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Two new species of Cassidinae from Rondonia, Brazil (Coleoptera: Chrysomelidae)

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ABSTRACT. *Stolas agenysiformis* and *Hybosa marginepunctata*, new to science, are described from Rondonia, Brazil. Both are distinct species with unique diagnostic characters.

Key words: entomology, taxonomy, Coleoptera, Chrysomelidae, Cassidinae, Mesomphaliini, Cassidini, *Stolas*, *Hybosa*, new species, Brazil, Rondonia.

INTRODUCTION

Brazil is the richest country with regard to Cassidinae fauna. More than 830 species (ca. 27% of world fauna) were recorded from the country (BOROWIEC 1999; BOROWIEC & ŚWIĘTOJAŃSKA 2011), but a lot of them are known only from the type locality. According to large area and diverse habitats some regions of Brazil are still poorly known in relation to many group of insects. Rondonia state is one of the less explored regions. In the material of Monte L. Bean Life Science Museum, Provo, USA I found members of two new species of two various genera collected in Rondonia. Both are very distinct species with clear diagnostic characters. Their description is given below.

Colour photos were prepared using Helicon Focus software. Photos were digitally processed for better appearance. Measurements were taken with an ocular micrometer. Length ratio of antennal segments was measured as a percent of length of each segment to the length of the first segment.

DESCRIPTIONS

Stolas agenysiformis sp. nov.

TYPE MATERIAL

Holotype: "Brazil: Rondonia/linea C-5 off B 65; 10 km S. Cacauplandia, March 19-21, 1991/Kondratieff & Welch" (preserved at the Monte L. Bean Life Science Museum, Provo, USA); paratype: "Brasil, Rondonia/62 km S Ariquemes/linea C-20, 7 km E B-25/165 m/Fazenda Rancho Grande//10°32'S, 62°48'W/14-22 March 1991/Kondratieff & Welch (preserved at the Department of Biodiversity and Evolutionary Taxonomy, University of Wrocław, Poland).

ETYMOLOGY

Named after its external similarity to *Agenysa connectens* (BALY, 1869) known from the same region. The appearance may be an effect of social mimicry.

DIAGNOSIS

The genus *Stolas* BILLBERG, 1820, a member of the tribe Mesompahliini CHAPUIS, 1875, comprises 185 species. They were divided into 10 species groups (F. SPAETH, unpubl. manuscript). *Stolas* species are usually distinct with clear diagnostic characters except few polymorphic taxa. *Stolas agenysiformis* sp. nov. belongs to the group of 10 species close to *S. pleurosticha* (ERICHSON, 1847). The group is characterized by broad pronotum, subacuminate apex of elytra, disc of elytra with distinct reticulation, background colour of pronotum and elytra black and usually with indistinct metallic tint. Most species of the group differs from *S. agenysiformis* sp. nov. in different elytral pattern or uniformly black dorsum. Only three species: *S. inexculta* (BOHEMAN, 1862), *S. pleurosticha* (ER.) and *S. zumbaensis* BOROWIEC, 1998 are similar to *S. agenysiformis* sp. nov. by their mostly black or metallic elytral disc and almost whole explanate margin of elytra with pale, yellow or red, reticulation. *S. agenysiformis* sp. nov. differs from all three relatives in extremely short pubescence of pronotum and elytra, thus dorsum appears bare, while in related species pronotum is covered with long adherent and elytra long erect pubescence. *S. pleurosticha* (ER.) and *S. zumbaensis* BOR. differ in reticulation of explanate margin yellow, while in *S. agenysiformis* sp. nov. it is reddish like in *S. inexculta* (BOH.). Form of *S. inexculta* (BOH.) with complete reticulation of elytra looks the most similar but differs in fields of reticulation of disc impunctate and net of reticulation impunctate or finely punctate only along borders of the net while in *S. agenysiformis* sp. nov. both fields and net are punctate, especially in anterior half and sides of disc.

DESCRIPTION

Length 15.4-15.9 mm, width 13.0-13.3 mm, length of pronotum 3.9-4.0 mm, width of pronotum 8.4-8.7 mm, length/width ratio 1.18-1.20, width/length ratio of pronotum 2.15-2.18. Elytra with subacuminate apex (Fig. 1).



1, 2. *Stolas agenysiformis*: 1 – dorsal, 2 – lateral; 3, 4. *Hybosa marginepunctata*: 3 – dorsal, 4 – lateral

Pronotum completely black with green or cupreous metallic tint. Elytral disc completely black with green or cupreous metallic tint, without pale reticulation or in posterolateral part reddish reticulation of explanate margin of elytra slightly encroaches behind border between disc and explanate margin. Explanate margin of elytra black with green metallic tint and reddish reticulation which occupies almost whole surface of the margin except broad dark band along edge of elytra. Ventrites mostly black, only sternites on sides with transverse reddish to brown spots of indistinct borders. Legs black. Antennae mostly black, segments 1-4 on underside partly reddish to brown.

Pronotum regularly pentagonal, in basal 2/5 length almost parallelsided, then strongly converging anterad, sides straight, anterior emargination deep. Surface of pronotum microreticulate, dull, with very small and sparse pricks and extremely short and sparse adherent hair, appears impunctate and bare.

Base of elytra much wider than base of pronotum, humeri broadly rounded. Disc in profile distinctly but regularly convex, no postscutellar hump or tubercle, postscutellar impressions shallow but distinct. Whole disc with moderately large elevated reticulation with 5-6 eyes of net across each elytron. Fields of net dull, sparsely but distinctly punctate, especially in anterior and lateral parts of disc. Net of reticulation mostly dull but in anterior and anterolateral parts of disc slightly shiny, with more or less distinct punctuation. Punctures run mostly along borders of net but in anterior part of disc partly encroaches to sides of net. Explanate margin of elytra in the widest part 0.4 times as wide as width of disc, its surface dull with only slightly elevated reddish reticulation. Reddish area with 22-26 dark spots inside, border spots partly coalescent with dark band along sides of elytra.

Ventrites without diagnostic characters.

Antennae moderately stout, segments 9 and 10 approximately 1.5 times as long as wide. Length ratio of antennal segments: 100:48:104:81:85:74:81:74:78:81:140, segment 3 approximately 2.2 times as long as segment 2 and 1.3 times as long as segment 4.

REMARKS

It is interesting that elytral pattern of *S. agenysiformis* sp. nov. is similar to that of *Agenysa connectens* (BALY), a member of the tribe Eugenysini HINCKS, 1952, quite common species of submountain regions of South America recorded also from Rondonia in Brazil. It suggests a social mimicry of both species. Similar phenomenon was observed in a pair of another species of both tribes – *Stolas eugena* (BOHEMAN, 1862) and *Eugenysa divalis* (BOHEMAN, 1862) sympatric in Peru. *Stolas eugena* (BOH.) has similar elytral pattern to both *S. agenysiformis* sp. nov. and *Eugenysa divalis* (BOH.) but belongs to another group of species with very large size (species of the genus *Eugenysa* CHEVROLAT, 1837 are distinctly larger than species of the genus *Agenysa* SPAETH, 1905).

***Hybosa marginepunctata* sp. nov.**

TYPE MATERIAL

Holotype female: "Brasil, Rondonia/62 km SW Ariquemes/ Fzda. Rancho Grande/18 November 1994/ C.W. & E. O'Brien" (preserved at the Monte L. Bean Life Science Museum, Provo, USA).

ETYMOLOGY

Named after coarsely punctate explanate margins of elytra.

DIAGNOSIS

The genus *Hybosa* DUPONCHEL, 1842, a member of the tribe Cassidini, comprises 10 species distributed in the whole Neotropical Region. *Hybosa marginepunctata* sp. nov. is the only species of the genus with coarse, black punctuation of explanate margin of elytra. It is also the only species with completely black elytral epipleura. Body shape and length above 10 mm but less than 13 mm places *H. marginepunctata* sp. nov. close to *H. mellicula* BOHEMAN, 1862 and *H. insculpta* SPAETH, 1937 but both relatives differ also in finer and sparser punctuation of elytral disc; especially punctuation of posterolateral part of disc in *H. marginepunctata* sp. nov. is extremely densely punctured with distance between punctures smaller than puncture diameter while in *H. mellicula* BOH. and *H. insculpta* SP. distance between punctures is partly larger than puncture diameter. In *H. marginepunctata* sp. nov. punctures on disc are marked with black while in both relatives punctures are marked at most by dark brown. Recently described *Hybosa santaritae* BOROWIEC and TAKIZAWA, 2011 has also explanate margin with groups of coarse punctures but distinctly differs in punctuation and epipleura not marked with black.

DESCRIPTION

FEMALE. Length 11.8 mm, width 9.9 mm, length of pronotum 3.9 mm, width of pronotum 7.1 mm, length/width ratio 1.19, width/length ratio of pronotum 1.82. Body subcircular (fig. 3).

Pronotum yellowish-brown, transparent sides of explanate margin marked with black covering underside of pronotum. Elytra yellowish-brown except narrowly dark brown suture and extreme lateral margin. All punctures on elytra marking with black. Underside black, including sides of pronotum and elytral epipleura, only last three sternites on sides with small yellowish spot. Clypeus brown basally and yellowish apically, frons yellowish-brown. Legs uniformly black, antennae with segments 1-4 yellowish, 5 and 6 brownish, and 7-11 black.

Anterior margin of pronotum softly convex, shallowly emarginate in area above head, sides rounded, posterior corners obtuse. Surface of pronotal disc slightly dull, on whole area moderately coarsely punctate, punctures disposed irregularly, distance between punctures from as wide as to thrice wider than puncture diameter. Explanate margin dull on dark, lateral lobes with fine sparse punctuation, shiny and impunctate in yellow area above head.

Base of elytra distinctly wider than pronotum, anterior margin in humeral area only shallowly emarginate, humeri obtusely angulate, sides of elytra regularly convex, apex regularly rounded. Disc in profile strongly convex but not tuberculate (Fig. 4). Surface of disc slightly dull, with coarse and deep punctation. Punctures disposed irregularly, in area around scutellum and on elytral gibbosity sparse, with distance between punctures partly two to three times wider than puncture diameter, from mid length to apex of disc punctures gradually denser and in posterolateral parts of disc punctures almost touching each other. Submarginal and marginal rows present but in posterior half of elytra partly vanished between puncturation of disc and explanate margin. Interspaces without special sculpture. Explanate margin strongly declivous and sides of elytra in posterior view look like simple surface, with no border between disc and explanate margin. Surface of explanate margin slightly dull, with double, partly coarse and partly fine punctation. Coarse punctures as large as the largest punctures of disc, disposed irregularly with interspaces from as wide as to thrice wider than puncture diameter.

Ventrites without diagnostic characters.

Antennae stout. Length ratio of antennal segments: 100:43:53:63:63:53:67:47:50:50:80, segment 3 approximately 1.2 times as long as segment 2, segment 4 approximately 1.2 times as long as segment 3, segments 9 and 10 only slightly longer than wide.

MALE. Unknown.

REMARKS

Although the species is known from only single female specimen I decided to describe it because of unique character within the genus *Hybosa* – the coarsely punctate explanate margin of elytra. Punctate marginalia are characteristic for 3 of 4 known species of the related and similar genus *Scaecocassis* SPAETH, 1913 but the new species is well distinguished by peculiar shape of pronotum with well marked basal corners characteristic for the genus *Hybosa*.

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