

## New Record of the Genus *Menimus* SHARP, 1876 (Coleoptera, Tenebrionidae, Gnathidiini) from Sulawesi, with Descriptions of Three New Species

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**Abstract** The tenebrionid genus *Menimus* SHARP, 1876 (Gnathidiini GEBIEN, 1921, Diaperinae LATREILLE, 1802) is recorded from Sulawesi for the first time, with the descriptions of three new species: *Menimus (Menimus) sulawesicus* n. sp., *M. (M.) tongaricus* n. sp., and *M. (M.) yamasakoi* n. sp. An identification key for these species is provided. The genus in general contains morphologically very diverse species and is probably not a monophyletic unit. Two out of the three species from Sulawesi possess a 4-segmented antennal club, while the remaining one with a 3-segmented club.

### Introduction

The tenebrionid genus *Menimus* SHARP, 1876 (Gnathidiini GEBIEN, 1921, Diaperinae LATREILLE, 1802) contains so far about 80 morphologically very diverse species and is probably not a monophyletic unit. The species are distributed in the Oriental, Papuan, Australian, and Pacific Regions with a few species reaching the southern areas of the Palaearctic Region in Japan (LEWIS, 1894), Sikkim (KASZAB, 1982), Yunnan (MEDVEDEV, 2007; SCHAWALLER, 2009), India and northern Burma (SCHAWALLER, 2016 a), and Taiwan (ANDO, 2018). MEDVEDEV (2007) visualised the entire picture of the genus by making a list of all so far known species with full references. At the same time, he synonymised *Neomenimus* KASZAB, 1939 and discussed taxonomic significance of some particular morphological features. Recently, nine species from Peninsular Malaysia including southern Thailand were described by SCHAWALLER (2016 b).

From Borneo and Sumatra, only two *Menimus* species were described (*M. lineatopunctatus* (PIC, 1930), and *M. seriepunctatus* GEBIEN, 1927), but a couple of additional undescribed species are at hands of the first author, waiting for a forthcoming examination. We present herein the first species from Sulawesi, from where the genus was unknown so far. Because of the scarceness of the available specimens and the relatively uniform aedeagi within the genus, we decided to describe and name also a single female specimen as new to science.

Three Sulawesian *Menimus* species described hereinafter are small in body size and bear 3- or 4-segmented antennal club. Although these three species are analogous to the species in the Malay Archipelago, the relationship between these species and the species of New Guinea is considered not close. KASZAB (1939) recorded the first four species from New Guinea (described under the genus *Neomenimus*, a junior synonym of *Menimus*). Three of the described species from New Guinea possess long tactile setae in the elytral humeral regions, a character unknown to the species from Sulawesi. The fourth species from New Guinea, *Menimus biroi* (KASZAB, 1939) without tactile setae and with a 3-segmented antennal club is also not conspecific with one of the species from Sulawesi (see under *M. sulawesicus* n. sp.).

The holotypes designate in this study are deposited in the Ehime University Museum, Matsuyama, Japan (EUMJ) or Staatliches Museum für Naturkunde, Stuttgart, Germany (SMNS), paratypes are deposited in SMNS or Collection Kiyoshi ANDO, Osaka, Japan (CKAO).

\* Contributions to Tenebrionidae no. 151. For no. 150 see: Stuttgarter Beiträge zur Naturkunde A (NS) 11, 2018.

## Taxonomy

### *Menimus (Menimus) sulawesicus* n. sp.

(Fig. 1)

Holotype: ♀, N Sulawesi, Mt. Tilongkabila, 800 m, 0°34'28.52"N, 123°11'30.61"E, 8.VI.2012, leg. R. OGAWA (SMNS).

*Description.* Female. Body length 2.0 mm, body shape elongate parallel-sided (Fig. 1). Dorsal side unicoloured light brownish, shining, only laterally with a few short erect setae, antennae and legs lighter, without a metallic shine. Head with similar punctuation to that on pronotum. Eyes small, not prominent. Antennae (Fig. 1) with 3-segmented club (antennomeres 8–10), all antennomeres loosely articulate, antennomeres 4–6 wider than long.

Pronotum widest behind middle; anterior corners not protruding; posterior corners rectangular; lateral margins rounded and with fine dentation; basal margin completely bordered; distal margin unbordered in the middle; surface shining, with uniform punctuation similar to that on head; disc convex, without impressions; propleura with only a few fine punctures, surface smooth and shining; prosternal apophysis not prominent, bent down.

Elytra elongate parallel-sided, 1.4 times as long as wide, widest at base, with seven irregular, punctural rows without striae, punctures larger than on pronotum; intervals flat, broader than punctural rows and with a few fine punctures; humeral angles pronounced; lateral margin without dentation and visible in dorsal view only in basal half of elytra; epipleura diminishing somewhat before apex, scattered with a few small punctures, punctures smaller than those on metaventre. Wings fully developed.

Abdominal ventrites with only a few fine punctures, surface shining, ventrite 5 unbordered and without modifications.

Legs without specific characters; tibiae rounded in cross section and without keel.

Male. Unknown.

*Diagnosis.* *Menimus (Menimus) sulawesicus* n. sp. can be recognised by the small body size, shining dorsal surface, elongate parallel-sided body, 3-segmented antennal club, and elytra with distinct punctural rows without striae. *Menimus (Menimus) perakicus* SCHAWALLER, 2016 from Peninsular Malaysia is similar, body length 2.3 mm, but has the pronotum with distinctly larger uniform punctuation (SCHAWALLER, 2016 b: fig. 9). See also the identification key below. *Menimus (Menimus) biroi* (KASZAB, 1939) from New Guinea is also similar, body length 1.6 mm, aedeagus unknown, but the shape of pronotum is different with nearly straight lateral margins and widest at the base (KASZAB, 1939: fig. 6), and the pronotal punctuation is said to be dense and large.

*Etymology.* Named after the island Sulawesi, where the holotype was collected.

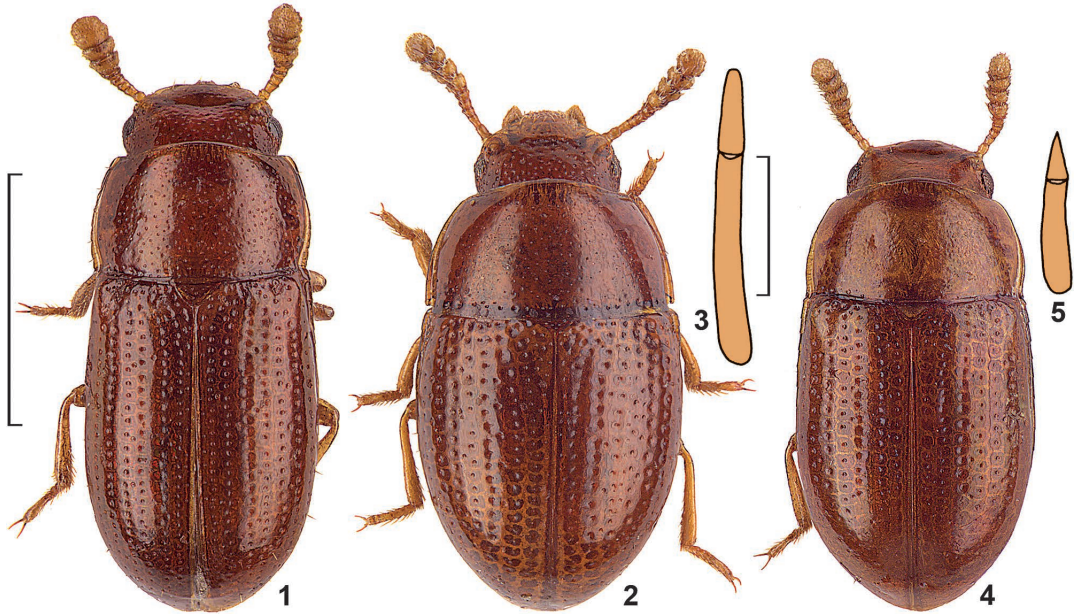
### *Menimus (Menimus) tongaricus* n. sp.

(Figs. 2 & 3)

Holotype: ♂, Sulawesi, Kotamobagu, Matalibaru, Torosik, Gunung Tongara, 800–900 m, 5–10. XII.1999, leg. A. RIEDEL (SMNS).

Paratypes: 3 exs., Sulawesi, Kotamobagu, Modinding, Gunung Ambang, 1450 m, 6.XII.1999, leg. A. RIEDEL (2 exs. in SMNS, 1 ex. in CKAO).

*Description.* Body length 1.8–2.2 mm, body shape ovate-round (Fig. 2). Dorsal side unicoloured



Figs. 1–5. Dorsal view and aedeagus of *Menimus* (*Menimus*) from Sulawesi. — 1, *Menimus* (*Menimus*) *sulawesicus* n. sp., ♀ holotype; 2–3, *M.* (*M.*) *tongaricus* n. sp., ♂ holotype; 4–5, *M.* (*M.*) *yamasakoi* n. sp., ♂ holotype. Scales: 2.00 mm (dorsal view), 0.25 mm (aedeagus).

brownish, shining, only laterally with a few short erect setae, antennae and legs lighter, without a metallic shine. Head with larger punctation than that on pronotum. Eyes small, not prominent. Antennae (Fig. 2) with 4-segmented club (antennomeres 7–10), all antennomeres loosely articulate, antennomeres 4–6 wider than long. Pronotum widest at base; anterior corners not protruding; posterior corners rectangular; lateral margins rounded and without dentation; basal margin completely unbordered; distal margin unbordered in middle; surface shining, with extreme fine, nearly invisible punctation, but before base with a transverse irregular row of large punctures, these punctures of similar size to those on head; disc convex, without impressions; propleura with a few fine punctures, surface smooth and shining; prosternal apophysis not prominent, bent down.

Elytra ovate-round, 1.1 times as long as wide, widest at basal third, with seven irregular, punctural rows without striae, punctures larger than basal punctures of pronotum; intervals flat, broader than punctural rows and with a few distinct punctures; humeral angles flat; lateral margin at base with fine dentation and visible in dorsal view only in basal half of elytra; epipleura diminishing somewhat before apex, scattered with a few small punctures, punctures smaller than those on metaventricle. Wings not developed.

Abdominal ventrites with only a few fine punctures, surface shining, ventrite 5 unbordered and without modifications.

Legs without specific characters; tibiae rounded in cross section and without keel.

Aedeagus (Fig. 3) with basale bent at base, nearly three times as long as apicale; apicale finger-like with rounded tip.

*Diagnosis.* *Menimus* (*Menimus*) *tongaricus* n. sp. is unique by the combination of the following characters: body small, ovate-round, antennal club 4-segmented, base of pronotum unbordered, pronotum with extreme fine punctation on the disc and before the base with a transverse irregular row of

large punctures and humeral angles not prominent. See also the identification key below.

*Etymology.* Named after Gunung (= Mount) Tongara, where the holotype was collected.

*Menimus (Menimus) yamasakoi* n. sp.

(Figs. 4 & 5)

Holotype: ♂, N Sulawesi, Mt. Tilongkabila, 800 m, 0°34'28.52"N, 123°11'30.61"E, 8.VI.2012, leg. R. OGAWA (EUMJ).

Paratype: 1 ♀, E Sulawesi, near Mt. Talodo, Laloae (near Kotaka), Kotaka Timur, 500 m, 4°0'S, 121°49'E, 10.I.2018, leg. K. ANDO (SMNS).

*Description.* Body length 1.5–2.0 mm, body shape ovate (Fig. 4). Dorsal side unicoloured brownish without colour pattern, shining, only laterally with a few short erect setae, antennae and legs somewhat lighter, without metallic shine. Head with fine punctation similar to that on pronotum. Eyes small, not prominent. Antennae (Fig. 4) with 4-segmented club (antennomeres 7–10), all antennomeres loosely articulate, antennomeres 4–6 wider than long.

Pronotum widest slightly behind middle; anterior corners not protruding; posterior corners rectangular; lateral margins rounded and without dentation; basal margin completely bordered; distal margin unbordered in the middle; surface shining, with fine and sparse, uniform punctation similar to that on head; disc convex, without impressions; propleura with a few fine punctures, surface smooth and shining; prosternal apophysis not prominent, bent down.

Elytra ovate, 1.3 times as long as wide, widest at middle, with seven irregular, punctural rows without striae, punctures larger than those on pronotum; intervals flat, broader than punctural rows and with a few fine punctures; humeral angles pronounced; lateral margin at base with fine dentation and visible in dorsal view in basal two-thirds of elytra; epipleura diminishing somewhat before apex, scattered with a few small punctures, punctures smaller than those on metaventre. Wings fully developed.

Abdominal ventrites with only a few fine punctures, surface shining, ventrite 5 unbordered and without modifications.

Legs without specific characters; tibiae rounded in cross section and without keel.

Aedeagus (Fig. 5) with basale bent at base, twice as long as apicale; apicale triangular with acute tip.

*Diagnosis.* *Menimus (Menimus) yamasakoi* n. sp. shares with *M. (M.) lineatopunctatus* (PIC, 1930) and *M. (M.) tiomanicus* SCHAWALLER, 2016 from Sumatra and Tioman Island east of Peninsular Malaysia the small body of 1.8–2.0 mm, shining dorsal surface, 4-segmented antennal club, and elytra with distinct punctural rows without striae (SCHAWALLER, 2016 b: figs. 7–8). However, both species have the body shape that is elongate parallel-sided with the elytra widest at the base, whereas *M. (M.) yamasakoi* n. sp. has an ovate body-shape with the elytra widest in the middle. See also the identification key below.

*Etymology.* Named in honour of Junsuke YAMASAKO (Institute for Agro-Environmental Sciences, NARO, Tsukuba) who was a collecting partner of the second author twice in Sulawesi.

### Key to the Species of *Menimus* from Sulawesi

- 1 Antenna with 3-segmented club, elytra elongate parallel-sided (Fig. 1). ..... *M. (M.) sulawesicus* n. sp.
- Antenna with 4-segmented club, elytra ovate or ovate-round. .... 2
- 2 Pronotum widest slightly behind middle, bordered at basal margin, with fine and sparse, uniform punctation similar to that on head; elytra longer (Fig. 3). ..... *M. (M.) yamasakoi* n. sp.
- Pronotum widest at base, unbordered at basal margin, with extreme fine, nearly invisible punctation, but with a transverse irregular row of large punctures before base; elytra shorter (Fig. 2). ..... *M. (M.) tongaricus* n. sp.

### Acknowledgements

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### 要 約

Wolfgang SCHAWALLER・安藤清志：アカチビゴミムシダマシ属（鞘翅目ゴミムシダマシ科）のスラウェシからの新記録および3新種の記載。——アカチビゴミムシダマシ属はオーストラリア区から旧北区まで広く分布するが、スラウェシ島ではこれまで本属は報告されていなかった。なお、今回記録した3種はすべて未記載種で触角の球桿部などに固有の特徴を具える。これら3新種にはそれぞれ *Menimus (Menimus) sulawesicus* n. sp., *M. (M.) tongaricus* n. sp., *M. (M.) yamasakoi* n. sp. と命名し記載した。

### References

- ANDO, K., 2018. A new species of the genus *Menimus* SHARP (Coleoptera, Tenebrionidae) from Lan-yu Island, Taiwan. *Elytra, Tokyo*, (n. ser.), **8**: 129–133.
- KASZAB, Z., 1939. Tenebrioniden aus Neu Guinea. *Nova Guinea*, (n. ser.), **3**: 185–267.
- KASZAB, Z., 1982. Neue orientalische Tenebrioniden (Coleoptera). *Acta Zoologica Academiae Scientiarum Hungaricae*, **28**: 57–80.
- LEWIS, G., 1894. On the Tenebrionidae of Japan. *The Annals and Magazine of Natural History*, (6) **13**: 377–400.
- MEDVEDEV, G. S., 2007. New species of the tenebrionid genus *Menimus* SHARP, 1876 (Coleoptera, Tenebrionidae) from southern Palaearctic. *Entomologicheskoe Obozrenie*, **86**: 665–682. (In Russian, English translation in *Entomological Review*, **87**: 865–879.)
- SCHAWALLER, W., 2009. Two new epigeal species of the genus *Menimus* SHARP, 1876 from Yunnan (China) (Insecta: Coleoptera: Tenebrionidae). Pp. 363–365, pl. XIV. In HARTMANN, M., & J. WEIPERT (eds.), *Biodiversität und Naturlandschaft im Himalaya III*. 477 pp. Verein der Freunde und Förderer des Naturkundemuseums, Erfurt.
- SCHAWALLER, W., 2016 a. The genus *Menimus* SHARP, 1876 (Coleoptera: Tenebrionidae: Gnathidiini) in India, with descriptions of two new species. *Stuttgarter Beiträge zur Naturkunde, A*, (n. ser.), **9**: 191–195.
- SCHAWALLER, W., 2016 b. New species of the genus *Menimus* SHARP (Coleoptera: Tenebrionidae: Gnathidiini) from Peninsular Malaysia and adjacent southern Thailand. *Stuttgarter Beiträge zur Naturkunde, A*, (n. ser.), **9**: 207–216.

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