

## **A new species of *Tanyana* Stebnicka, 2006 (Scarabaeidae: Aphodiinae) from Peru with a discussion of the taxonomic position of the genus**

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**New species, Coleoptera, Scarabaeidae, Aphodiinae, Eupariini, *Tanyana*, Neotropical Region**

**Abstract.** A new species of the genus *Tanyana* Stebnicka, 2006 - *T. aniae* sp. nov. from Peru is described and illustrated. The taxonomic position of the genus *Tanyana* is discussed.

### INTRODUCTION

In 2003 Stebnicka described *Taenia guyanaensis* - then a new species of a monospecific new genus. She placed it in Eupariini. However later *Taenia* was found to be a junior homonym of an earlier described animal (a tapeworm, Cestoda) and because of this, in 2006, Stebnicka replaced the name *Taenia* with *Tanyana*. The tribe Odontolochini was described by Stebnicka & Howden in 1996 and there was proposed primal tribal limitation. In 2007 Stebnicka & Galante reviewed New World's Odontolochini and made some taxonomic changes, but *Tanyana* was not taken into account in this publication. Yet that year Skelley briefly summarized data about South American taxa of Odontolochini and added descriptions of a few new genera and species. In the present publication, the author describes another species of *Tanyana* and discusses the tribal limitation of Odontolochini.

### MATERIAL AND METHODS

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

For morphological terms used in the description of specimens I follow Dellacasa G. et. al. (2010) and Stebnicka & Howden (1996).

The type series of the new species is indicated by a red, printed label bearing the status of the specimen, sex (if checked), its name, name of the author, and year and month of the designation.

The holotype is a part of private collection of author deposited in Institute of Systematics and Evolution of Animals in Kraków (Poland). Paratypes are deposited in private collection of Showtaro Kakizoe, Fukuoka, Japan (SKCP) and the Institute of Systematics and Evolution of Animals, Kraków, Poland (ISEA).

## TAXONOMY

### *Tanyana aniae* sp. nov.

(Figs. 1-7)

**Type locality.** Peru, Junin prov., 40 km SW Satipo, Calabaza vill..

**Type material.** Holotype (♂): Peru, Junin prov., 40 km SW Satipo, Calabaza vill., 2200m., 11°30.662'S, 74°49.227'W, 16.-17.x.2017, leg. A. Sokolov. Paratypes: (1 spec.): Peru, Junin Dep., Satipo Prov., near Rio Venado, alt 1120 m., 11°11.787'S, 74°46.168'W, 27.iv-15.v.2018, leg. A. Sokolov, (SKCP); (4 spec.): Brésil, Serra de Navia, Amapa, 29.i-2.ii.1990, piège d'interception, leg. N. Dégallier, (2 spec. SKCP, 2 spec. ISEA).

**Description.** Dorsum (Fig. 1). Body length 2.7 mm, elongate, shiny, reddish-brown, glabrous.

Head (Fig. 4) relatively large, trapezoidal, convex, shiny, anteriorly with very weak microreticulation. Clypeus gently bordered, with very small triangular teeth in lower anterior part, border very weakly upturned, distinctly, widely sinuate anteriorly, very widely rounded laterally, not notched before genae, clypeal border without macrosetae. Genae projecting forwards, obtuse, distinctly exceeding eyes, without macrosetae. Frontal suture not noticeable, without gibbositities. Punctuation of clypeus double: larger punctures quite dense, irregularly distributed, located mainly at base, irregular in size: coarser at base, much less coarse in anterior part; smaller punctures fine, irregularly distributed, rather sparse.

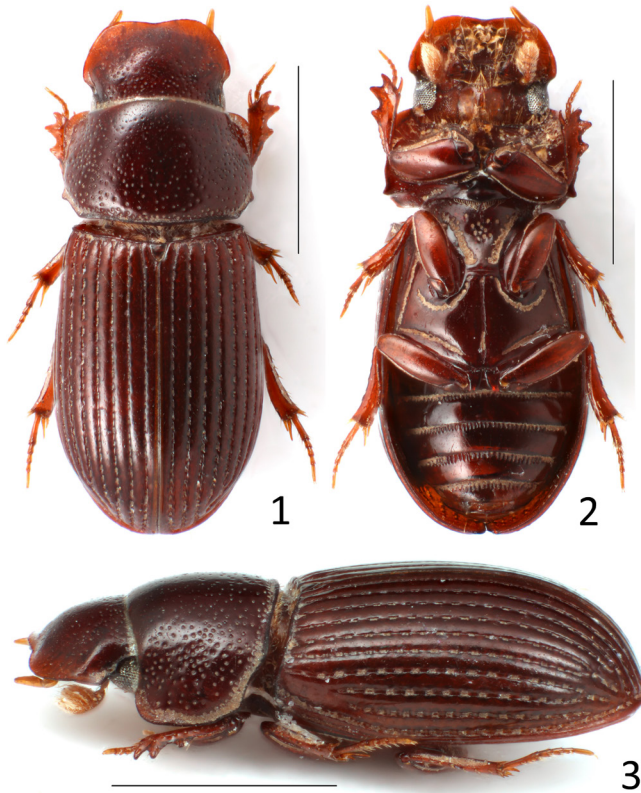
Epipharynx (Fig. 7) transverse, with sides broadly rounded, anterior margin slightly concave on each side of corypha. Corypha with only one median celta, visible above of anterior margin. Chaetopariae and chaetopediae very long and very thick. Epitorma somewhat egg-shaped. Tormae short.

Pronotum distinctly transverse, slightly wider than base of elytra, widest on hind angles, distinctly convex, shiny, on lateral surface with very shallow longitudinal depression, without microreticulation. Anterior angles widely rounded, sides bisinuate, base very distinctly sinuate before hind angles. Anteriorly not bordered, anterior angles very distinctly deplanate, sides and base bordered by a groove. Punctuation of pronotum double, larger punctures not so dense, slightly irregular in size, irregularly distributed, more densely concentrated among longitudinal depression and on lateral and basal borders; smaller punctures fine, not so dense, quite regularly distributed.

Scutellum small, triangular, with ogival sides, without punctures, shiny, without microreticulation.

Base of elytra bordered. Elytra elongate, convex, parallel, shiny, without microreticulation, glabrous; with small and indistinct humeral denticles; with ten striae and ten intervals. Striae distinctly, quite densely punctate with the punctures elongate, somewhat "eight-shaped"; punctures gently but distinctly indenting margins of intervals. First, third and tenth, fifth and sixth, seventh and eighth striae joined together before apex, striae eight and nine slightly shortened before base. Intervals shiny, more or less distinctly convex, with simple, fine, rather irregularly distributed punctuation.

Legs. All femora anteriorly and basally distinctly bordered, shiny, without microreticulation, very finely and sparsely punctate. Protibiae distinctly tridentate laterally,



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

proximally weakly serrulate; dorsal side smooth, shiny, with few very fine punctures; apical spur quite long, quite slender, gently downwardly and inwardly bent, with apex rounded. Meso- and metatibiae without transverse carinae, fimbriate apically with row of short spinules of slightly unequal length (some spinules are short, others are progressively longer). Apex of metatibiae without accessory spine. Metatibial superior apical spur distinctly shorter than basimetatarsomere, latter slightly shorter than next four metatarsomeres combined. Claws very short, thin, very gently arcuate.

Macropterous.

Venter (Fig. 2). Meso-metaventral plate shiny, flat, with distinct, deep, long, moderately wide longitudinal line in the middle; surface with fine, very sparse punctures. Meso-metaventral plate with relatively distinct border between meso- and meta-part. Part of mesoventral plate in the middle with very dense and coarse punctures. Mesocoxae widely separated. Abdominal ventrites shiny, anteriorly distinctly fluted, without microreticulation, with sparse and fine punctation. Pygidium with sparse and fine punctation.

**Variability.** Total body length 2.5-2.9 mm. Punctures of pronotum and head more or less dense and coarse. Specimens from Brasil are smallest and with somewhat coarser punctation near base of pronotum.



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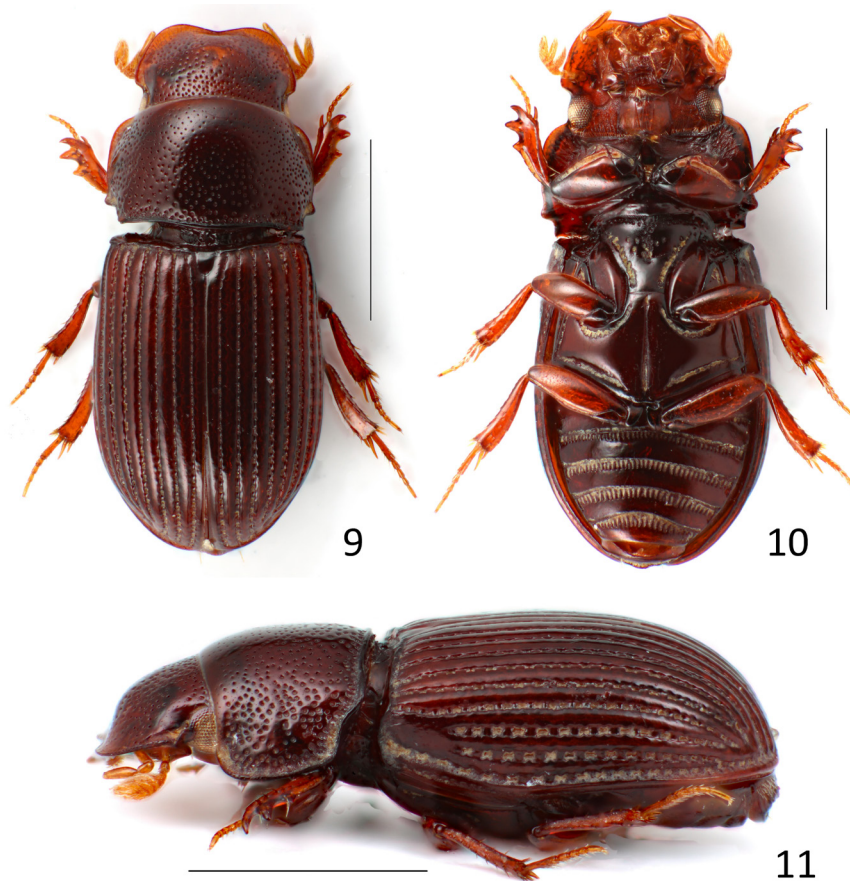


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Figs. 4-7. *T. aniae* sp. nov., ♂, holotype; 8- *T. guyanensis* (Stebnicka, 2003), ♀, paratype: 4,8 -heads; 5- aedeagus in dorsal view; 6- aedeagus in lateral view; 7- epipharynx. Figs. 4, 8: scale line: 0.5mm. Figs. 5-7: scale lines: 0.2 mm.



Figs. 9-11. *T. guyanensis* (Stebnicka, 2003), ♀, paratype: 9- dorsal view; 10- ventral view; 11- lateral view. Figs. 9-11: scale lines: 1.0 mm.

**Etymology.** Patronymic. The name of the newly described species is affectionately dedicated to Anna Golonka and comes from a diminutive form of her name in Polish: Ania.

**Affinity.** Based on the diagnosis of genus *Tanyana* by Stebnicka, 2006 the new species undoubtedly belongs to this genus. Publications of Stebnicka suggest that the newly described species is larger than *T. guyanensis* (Stebnicka, 2003) (min. 2.5 mm vs max. 2.1 mm), but may reflect error of measurement - both species are of relatively similar size. However, *T. aniae* sp. nov. is easily distinguishable from *T. guyanensis* (Stebnicka, 2003) by: body relatively slightly more elongate, head less distinctly convex, hind angles of pronotum relatively less prominent, base of pronotum before hind angles distinctly less sinuate, base of pronotum in the middle relatively less stretched towards elytra, coarser punctation of elytral intervals and different punctation of pronotum (large punctures relatively less dense)

and (especially) head. In *T. guyanensis* (Stebnicka, 2003) larger punctures are denser and coarser, cover almost whole surface except central part and anterior border. In *T. aniae* sp. nov., larger punctures are visible only in basal half and there is almost lack of them in central part. Additionally, both species have very different areas of distribution (Peru and Brazil vs French Guyana, Surinam and Colombia).

## DISCUSSION

The newly described species helps to establish hypothetical limits of variability of the genus *Tanyana* Stebnicka, 2006. Stebnicka established its belonging to Eupariini with *Odontolytes* Koschanchshikov, 1916 (formerly *Auperia* Jacquelin Du Val, 1857), *Euparixoides* Hinton, 1936 and *Ataenius* Harold, 1867 as the most closely related genera. Because of some unusual features, the position of *Tanyana* in Eupariini seems to be questionable. The genae stretched forward and the distinctly deplanate anterior angles of pronotum provide a space area for the protibia, especially when the head has a larger possibility of folding down. The relatively convex head which is quite thinly bordered but with very small triangular teeth in lower anterior part, unusual shape of sides and base of pronotum with shaped shallow cavity on internal side of the basal part of pronotum, the widely separated mesocoxae and the punctuation and setation of protibiae may suggest its belonging to Odontolochini.

Additionally, the widely grooved sides and base of pronotum, metatibiae with distinct lack of accessory spine, very characteristic border on meso-metaventral plate which divide meso- and meta-part, characteristic punctuation of meso-part of meso-metaventral plate may additionally suggest that *Tanyana* is a member of Odontolochini. Features such as the shape of anterior part of clypeus (triangular teeth), bordered base of elytra, humeral denticles, proportions and general shape of legs, fluted ventrites are not characteristic as they frequently occur in Eupariini and Odontolochini. The longitudinal depression observed in anterior part of sides of pronotum may also be observed in all Odontolochini, but in some Eupariini too (for example in *Airapus* Stebnicka & Howden, 1996).

However, the shape of the border of the clypeus, the not so distinctly developed folding mechanism of head and protibiae, punctuation of pronotum and clypeus are characteristic rather of Eupariini than of Odontolochini.

A lot of features suggest that *Tanyana* may be a member of Odontolochini, but there are quite a few other features characteristic of both Odontolochini and Eupariini, or even only for Eupariini. In my opinion, the best way in that situation for conservation of tribal limitation is leave *Tanyana* Stebnicka, 2006 in Eupariini. In other arrangements, the tribal limitation may become too blurred and cause problems. However, to establish the true taxonomic position would require future genetic studies.

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