

Review of the genus *Dysantes* (Tenebrionidae: Toxicini) with type designations and the description of X new species

Compare to: [Revision of the West Indian *Wattius* Kaszab \(Tenebrionidae, Toxicini, *Eudysantina*\) with lectotype designations for Pascoe's South American species \(pensoft.net\)](#)

ABSTRACT

The Tenebrionidae genus *Dysantes* Pascoe, 1868 (= *Eudysantes* Bouchard, Lawrence, Davies and Newton, 2005), currently contains 11 species, found in afrotropical, australasian, and indomalayan tropical regions, a review of the genus uncovered 4 additional undescribed species, with 2 species from Africa, 1 from Papua New Guinea, and 1 from Sulawesi. ∴ A key to the known species of *Dysantes*, distribution maps, and X are provided.

Introduction

Dysantes Pascoe, 1869 is a poorly known but distinctive genus of darkling beetles (Tenebrionidae: Toxicini: *Dysantina*) with species occurring across the Afrotropical, Australasian, and Indomalayan regions. The genus was first described by Pascoe (1869) for the species *Dysantes elongatus* (Redtenbacher, 1868), originally described in the genus *Diceroderes* Solier, 1841, and *Dysantes taurus* Pascoe, 1869 both from Java. *Dysantes taurus* was later (Gebien, 1939) synonymized under *D. elongatus* and appears to represent a female of the species. Two additional species were added to the genus by Pic (1923) - *Dysantes diversus* Pic, 1923 and *Dysantes major* Pic, 1923, both from Vietnam.

In *Dysantes biluna* Gebien, 1939, formerly known as *Toxicum biluna* Walker, 1858, *Dysantes camerunus* Ardoin, 1958, *Dysantes endroedyi* Kaszab, 1969, *Dysantes indicus* Kaszab, 1982, *Dysantes lyricornus* Ando and Yamasako, 2021, *Dysantes wallacei* Ando and Yamasako, 2021, *Dysantes bungisingis* Ando and Yamasako, 2021, *Dysantes telnovi*, Ando and Yamasako, 2021. Currently, 11 *Dysantes* species are known...

The genus name *Dysantes* first appeared in 1868, used by Foerster as a genus name of a Hymenoptera group. The name was then used again in 1869 by Pascoe to describe a group of Tenebrionids. DISCUSSION ON the confusion of the genus name was resolved by Bouchard and Bousquet in 2020, including the date it first showed up as the name of the tenebrionid group, which is 1869, not 1871; and the replacement of the name, which changed it to *eudysantes* by Bouchard et al, was deemed unnecessary, thus it was changed back to *dysantes*.

Most Toxicini species are distinctive from other tenebrionids for bearing cephalic or pronotal armature/horns, which are generally sexually dimorphic. Unlike many other horned beetles, both male and female *Dysantes* specimens have horns, varying only in their shape and length.

The genus belongs to the Toxicini tribe, which is typically characterized by small to medium-sized bodies that are usually black or ferruginous; typically densely punctate or tuberculate, exhibit sex dimorphism, with males possessing longer head or pronotum protrusions than females. Additionally, the distal three antennomeres form a club-like structure. A majority of the species are found in the Indomalayan region. The distribution of each species is limited to a quite small area probably due to their sedentary lifestyle. Adults and larvae usually inhabit fungi infected rotten logs, consuming the fungi. Eleven *Dysantes* species are currently described, with most known from only a handful of specimens. A review of museum specimens has uncovered four previously undescribed species.

Dysantes species are generally small to medium-sized (x-XXmm), black or dark brown in color, and distinguished from most other darkling beetle groups based on the presence of two horns on the thorax. MORE ON SEPARATING FROM 2 HORNS and can be distinguished from other genera within the family by their unique head and pronotum. The genus is mostly found in tropical and subtropical areas such as Africa, Southeast Asia, and the Malay Peninsula. The new species described in this paper are found in Papua New Guinea, Africa, and the Malay Peninsula.

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METHODS AND MATERIALS

For this study, xx *dysantes* specimens from xx collections were examined, along with photos provided by xx museums. Specimens used in this study were kindly loaned by these museums, including BMNH, HNHM, ADSC, OSU, MFNB

BMNH The Natural History Museum, London, United Kingdom.

HNHM Hungarian Natural History Museum, Budapest, Hungary.

ADSC

OSU Ohio State University

MFNB Natural History Museum, Berlin, Germany

Images of specimens and morphological characters are taken with a ..., In order to provide a standardized visual representation of each species, photographs of the lateral and dorsal views were taken. If available, a ventral view was also captured. All specimens were pictured with the identical materials and method, by pinning it onto a light grey board using a plasticine. The

backgrounds were cleaned using ..., Digital measurements were obtained using the ruler tool in Photoshop, each image's measurements were determined by the camera body, lens, and magnification employed. Length was measured by ..., width was measured ..., color was determined using ..., Density of recurring features such as punctures, tubercles, and setae were classified as sparse, moderate, and dense depending on the distance between them. Puncture size was classified as minute, intermediate, large.

Most of the *Dysantes* specimens are coated with a waxy layer. Due to the age of these specimens, the waxy layer on some of them is partially or entirely missing. Nonetheless, the keys are created by analyzing specimens that are in the most optimal state attainable.

RESULTS

Description

Dysantes nsp 3: body ferruginous and matt black, covered with peliclit-like punctures with semi-transparent reddish brown setae.

Head: Head transverse, densely punctuated. Clypeus weakly depressed below gena and frons; anterior margin straight and flat, with no conspicuous carina. Labrum nearly straight, densely covered with setae. Eyes transverse, oval-shaped, approximately 7 facets across; raised lobe present behind the eye forming an obtuse triangle. Weakly raised tubercle structure present between the eyes. Antennal socket almost flat, lower than the highest point of the eyes. Antennae 11 segmented; antennomere 3 about the same length as antennomere 4. Distinct 3-segmented club present; antennomere 9 not depressed, about the same size as antennomere 10-11; club distinctly separated. Frons densely covered with minute punctures. Vertex strongly raised above frons, densely covered with intermediate punctures.

Prothorax: Pronotum subquadrate, strongly punctate, moderately foveate, widest at middle, with 2 crescent-shaped horns, curve outward from the base, then curve inward from the middle, slightly surpass the head. Punctures on the horn extended and stretched forming groove like structure. Small setae cover entire surface of the horns. Serrated carina present at the base of the horn, extends to the posterior margin of the pronotum. An additional pair of carina present at the middle of the pronotum, extend to the posterior margin of the pronotum. A tiny corniculum present at the middle of the pronotum, between the two horns. Pronotum lateral margin strongly serrated, the serration evenly distributed. Posterior corner of the pronotum rectangular, with no protrusion. Posterior margin weakly bisinuate, with the middle almost touching the scutellum. Scutellum pentagonal shaped, width equals length, densely punctate.

Pterothorax: Elytron elongate, almost flat, slightly concave, depressed near scutellum, strongly sloping and tapering caudad, with rows of identical moderate punctures. Intervals obscure. Visible intervals bearing undulating tubercles.

Legs: femur robust, tibia slender and slightly curved, about half the width of femur. Both femur and tibia densely punctate, with semi-erect short setae on each puncture. Two tibia spin present on each leg. Tarsus dark red, densely covered with setae, much longer than the setae on the body.

Dysantes nsp 2: Body cupreous and matt black, covered with semi-transparent golden setae.

Head: head transverse, broad and flat. Clypeus notably more depressed than frons, forming a bulldozer-like shape. Clypeus sharply carinated towards the center. Labrum straight, curved downward near apex, with sparse setae. Eyes transverse, reniform, approximately 6 facets across. No raised lobe present behind eyes; no clear raised structures between eyes. Antenna socket higher than the highest point of the eyes. Antennae 11 segmented, with clear 3 segmented club. Antennomere 3 longer than antennomere 4. Distal 3 antennomere not depressed, with antennomere 10 and 11 slightly fused together. Frons smooth, no visible punctations. Vertex strongly raised above frons, smooth, without tubercles or punctations.

Prothorax: Pronotum subquadrate, widest at middle, gradually tapering towards the posterior end, with scattered minute punctations, a pair of tusk shaped horns, the horns taper gradually from base to apex, pointing downward from base to near-apex, then pointing slightly upward toward apex. Horns densely covered with setae. A raised line extend from the base of each horn toward the posterior margin of the pronotum. An additional pair of thicker line that resembles carina present from the middle of the pronotum to the posterior margin of the pronotum. The carina appears larger toward the anterior. Lateral margin weakly serrated, with the anterior half bearing saw-like serration, the posterior half smooth with no serration. Posterior corner rectangular, with no visible protrusions. Posterior margin bisinuate.

Dysantes nsp camaron

Discussion:

Dysantes is still an enigmatic genus. Much of its behavior remains unknown, including mating, feeding, ovipositing, etc. There is little to no information on their larvae. The function of the horn remains unclear. Furthermore, the presence of shorter horns in females suggests that it is not prudent to assume that the horn is solely utilized for fighting. The available collection records offer very little information on the specific locations where this species was discovered, with vague descriptions such as being found under bark or in rotting logs. However, it can be inferred that like other members of the tribe Toxicini, they likely inhabit decaying wood that is infected with fungi although there is no evidence relating their presence to any fungi. It is currently uncertain whether they exhibit any particular preference for specific types of trees to feed on. Due to the combination of these factors, as well as their low level of activity, obtaining additional specimens of them can prove to be a rather challenging task.

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