Saturniidae in the collection of the Museo del Instituto de Zoología Agrícola of the Universidad Central de Venezuela, Maracay: A new species of the genus *Dirphia* HÜBNER, 1819 ("1816") (Lepidoptera: Saturniidae, Hemileucinae)

Stefan NAUMANN,
Ulrich BROSCH, Bernhard WENCZEL, & José CLAVIJO

Abstract: A new species of *Dirphia* HÜBNER, 1819 ("1816") is described from Bolivar state in Venezuela. ***D. demarmelsi* n. sp.** is most likely closely related to *D. avrilae* LEMAIRE, 1980, from which it differs by its colouration and some significant details of male genitalia. The new species was collected in 1990 by members of the FUDECI expedition at Mt. Guaiquinima in the "Gran Sabana" National Park. The holotype ♂ remains in the original collection of the Museo del Instituto de Zoologia Agricola of the Universidad Central de Venezuela, Maracay (MIZA).

Resumen: Del estado Bolivar, Venezuela, se describe e ilustra una especie nueva del género *Dirphia* HÜBNER, 1819 ("1816"). ***D. demarmelsi* n. sp.** parece más relacionada con *D. avrilae* LEMAIRE, 1980, de la cual se separa por su patrón de coloración y unos detalles notables en el aparato genital masculino. Los ejemplares fueron atrapados en el año 1990 por los participantes de la expedition FUDECI en el Cerro Guaiquinima en el Parque Nacional "Gran Sabana" El holotipo masculino queda depositado en la colección de su origen, el Museo del Instituto de Zoologia Agricola de la Universidad Central de Venezuela, Maracay (MIZA).

Zusammenfassung: Eine neue Art der Gattung *Dirphia* HÜBNER, 1819 ("1816") aus dem Teilstaat Bolivar in Venezuela wird beschrieben. ***D. demarmelsi* n. sp.** ist mit hoher Wahrscheinlichkeit eine nahe Verwandte von *D. avrilae* LEMAIRE, 1980, von der sie sich unter anderem durch die Färbung und einige auffallende Details in den männlichen Genitalmorphologie unterscheidet. Die neue Art wurde bereits 1990 von

Mitgliedern der FUDECI Expedition im Nationalpark „Gran Sabana" am Cerro Guaiquinima gefangen. Der männliche Holotypus verbleibt in der ursprünglichen Sammlung im Instituto de Zoologia Agricola de la Universidad Central de Venezuela, Maracay (MIZA).

Key Words: Lepidoptera, Saturniidae, Hemileucinae, Venezuela, Bolivar, *Dirphia*, *avrilae*, *demarmelsi*, new species, MIZA.

The European authors of this article were invited to work on the Saturniidae material stored in the Instituto de Zoología Agrícola in Maracay, Venezuela, and will visit the collections for further cooperation. Some material, also for other projects on neotropical Saturniidae, already was given for loan and kindly sent to Germany, and among this an undescribed species was found which is described as new below. This is the first publication in a planned series of papers on Saturniidae from Venezuela, based on the collections of the MIZA Collection in Maracay. A forthcoming cooperation is planned.

Dirphia ***demarmelsi*** NAUMANN, BROSCH, WENCZEL & CLAVIJO **new species**

Holotype (figs. 1–2): 1 ♂, Venezuela, Estado Bolívar, Cerro Guaiquinima, 1000 m, 5°53'N 63°30'W, 7.–22.II.1990, exp. Fudeci, leg. J. de Marmels & A. Chacón, genitalia no. 849/03 Naumann. The holotype will remain in its original collection, the Instituto de Zoologia Agricola of the Universidad Central de Venezuela, Maracay (MIZA).

Paratypes (fig. 3): 3 ♂♂, same data as holotype, in the collection of Instituto de Zoología Agrícola of the Universidad Central de Venezuela, Maracay; one each of these will be deposited in the collections of Brosch, Hille, and B. Wenczel, Kloten; 1 ♂, Venezuela, Estado Bolivar, Cerro Guaiquinima, 930 m, 5°45'N 63°40'W, 22.–25.II.1990, Exp. FUDECI, leg. J. de Marmels & A. Chacón, ex Instituto de Zoología Agrícola of the Universidad Central de Venezuela, Maracay; will be deposited in the collection of S. Naumann, Berlin.

Derivatio nominis: The new species is dedicated to one of its collectors, Prof. Dr. Jürg de Marmels, Universidad Central de Venezuela, Maracay, in recognition of his help with providing information on and material of specimens in the MIZA Collection.

Description:

♂ holotype (fig. 1: dorsal view; fig. 2: ventral view): Ground colour orange brown; antennae quadripectinate, only last 4 segments bipectinate, with 47 segments, 14 mm long, longest dorsal rami 1.3–1.4 mm, ventral rami only two thirds in length, ochreous. Head, thorax, and legs covered with long purplish brown hair, between metathorax and first abdominal segment orange, rest of abdomen dorsally black with intersegmental tufts of orange hair, ventral half completely purplish orange. Forewings from basis to apex 43–52 mm (holotype 46 mm) long; nearly completely uniformous in ground colour, but antemedian and postmedian area suffused with grey scales; antemedian and postmedian line greyish undulate, the small center discal spot slightly greyish outlined; veins in postmedian area without grey scales and therefore visible. The forewing apex is more or less rounded. Hindwing a little more intensive orange; ca. 5 mm long dark brown vertical lent-like discal spot; a parallel postmedian and submarginal line slightly outlined, nearly invisible. Outer margin suffused again with greyish scales. The ventral side of both fore- and hindwing completely uniformous purplish orange; only a 2 mm grey discal spot is found on the hindwing.
♂ genitalia (fig. 4): Uncus very long and simple; of thin structure which is bent ventrally at its end. Transtilla centrally sclerotized, bilobed, and laterally completely fused with a process originating either from transtilla itself or dorsal part of the valves. The ventral process of the valves is very short, and is dorsally fused with the transtilla. Saccus large and round; juxta with lateral lobes. Aedeagus broad; its longest part right dorsally. Vesica emerging ventrally; a large bulb with only a single sclerotized cone right ventrolateral. Sclerite of the 8th abdominal segment posterior ending with a rounded plate without any processi.

Additional notes: *D. demarmelsi* is nearest related to *D. lemoulti* BOUVIER, 1930, *D. avrilae* LEMAIRE, 1980, *D. rubricauda* BOUVIER 1929, and *D. diasi* (LEMAIRE, 1994). The latter two can easily be separated by their totally different male genitalia, and *D. lemoulti* by its different wing pattern, colour and size. It is very interesting to have one other nearly related species, *D. avrilae*, which was described from the same state in Venezuela and shows many similarities but is different from *D. demarmelsi* by its colouration and some significant details in male genitalia. There is one further male specimen in the collection of the MIZA Collection with the following data: Venezuela, Amazonas state, Parque Nacional Duida-Marahuaka, 3°31'N, 65°32W, 890 m, 27.–31.I.92, Expedición Terramar, leg. J. Clavijo & A. Chacón, which probably is conspecific with the taxon described here. So far no genitalic dissection was done to prove this, and we

hesitate to include that into the type series as the locality in the Amazonas state is more than 300 km southwest of the type locality. The Cerro Guaiquinima is a typical southern Venezuelan tableland, with three steep slopes and one sloping; that latter slope has on one side "Matorral Tepuyano", a kind of typical, very dry Tepui-Macchia-Vegetation, the other part is a mountain forest, separated by a black water-brook (pers. observation by de Marmels). Due to the different separated tablelands, and as already pointed out by LEMAIRE (1972: 30; 1980: 201; 1985: 54; 1994: 399), there is a high rate of endemism in the southeastern parts of Venezuela which always goes ahead with specialization and diversification (Naumann 1995: 9).

LEMAIRE (2002: 836) gives some characteristic details in his description of the male of *D. avrilae*, which are different from the specimens we presently have examined from Bolívar; so we decided to describe that species as new. *D. avrilae* has a ventrally red thorax; the legs on ventral side are also red; the abdomen is black ventrally, intersegmental membranes red; whereas *D. demarmelsi* is ventrally purplish brown on thorax, and purplish orange on abdomen. Further differences in dorsal view are the dark brown colour of *D. avrilae*, compared to brownish orange in *D. demarmelsi*; the missing discal spots in fore- and hindwing of *D. avrilae* (present in *D. demarmelsi*); the ventral dark brown marginal area and missing discal spot of the hindwing wing in *D. avrilae*. In male genitalia LEMAIRE shows laterally bent, tapering processi of the transtilla, and describes lateral arms which are fused with the apical portion of the valves; the juxta was not figured. *D. demarmelsi* differs in those structures, having a bilobed transtilla with much shorter processi which tend straightly posterior and are not bent; the lateral arms are completely fused with the outer margin of those processi and different from the drawing by LEMAIRE (2002: 1072). Also the vesica superficially looks similar, but differs in details by being much more bulbous and having a prominent sclerotized cone right ventrolaterally instead of a very small subapical cornutus as described by LEMAIRE.

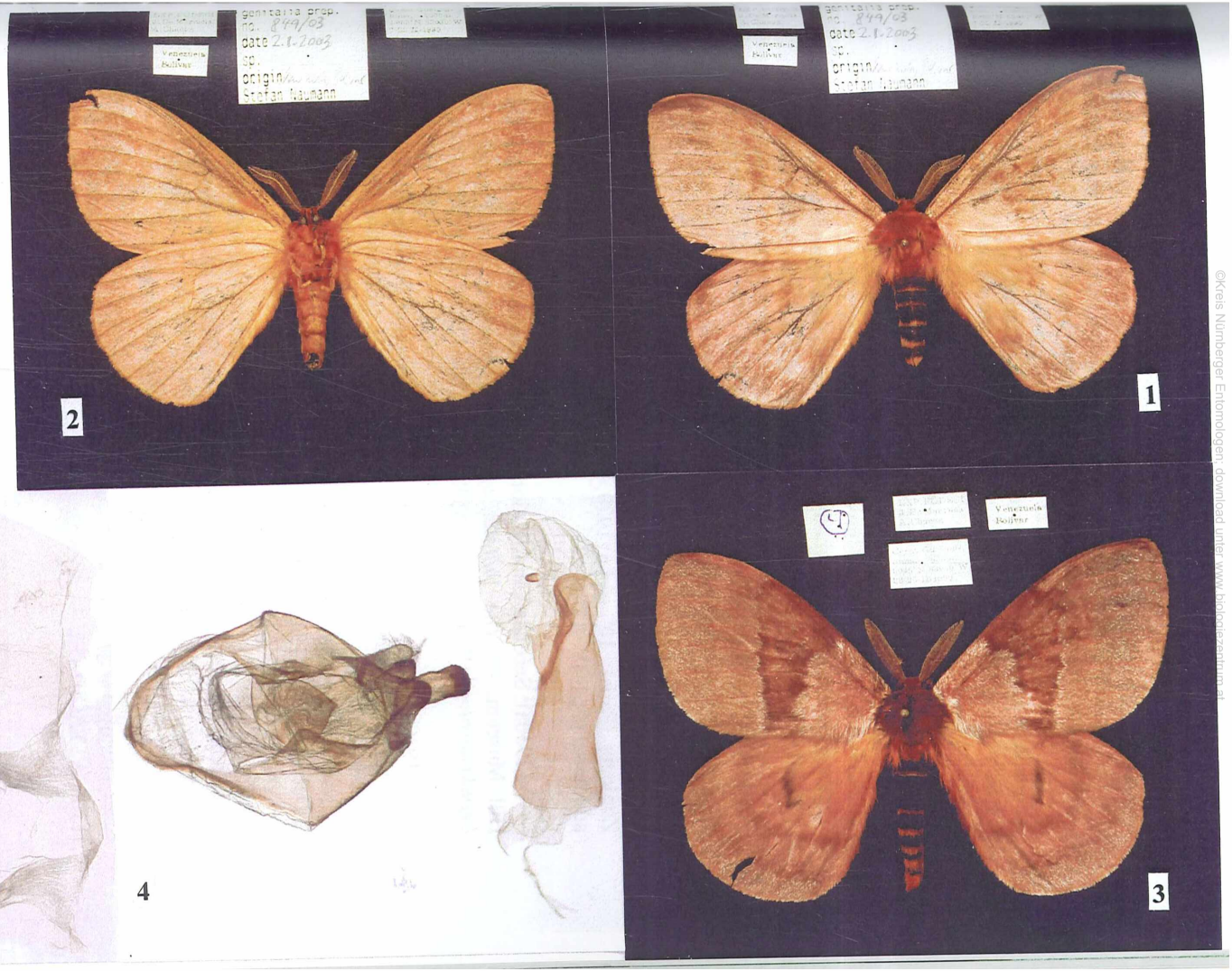
Colour plate:

fig. 1: *Dirphia demarmelsi* new species – holotype ♂ (dorsal view)

fig. 2: *D. demarmelsi* new species – holotype ♂ (ventral view)

fig. 3: *D. demarmelsi* new species – paratype ♂ (dorsal view)

fig. 4: *D. demarmelsi* new species – genitalia structures of holotype ♂ (genitalia prep. 849/03 Naumann)



Generally it is not very surprising to find similarities in genitalia as already discussed by LEMAIRE (2002: 836) when comparing *D. avrilae* with *D. lemoulti*. Due to the unique form of wings and pattern it is clear that *D. rubricauda*, *D. lemoulti*, *D. avrilae*, *D. diasi*, and of course, *D. demarmelsi* form a group of nearly related species within the genus occuring in the eastern parts of the continent. As already reported by LEMAIRE (2002: 833) for *D. diasi*, that species and *D. rubricauda* also have very similar male genitalia (although the drawings look somewhat different).

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Authors: Dr. Stefan Naumann
Hochkirchstraße 11

10829 Berlin (Germany)
E-mail: sn@saturniidae.com

Ulrich Brosch
Mühlenstraße 22
32479 Hille (Germany)
Website: www.saturniidae.com

Bernhard Wenczel
Weinbergstrasse 3
8302 Kloten (Switzerland)
E-mail: bwenczel@smile.ch

Dr. José Clavijo
Museo del Instituto de Zoología Agrícola
Facultad de Agronomía
Universidad Central de Venezuela
Maracay (Venezuela)
E-mail: clamiche@telcel.net.ve