setae and microgranulation, margins darker. Elytra elongate oval, slightly convex. Elytral striae with distinct rows of very small punctures. Elytral interspaces with recumbent setation, microgranulation and dense punctuation, punctures small (distinctly larger than those in elytral striae) and shallow. Elytral epipleura well

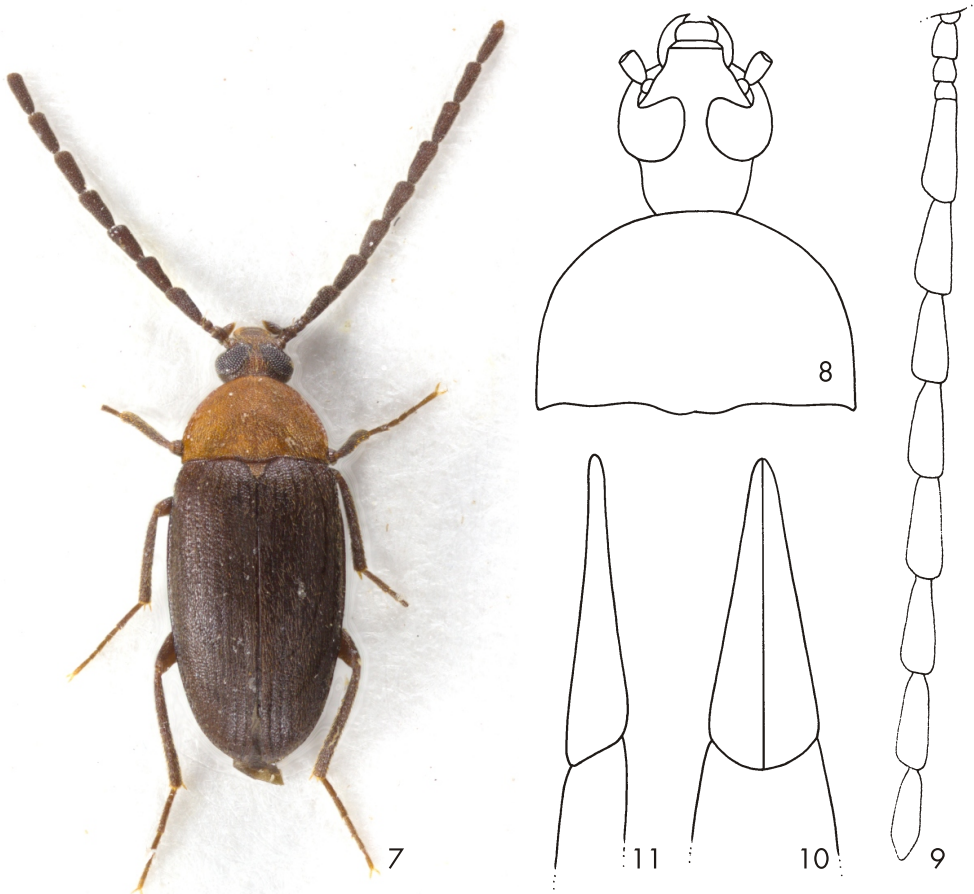
developed, narrowing to ventrite 1, then leading parallel. Legs long and narrow, surface with dense setation, and small punctures. Protibiae with short, strong setae on outer side, penultimate tarsomeres not widened and lobed. Ventral side of body with setation and dense punctation, punctures small. Abdomen with long, recumbent setation and dense punctation, punctures small. Aedeagus (Figs. 10 and 11) shiny. Basal piece slightly narrowing in dorsal view, apical piece narrow, elongate triangular.

***Micrisomira ruficollis* Pic, 1930**

(Figs. 7-11)

Micrisomira ruficollis Pic, 1930: 30.

Material examined. (♂): MALAYSIA: Benom Mts. / 15km E Kampong Dong:700m / 3,53N 102,01E; 1.iv.1998; / Dembický & Pacholátko leg., (NMPC); (1 ♂): MALAYSIA, W. Perak, 110m / NE of Ipoh, Tanjong Rambutan / vill. env, road of Korbu Mt. / 4°41'25,70"N 101°48,87"E / 2.ii.1999, P. Pacholátko lgt., (VNPC).



Figs. 7-11: *Micrisomira ruficollis* Pic, 1930 (male): 7-Habitus; 8-head and pronotum; 9-antenna; 10-aedeagus, dorsal view; 11-aedeagus, lateral view.

Measurements of male body. BL 3.61 mm; HL 0.56 mm; HW 0.60 mm; OI 11.83; PL 0.69 mm; PW 1.08 mm; PI 63.88; EL 2.36 mm; EW 1.34 mm; AL(1-11) 3.00 mm; AL(1-11)/BL 0.83; BL/EW 2.69; HW/PW 0.56; EL/EW 1.76.

RLA(1-11): 2.79 : 1.93 : 1.00 : 7.29 : 6.93 : 7.29 : 7.50 : 8.00 : 7.64 : 7.71 : 8.21.

RL/WA(1-11): 1.44 : 1.23 : 0.67 : 2.76 : 2.31 : 2.49 : 2.50 : 3.03 : 2.97 : 3.27 : 3.83.

RLT: 1.00 : 0.49 : 0.47 : 0.44 : 1.18 (protarsus); 1.00 : 0.45 : 0.36 : 0.30 : 0.66 (mesotarsus); 1.00 : 0.42 : 0.39 : 0.50 (metatarsus).

Distribution. Island Borneo. New for mainland of Malaysia.

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