HOLOTROCHUS ISABELAE SP. N.,
A NEW OSORINI (COLEOPTERA: STAPHYLINIDAE: OSORININAe) FROM THE GALÁPAGOS ISLANDS

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ABSTRACT

*Holotrochus isabelae* sp. n., a new Osorini (Coleoptera: Staphylinidae: Osorininae) from the Galápagos Islands.

The species *Holotrochus isabelae* a new Osorini (Col. Staphylinidae, Osorininae) from the Galápagos Islands (Ecuador) is described. This is the second record of the genus for the Galápagos archipelago and the new species is placed in the Neotropical *cylindrus* species group.

Key words: Coleoptera, Staphylinidae, Osorininae, Osorini, *Holotrochus*, Galápagos Islands.

INTRODUCTION

Present knowledge of the rove-beetles from the Galápagos Islands includes of 56 species (COIFFAIT, 1981; PACE, 1985; FRANZ, 1983; CAMPBELL & PECK, 1989; PECK, 1993; PECK & KUKALOVÁ-PECK, 1990) of which 42 (75%) are endemic to the islands. This number is relatively low if we consider that the archipelago is composed of 14 main islands, 11 smaller islands and 26 islets and rocks; with a total land surface of 8,006 km² (CONSTANT, 1983). If we add to this the altitudinal gradient of some islands, together with their varying climatic conditions which gives rise to different vegetational zones, and the fact that the Galápagos have been available for terrestrial colonization for perhaps 3 million years (HALL, 1983), we can assume that there are perhaps many new insect taxa to be discovered.

On the basis of this premise, one of us (J.J.H.) visited the Galápagos as a part of the research project, “Galápagos: Patrimonio de la Humanidad”, with the objective of collecting underground fauna. As a result of these collections, a new species of Osorini, found in the south of the large island of Isabela, is described.

*Holotrochus isabelae* sp. n. (Figs. 1-11)

Description

Length 4.2 mm (Fig. 1). General coloration yellowish. Head, without mouth parts, as long as wide, with near-parallel borders, slightly narrowing in its anterior half. Head with three long pairs of setae near the front-clypeal suture, one pair in the median zone and five short setae around each eye. Weak punctation of regular distribution on a smooth surface in the central zone, or on a reticulate microsculpture on the lateral and posterior margins. Antennae (Fig. 2) with the 1st segment slightly longer than the 3rd and this is as long as the last and 1.6 times longer than the 2nd, segments 7-10 slightly wider than long. Labrum (Fig. 3) with anterior margin smooth, without the median longitudinal sulcus and with 7 pairs of principal setae on its anterior margin. Mandibles (Fig. 4) with three teeth and a row of three long setae on its outer margin, prostheca well-developed. Maxilla (Fig. 5) with galea and lacinia strongly spinous on the outer margin, stipe with three long setae on its outer margin, palpifer with a notable protuberance from which a long setae arises, subgaleae and cardine glabrous. Last segment of maxillary palpus with a bundle of filamentous sensillae on its basal part. Labium (Fig. 6) with mentum margined and sharp-pointed on the anterior margin, where five pairs of setae are arranged and from one stads out for its length; prementum with anterior margin bidentate; 3rd segment with a long seta on the anterior half.

Pronotum subquadrangular, wider than head and strongly marginated on the lateral and posterior margin. Punctuation similar to that of the head, with five pairs of setae on the lateral margin and two pairs on the anterior angles (Fig. 1).

Prosternal process notably elevated between coxae.

Elytra longer than pronotum and very marginated, with scapular tooth. Membranous wings well developed. Punctuation of elytra stronger than that of the head and pronotum, not uniformly distributed, but more dense on the anterior third and on the lateral margins.

Protibia (Fig. 7) strongly spinous on the apical half and with a comb setae on its inner margin. Mesotibia (Fig. 8) with a row of strong spines on its outer margin. Metatibia (Fig. 9) with only five spines on its distal end.

Punctuation of abdomen similar to that of the head and pronotum, with a reticulate microsculpture. Last abdominal segments without the typical median depression and with setation (Fig. 10).

Male aedeagus (Fig. 11) with median lobe very sharp-pointed, parameres sinuous and uniformly narrow, and nearly as long as the median lobe. Tubular inner bag with a long and spiral endophallus.

Female unknown.

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DISCUSSION

The tribu Osorini has 66 genera to date, the majority of them being highly localized endemics. The richest genera in number of species are Osorius Latreille 1829 and Holotrochus Erichson 1839-40, with 253 and 118 species respectively. Holotrochus has a wide distribution, from Borneo, Sumatra, Madagascar, New Caledonia and Gabon to all of North and Neotropical

Fig. 1: Holotrochus isabelae sp. n. Scale in mm.

Figs. 2-11: Holotrochus isabelae sp. n.: Antennae (2); labrum (3); right mandible (4); maxilla and maxillary palp (5); mentum, labium and labial palp (6); fore tibiae (7); mid tibiae (8); hind tibiae (9); last abdominal sternites (10); aedeagus (11). Scales in mm.
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America. IRMLER (1981) analysed 39 neotropical species of the genus. In the same year COIFFAIT (1981) described Holotrochus galapagosus, which was the first record of the genus for the Galapagos Islands. More recently, IRMLER (1987) described 22 new neotropical species and these, with this new taxon, raise the neotropical species description of the genus to 63 species.

The new species described here is the second record of the genus for this archipelago. The male of H. galapagosus is unknown, so it cannot be assigned to any of the 7 neotropical species-groups established by IRMLER (1981). However, the study of aedeagus of H. isabelae sp. n. together with other characters like pronotum not marginated at anterior edge, allows us to assign it to the cylindrus group, composed of 7 species: H. cylindrus Erickson 1840 and H. volvulus Erickson 1840 from Puerto Rico, H. smithi Cameron 1913 from St. Vicente (Antilles), H. milleri IRMLER 1981 from the Cocos Island and Panama Canal, H. similis IRMLER 1981 from Trinidad, H. centralis Sharp 1882 from Brazil, Peru, Guatemala and Nicaragua and, finally, H. geraldii IRMLER 1987 from Jamaica. Geographically the closest related species are H. galapagosus from nearby Santa Cruz Island and H. milleri from Cocos Island, 860 km away. H. isabelae sp. n. is distinguishable from H. galapagosus by the general body coloration, the size of eyes, the total body length, the pronotum punctuation, the second segment of antennae, as well as their distribution in the Archipelago. Both Galapagos species can be differentiated by the following key:

1 (2) Larger species (about 4.2 mm). Body coloration clearer (yellowish). Punctuation of pronotum uniform and similar to that of the head. Second antennae segment as long as wide. Eyes smaller. Isabela Island.......................... Holotrochus isabelae sp. n.

2 (1) Smaller species (about 3.35 mm). Body coloration darkened (black). Punctuation of pronotum uniform but stronger than that of the head. Second antennae segment longer than wide. Eyes bigger. Santa Cruz Islands .................. Holotrochus galapagosus COIFFAIT.

H. isabelae sp. n. shows clear differences in relation to the others species of the cylindrus group. In H. cylindrus the prosternal process is continuous between coxae, and not strongly elevated as in H. isabelae sp. n. H. smithi has the smallest eyes, with only 50 ommatidia. In H. milleri and H. similis the 3rd segment of antennae is as long as the 2nd, but in H. isabelae sp. n. it is longer. H. centralis is characterized by its pronotum being densely punctate, which is not as dense in H. isabelae sp.n. H. volvulus, at 6 mm in length, is the longest species of the group, and this makes it clearly different from any other. Finally, in H. geraldii the 2nd segment of antennae is longer than wide, while in H. isabelae sp. n. it is as long as wide.

However, as NEWTON (1985) said, at present the relationships among the genera and species of the group are too inadequately known to determine whether the several austral elements are derived from the adjacent tropical faunas or are directly related to one another.

REFERENCES


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