

## A new species of the genus *Rhyparus* Westwood, 1845 (Coleoptera: Scarabaeidae: Aphodiinae) from Sulawesi

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**Taxonomy, new species, Coleoptera, Scarabaeidae, Aphodiinae, Rhyparini, Sulawesi**

**Abstract.** *Rhyparus telnovietbarclayi* sp. nov., a new species from Sulawesi is described and illustrated here. The new species is similar in appearance to *R. jakli* Minkina & Anichtchenko, 2022 and *R. verrucosus* Schmidt, 1916. Additionally together with *R. gracilis* Arrow, 1905 it is placed by authors in one species group.

### INTRODUCTION

While examining specimens on loan from the BMNH by Dmitry Telnov and Max Barclay, we found several specimens of a still undescribed *Rhyparus* species. We found an additional specimen in the collection of the second author. The species is, at first glance, very similar to *R. jakli* and *R. verrucosus* - but it has some unique features that allow it to be easily distinguished. Our manuscript is one of a series of manuscripts clarifying the situation with Rhyparini in Southeast Asia. We are slowly trying to show the relationships between the species and for this reason we create a second group of species in the manuscript below. In any case, it is not so easy to define the relationships between species and we will try to do so very slowly in the following manuscripts.

### MATERIAL AND METHODS

The specimens were observed with a Nikon SMZ-U stereoscopic microscope. The photos published here were taken by the use of the Canon EOS 5D Mark III connected with Canon MP-E 65mm macro lens. Photos were edited in Helicon Focus 7 and Adobe Photoshop Elements 2018.

For morphological terms used in the description of specimens we follow Krikken J. & Huijbregts J. (1987).

The type specimens of the new species are indicated by a red, printed label bearing the status of the specimen, sex, its name, name of the authors and year and month of the designation.

The following abbreviations (which was taken in square brackets) were used to indicate the depository of specimens:

ISEA Łukasz Minkina private collection, deposited in Institute of Systematics and Evolution of Animals, Kraków, Poland;

BMNH The Natural History Museum, London, United Kingdom;  
SJCP Stanislav Jákl private collection, Prague, Czech Republic.

## TAXONOMY

### *Rhyparus telnovietbarclayi* sp. nov.

(Figs. 1-5)

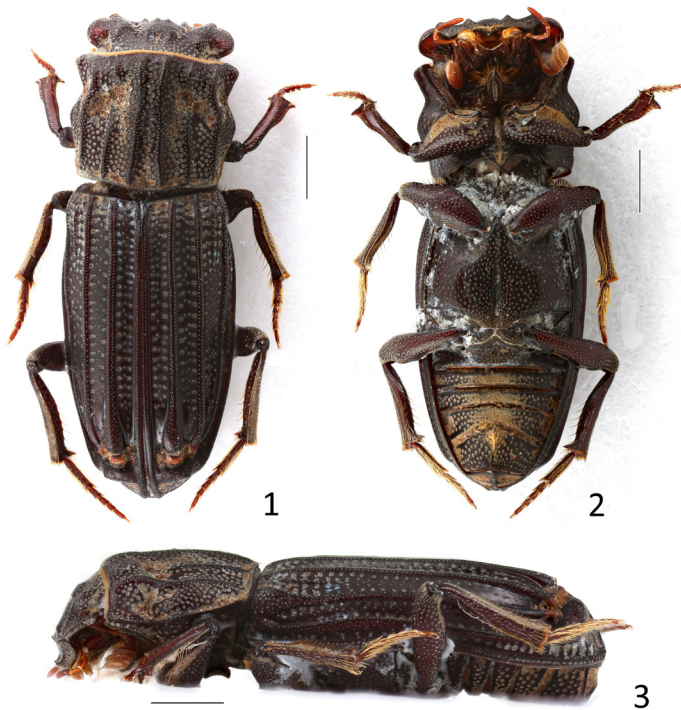
**Type locality.** Indonesia, Sulawesi Island, Sulawesi Tengah, Ranu River Area, Morowali.

**Type material.** Holotype (♂): Sulawesi Tengah: Nr. Morowali, | Ranu River Area. | 27.i. - 20.iv.1980 || Vert. Series | 10m. actinic | 19.ii.80 || S.L. Sutton | C.J. Rees | B.M. 1980-281 || (BMNH). Paratypes: 7exx.: 1ex.: Sulawesi Tengah: Nr. Morowali, | Ranu River Area. | 27.i. - 20.iv.1980 || Vert. Series | 10m. actinic | code Kr.Lii.80 || S.L. Sutton | C.J. Rees | B.M. 1980-281 || (BMNH); 1ex.: Sulawesi Tengah: Nr. Morowali, | Ranu River Area. | 27.i. - 20.iv.1980 || Vert. Series | 30m. actinic | code 17.ii.80 || S.L. Sutton | C.J. Rees | B.M. 1980-281 || 244 || (BMNH); 1ex.: Sulawesi Tengah: Nr. Morowali, | Ranu River Area. | 27.i. - 20.iv.1980 || Vert. Series | 10m. actinic | code 12.iii.80 || S.L. Sutton | C.J. Rees | B.M. 1980-281 || 42-1 || (ISEA); 1ex.: Sulawesi Tengah: Nr. Morowali, | Ranu River Area. | 27.i. - 20.iv.1980 || Vert. Series | 1m. actinic | code 15.ii.80 || S.L. Sutton | C.J. Rees | B.M. 1980-281 || (ISEA); 1ex.: Sulawesi Tengah: Nr. Morowali, | Ranu River Area. | 27.i. - 20.iv.1980 || Vert. Series | 30m. actinic | code 19.ii.80 || S.L. Sutton | C.J. Rees | B.M. 1980-281 || (BMNH); 1ex.: Sulawesi Tengah: Nr. Morowali, | Ranu River Area. | 27.i. - 20.iv.1980 || Vert. Series | 20m. actinic | code: 17.ii.80 || S.L. Sutton | C.J. Rees | B.M. 1980-281 || (BMNH); Indonesia C-Sulawesi, | Poso, 11-16.iv.1999, 1-400 | m, 5-10km SW Tambarana | Bečvář & Záborský leg. || (SJCP).

**Description of the holotype.** Dorsum (Fig. 1). Length: 8.8 mm; maximum width: 2.75 mm. Body large-sized for members of this genus, elongate, quite distinctly convex, flattened in central part; shiny; apparently almost glabrous, though partly clothed with very small yellowish macrosetae on head and all longitudinal costae on pronotum and elytra. Dark brown; antennae, tarsomeres and mouth parts pale brown.

Head (Fig. 4) shiny, with quite distinct microreticulation; transversely sub-hexagonal; clypeus trapezoidal in outline, anteriorly sinuate, on sides weakly upturned as obtuse, distinct tooth, and later sinuous on either side; genae distinctly more excavate than eyes; clypeal disc distinctly convex, ringed by a deep groove; convexity with a pair of short but distinct, very short ridges; nearly on whole surface with distinct, fine punctures bearing small macrosetae. Frons with four distinct, longitudinal ridges with similar structure as ridges on clypeal convexity. Head covered by quite regularly spaced, quite dense, not fine punctures bearing small macrosetae.

Pronotum shiny, tops of costae more distinctly shiny; with eight distinct costae and seven intercostae, with two lateral, moderately triangular lobes on each side. Anterior lobes with similar height and distinctly narrower than posterior, on the top are the widest part of pronotum. Costae of middle, third and fourth pair not interrupted in basal part apical half, very gently convergent, distinctly convergent in the middle of apical third; second pair of costae distinctly interrupted in basal part of apical half; costae on each side with very small punctures bearing very small macrosetae. All intercostae in anterior part without additional short costae. Median intercostae with dense punctures, very distinctly concentrated around median part into longitudinal line of fused punctures, all intercostae in basal part with distinct, dense punctation.



Figs. 1-3. *Rhyparus telnovietbarclayi* sp. nov., ♂, holotype: 1- dorsal view; 2- ventral view; 3- lateral view. Figs. 1-3: scale lines: 1.0 mm.

Scutellum almost imperceptible.

Elytra shiny, tops of costae and preapical glandular area somewhat more distinctly shiny. Each elytron with six elevated costae, and five flat intercostae. Costae on sides with very small punctures bearing very small macrosetae. Preapical glandular area relatively small. First to fourth intercostae with two distinct rows of punctures and with one row of very fine punctures between; on third intercostae there is very short additional costae with very short additional two rows of punctures here. Fifth intercosta with one row of punctures; in basal part of fourth intercosta there is a region with an extremely short additional costa, with some additional punctures. External caudal bulb distinctly reduced, area between external caudal bulb and sides of elytra not divided; external and medio-internal caudal bulbs very weakly, barely noticeably divided; medio-internal caudal bulb not divided, visible as a transverse bulb.

Pygidium (Fig. 5) with dense, fine, punctation bearing very short macrosetae concentrated mainly in the middle; with a large orbicular depression on each side.

Venter (Fig. 2) shiny. Meso-metaventral plate flattened in the middle, with distinct, not so narrow, quite deep longitudinal furrow; punctation of meso-metaventral plate dense, regularly spaced, quite regular in size; all punctures bearing short macrosetae. Abdominal ventrites weakly shiny, with dense, punctation bearing short macrosetae on sides and with very dense, fused in large part punctation bearing short macrosetae in the middle. Last abdominal ventrite (Fig. 5) with dense punctures, which are about one and half time



Figs. 4-5. *Rhyparus telnovietbarclayi* sp. nov., ♂, holotype: 4- head; 5- last abdominal ventrite and pygidium. Figs. 4-5: scale lines: 1.0 mm.

larger than on last but one ventrite; in basal half in the middle part with very dense, fused punctation, with very dense macrosetation there. Meso- and metafemora with two indistinct tubercles on lower border; all femora shiny, with regular, very distinct, rather small, very dense punctation; all punctures bearing small macrosetae.

**Sexual dimorphism.** Characteristic of the genus. Shape of meso- and metatibiae is characteristic of other species in the genus. Last abdominal ventrite of females normal - with no modification of punctures and macrosetation here.

**Variability.** Total body length 7.8 to 9.1 mm. Density of punctation of head is weakly variable. Punctation of pronotum can be more or less dense - sometimes pronotum even without fused punctation in the middle. Caudal bulbs can be more or less distinct. In smaller specimens there is almost a lack of sinuation between external and medio-internal caudal bulbs - in larger specimens sinuation between external and medio-internal caudal bulbs is more or less distinct.

**Etymology.** Patronymic. Dedicated to two entomologists from the BMNH - Dmitry Telnov and Max Barclay.

**Affinity.** The elongate, large body, the pronotum with triangular lateral lobes, dense punctation of all intercostae, elytral with two rows of punctures on all intercostae, with caudal bulbs not so distinctly developed mean *Rhyparus telnovietbarclayi* sp. nov. can only be confused with *R. jakli* Minkina & Anichtchenko, 2022, *R. verrucosus* Schmidt, 1916 and *R. gracilis* Arrow, 1905. It is probably a closely related species to all of them. *R.*

*telnovietbarclayi* sp. nov. can be easily distinguished from all the above-mentioned species by the presence on elytra third row of very fine punctures between two rows of normal punctures, by much denser punctation of pronotum (where punctures in the middle intercosta are distinctly fused), by presence of additional, very short costae on third intercostae, and by unique shape of last abdominal ventrite in males.

## SHORT DISCUSSION

*Rhyparus telnovietbarclayi* sp. nov. forms, together with *R. jakli* Minkina & Anichtchenko, 2022 and *R. verrucosus* Schmidt, 1916 a group of very similar species that have characteristic large size, elongate body, all intercostae of pronotum distinctly punctate, weakly to moderately distinctly developed caudal bulbs and characteristic modification of last abdominal ventrite in males. Some *Rhyparus* species from Southeast Asia (such as *R. gracilis* Arrow, 1905) are quite unique, but probably are belong to the same evolutionary group - for this reason, additional studies on the correlations between species are needed.

In any case - interestingly - there is a group of species in Southeast Asia with modified pygidium and last abdominal ventrite in females (see Minkina et al. 2022). We present the second group of species in this region, which is clearly visible when we observe species/specimens from the region. This may suggest that only few species were the original ancestors of many of the species known today.

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