

A new species of the genus *Dirphia* (Lepidoptera: Saturniidae, Hemileucinae) from Ecuador

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Abstract. A new species, *D. regei* sp. nov. of the genus *Dirphia* Hübner, 1819 (“1816”) (Lepidoptera: Saturniidae, Hemileucinae) is described from Zamora Chinchipe and Napo provinces of Ecuador. The male holotype is stored in the scientific collections of the Estonian Museum of Natural History, Tallinn. The new species is compared with its (probably) nearest relatives, *D. radiata* Dognin, 1916 and *D. irradians* Lemaire, 1972.

Key words: new species, Saturniidae, Hemileucinae, South America.

INTRODUCTION

The hemileucine genus *Dirphia* comprises about 42 large-sized species, which are distributed in North and South American continents. Forty species are described and illustrated in a recent three-volume monograph by Lemaire (2002), two species were added later by Racheli & Racheli (2005a). Thirteen species share with the new one a conspicuous white Y-shaped discal mark in the forewing.

A new species of the genus *Dirphia* Hübner, 1819 (“1816”) (Lepidoptera: Saturniidae, Hemileucinae) is described from the south-eastern part of Ecuador. Specimens were collected during an expedition carried out by the Estonian Museum of Natural History in 2008. Immediately after preparation it became evident that this taxon was unknown to science because it had a unique doubled postmedian line of the forewing in combination with a large triangular forewing dot, white pronounced veins, and the overall dark greyish brown colour plus details of its male genitalic structures listed below. It is described herewith as:

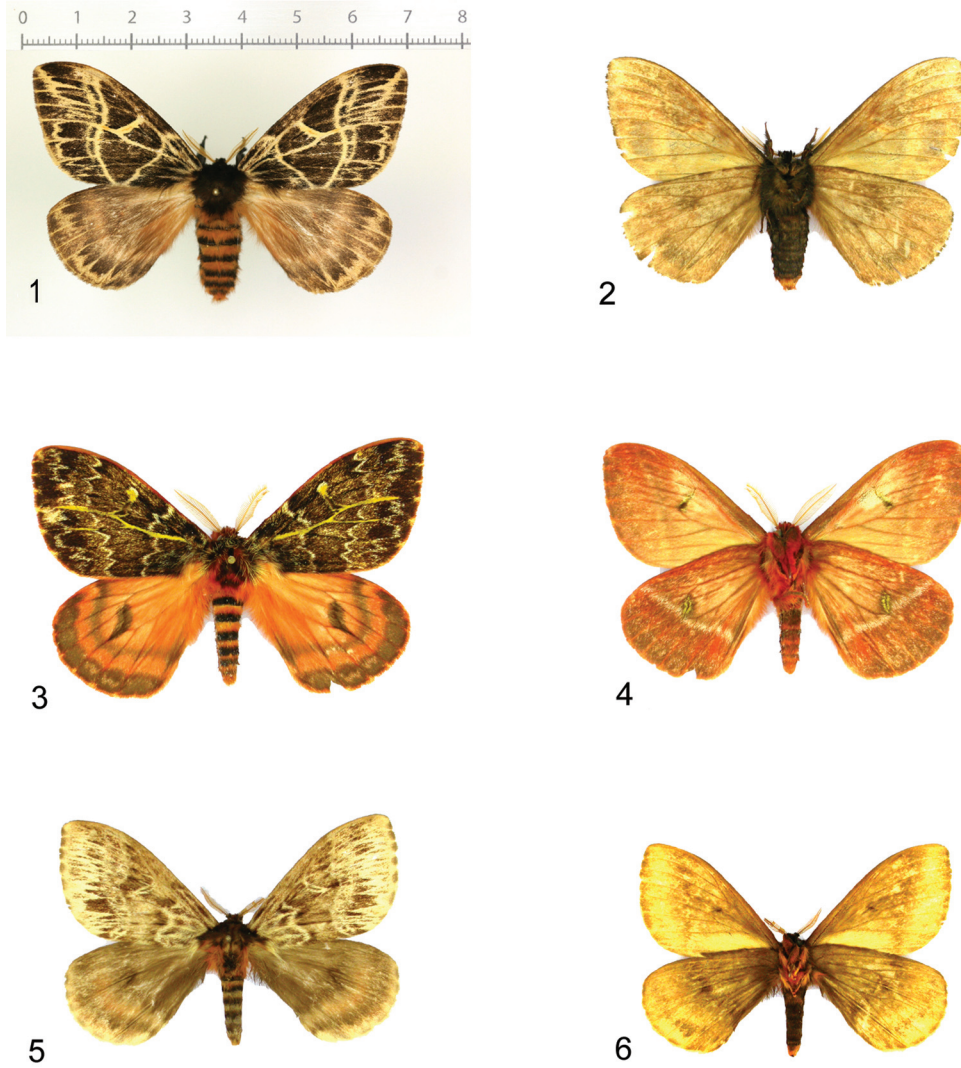


Plate I. *Dirphia* specimens: fig. 1: *D. regei* sp. nov., male holotype, dorsal view (Estonian Museum for Natural History); fig. 2: *D. regei* sp. nov., male paratype, ventral view (coll. S. Naumann); fig. 3: *D. irradians*, male, dorsal view (Instituto de Zoologia, Maracay); fig. 4: same specimen, ventral view; fig. 5: *D. radiata*, male, dorsal view (coll. S. Naumann); fig. 6: same specimen, ventral view. All specimens are almost to the same scale.

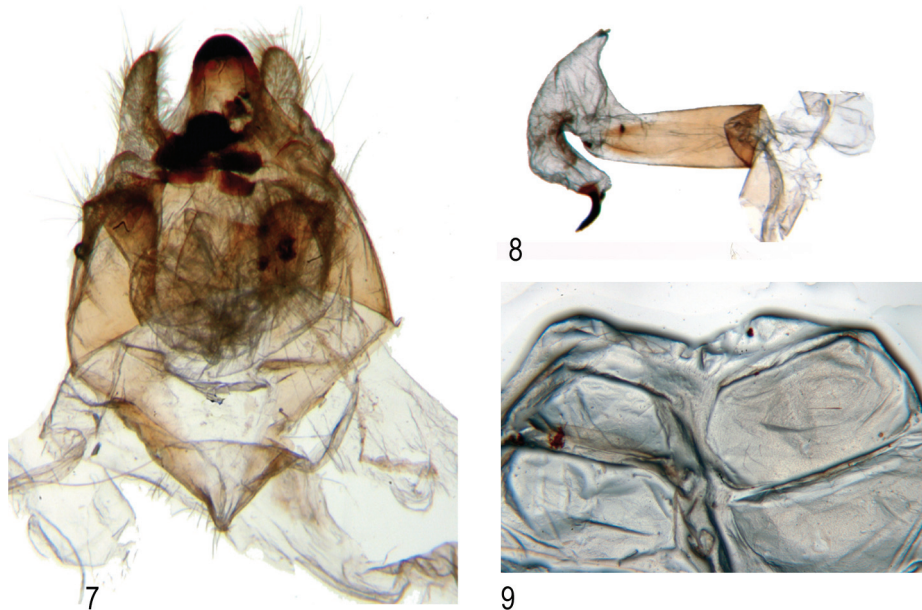


Plate II. Male genitalia of *Dirphia rengei* sp. nov.: fig. 7: male genital armature, ventral view; fig. 8: aedeagus with vesica everted, lateral view; fig. 9: eighth abdominal segment separated.

***Dirphia rengei* Naumann, Lindt & Viidalepp, sp. nov.**

Plate I, figs 1 and 2

Holotype: male, Ecuador (Oriente), Zamora Chinchipe prov., Zamora env., 1000 m, 04°06'30" S, 78°57'49" W, 19–20.04.2007, A. Lindt leg. The holotype will be deposited in the collections of the Estonian Museum of Natural History.

Paratypes: in total 6 males with data: 2 males, same data as holotype, genitalia no. 8451 JV, coll. Estonian Museum of Natural History; 1 male, same data as holotype, genitalia no. 2121/10 Naumann, coll. S. Naumann; 1 male, Ecuador (Oriente), Zamora Chinchipe prov., Los Encuentros (on the Guilaquiza–Yantzaza road), 1770 m, 03°54'49" S, 78°29'58" W, 22.04.2007, A. Lindt leg. (coll. Museo Ecuatoriano de Ciencias Naturales, Quito); 1 male, same data, coll. S. Naumann; 1 male, Ecuador, Napo prov., Carlos Julio (on the Puerto Napo–Pujo road), 950 m, 01°15'33" S, 77°49'27" W, 10.02.2008, A. Lindt leg. (coll. A. Lindt).

DIAGNOSIS

Dirphia rengei sp. nov. is characterized by a double postmedian line and a creamy ochreous and dark brown pattern of the forewing, which it shares only with *D. radiata* Dognin, 1916. It differs from that taxon in details of the pattern elements, the more intensively marked hindwing, and structures of male genitalia.

DESCRIPTION

Male (Plate I, figs 1, 2): Ground colour dark greyish brown; antennae quadripetinate, with 35 segments, 9 mm long, only last 4–5 segments bipetinate, longest rami 0.9 mm, ochreous. Head, thorax, and legs covered with long dark brown hair; colour of vestiture between metathorax and first abdominal segment orange, rest of abdomen on dorsal side dark brown with intersegmental tufts of orange hair, ventral half completely dark brown. Forewings from base to apex 35–37 mm long, with a wing span of 65–74 mm (average 69 mm), ground colour with creamy ochreous lines suffused with creamy scales. Antemedian line from one-fourth of costa, slanted, reaching centre of anal margin of wing, rectangularly broken outward at radial stem. Postmedian line curved S-shaped, from two-thirds of costa to three-fourths of anal margin, reaching near antemedian line, continuous, accompanied marginally by analogous, weaker line from R_4 to CuA_2 . Median field with *Dirphia*-typical Y-shaped creamy white discal spot, with broader and bent costal part and thinner straight basal part, ending in the postmedian area. Submarginal line irregularly dentate inward. Hindwing light chocolate-brown with paler suffused streak along cell and dull creamy postmedian portion. Submarginal portion creamy, irregularly dentate inward along veins and interspaces. Basal and anal areas with long orange piliform scales. The ventral side of both fore- and hindwing almost completely uniformly dark greyish brown; light elements of dorsal side are slightly indicated as shadows.

Male genitalia (Plate II, figs 7–9): Uncus and transtilla heavily sclerotized. Uncus with two rounded, slightly indicated tips, bent to ventral side. Transtilla triangular and rounded dorsally, laterally fused with inner margin of dorsal processes of valves. Ventral process very short and rounded. Saccus broad, with an apical tip; juxta with triangular lateral lobes. Aedeagus relatively tall (fig. 8), vesica with broadly triangular dorsal lobe with a small cornutus at its tip and longer lobe bent around to ventral side, with a thick spine at its end. Eighth abdominal segment (fig. 9) posterior ending without any significant characters.

The female is unknown.

SOME NOTES ON THE GENUS *DIRPHIA*

Dirphia renei sp. nov. described here can easily be distinguished from all other known taxa in the genus by its double postmedian S-shaped line. Only two congeneric species share the combination of a dark forewing with a dentate submarginal pattern, lots of creamy white pattern elements of the forewing, and relatively homogeneous hindwing colouration. These are *D. irradians* Lemaire, 1972 (Plate I, figs 3, 4), described from southeastern Venezuela, and *D. radiata* (figs 5, 6) from the Guyanas down to the Amazonian parts of Venezuela, Ecuador, and Peru. The latter is the only other known *Dirphia* species with a double postmedian line, although of different form. Male genitalia of those two species differ

from those of *D. rengei* sp. nov. in different shape of uncus, transtilla, saccus, and vesica. They match exactly with figures in Lemaire (2002: fig. 94.6 and fig. 95.1), therefore we do not present them here again.

Overviews of members of the genus *Dirphia* were published by Bouvier (1929: plates I–IV, 1935: plates 1–6), and last by Lemaire (2002) in his famous Hemileucinae revision. Since then, some new taxa have been described within the genus *Dirphia*, but only one species, *D. napoensis* Racheli & Racheli, 2005, originated from Ecuador (Racheli & Racheli, 2005a). Zoogeographic works published on the Ecuadorian Hemileucinae fauna, e.g. by Lemaire (1977) and Racheli & Racheli (1999, 2005b, 2005c) mention several *Dirphia* taxa, but obviously *D. rengei* sp. nov. described here remained then unknown to science.

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Uus *Dirphia* (Lepidoptera: Saturniidae, Hemileucinae) liik Ecuadorist

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On kirjeldatud uus liblikaliik *Dirphia rengei* sp. nov. (Lepidoptera: Saturniidae, Hemileucinae) Ida-Ecuadori Zamora Chinchipe ja Napo provintist, võrreldes seda kahe sarnase liigiga: *D. radiata* Dognin, 1916 ning *D. irradians* Lemaire, 1972. Holotüüpi säilitatakse Eesti Loodusmuuseumi kollektsioonis.