

**Notes on Neotropical Saturniidae:
Description of the male of
Leucanella memusoides LEMAIRE, 1973
and the female of *Mielkesia paranaensis*
(REGO–BARROS & O. MIELKE, 1968)**

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Abstract: The so far unknown sexes of two Saturniidae species are described and figured, including their male genitalia: Both the male of *Leucanella memusoides* LEMAIRE, 1973 and the female of *Mielkesia paranaensis* (RÊGO–BARROS & O. MIELKE, 1968) are mentioned for the first time. The recently described *L. piura* LAMPE, 2004 is considered to be a **new junior subjective synonym** of *L. memusoides*, and *L. conlani* LEMAIRE, 2002 is considered to be a **new junior subjective synonym** of *L. anikae* MEISTER & BRECHLIN, 2002.

Resumo: Os sexos desconhecidos de duas espécies de Saturniidae são descritos e figurados, incluindo suas genitálias: ambos, o macho de *Leucanella memusoides* LEMAIRE, 1973 e a fêmea de *Mielkesia paranaensis* (RÊGO–BARROS & O. MIELKE, 1968) são mencionados pela primeira vez. A recente descrita *L. piura* LAMPE, 2004 é considerada como sinônimo subjetivo júnior de *L. memusoides* e *L. conlani* LEMAIRE, 2002 é considerada como sinônimo subjetivo júnior de *L. anikae* MEISTER & BRECHLIN, 2002.

Key words: Saturniidae, Hemileucinae, Ceratocampinae, *Leucanella*, *Mielkesia*, *anikae*, *conlani*, *memusoides*, *piura*, *paranaensis*, taxonomy, new synonymy.

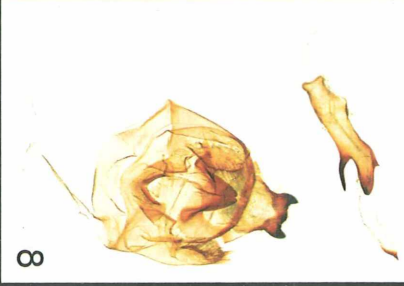
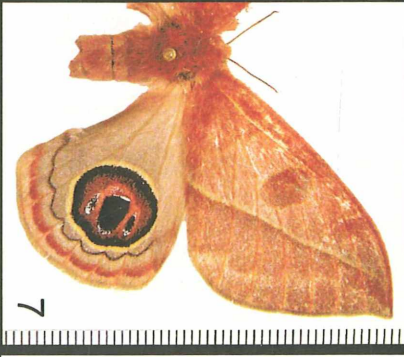
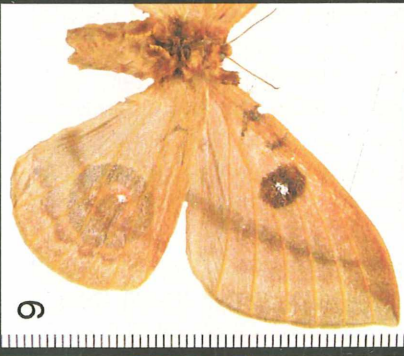
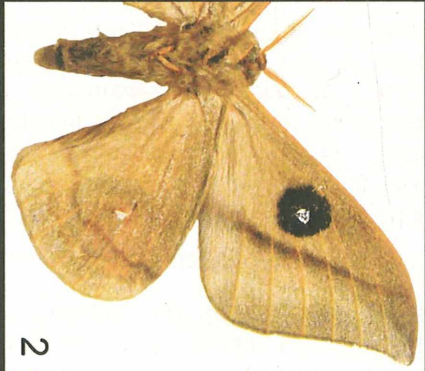
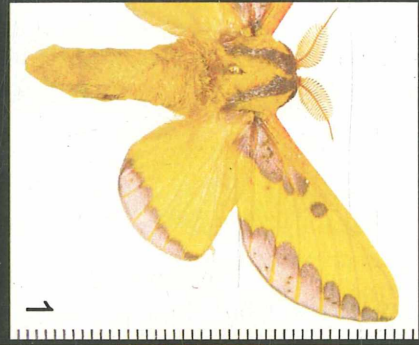
LEMAIRE has published revisions on the American Saturniidae subfamilies Hemileucinae (2002) and Ceratocampinae (1988), but some species still were not completely described, concerning in what would be the unknown opposite sex. This present article gives a short description of two of these, one in the Hemileucinae and one in the Ceratocampinae. Some taxonomic remarks on recently described taxa of the genus *Leucanella* LEMAIRE, 1969, are given.

***Leucanella memusoides* LEMAIRE, 1973 (figs. 2–4, 6, 7)**

L. memusoides was described after three females from Ecuador (LEMAIRE 1973a; not two as mentioned in LEMAIRE 2002: 579), with not exact locality around Loja, southern Ecuador. The taxon was cited only rarely in literature (LEMAIRE 1973b, 1973c, 1996, 2002; LEMAIRE & VENEDICTOFF 1989), and in the latter publication some interesting locality details were given in the maps and list of stations part. So far only 2 half-tone pictures of the female holotype exist in literature (LEMAIRE 1973a, 1973c), in the 2002 revision of the Hemileucinae LEMAIRE did not figure the species unfortunately. Only recently some more material appeared from northern parts of Peru, which fits very good with the holotype characteristics and which makes the description of the unknown male possible. There are 6 males and 1 female (figs. 6 & 7) from the Piura Departamento in the collection of the senior author (plus further specimens from the same locality in other collections, as mentioned below), and one female with data: Northern Peru, Tumbes Dept., Quebrada El Huásimo, 550m, 03°59'S, 80°31'W, 11.XII.1993, in the collection of the Museo Historia natural, Universidad Nacional Mayor de San Marcos, Peru (UNMSM, pers. comm. G. Lamas).

Legend for colour figures

Fig. 1: *Mielkesia paranaensis* ♂, dorsal view; fig. 2: *Leucanella memusoides* ♂, ventral view; fig. 3: *L. memusoides* ♂, dorsal view; fig. 4: *L. memusoides*, ♂ genitalia no. CM03892 = 1096/04 Naumann; fig. 5: *M. paranaensis* ♀, dorsal view; fig. 6: *L. memusoides* ♀, ventral view; fig. 7: *L. memusoides* ♀, dorsal view; fig. 8: *M. paranaensis*, ♂ genitalia no. CM10999 = 1097/04 Naumann; fig. 9: scale bar for both genitalia figures, 1 scale = 0,1 mm.



Diagnosis of the male of *L. memusoides* (figs. 2 & 3). Wingspan: 63–74 mm. Forewing length: 30–37 mm. Forewing moderately elongated and slightly falcate, apically pointed, outer margin concave; ground colour either

light orange brown or pale olive, submarginal band usually little darker than

medial and marginal areas; postmedial line brown with light yellow on inner margin and antemedial line straight on its anterior 2/3 and convex on its posterior 1/3; postmedial line straight or slightly concave, preapical (1 to 3 mm); Discal spot oval tending to be little squared surrounded with pale yellow. Ventral face with postmedial line brown or black and diffused; eyespot oval and black with a white pupil. Hindwing basomedian area from light brown to grey, outer ring of the eyespot narrow and yellow; postmedial line black and wavy, as the parallel submarginal band, which is reddish brown; eyespot with a black ring on its inner margin with multiplies pupils. Ventrally, postmedial line brownish, usually convex and irregular. Thorax, legs, labial palpi and abdomen according with ground colour of forewing.

There is some sexual dimorphism in this species: All females known are of pinkish brown colour with intensive markings, and the males are much darker, more olive brown coloured.

Male genitalia (fig. 4). According to LEMAIRE (2002) male genitalia structures are of low information level in the genus *Leucanella*, being very homogeneous and rarely diagnostic on specific level. Nevertheless, there are some differences between the different species in form of uncus and juxta which are diagnostic. In *L. memusoides* we found an almost squarelike uncus with rounded median end, the juxta has two rounded processi and two lateral obtuse sclerotized structures tending in subdorsal direction. Those structures come nearest to the figures of male genitalia of *L. memusae* (WALKER, 1855) or *L. gibbosa* (CONTE, 1906) in LEMAIRE 2002. Bulbus ejaculatorius around as long as the aedeagus.

Studied material: six males from PERU, Piura, Abra Porculla, 2,100 m, XI.2003 and II.2004. Coll. C. Mielke, nos. 13.892, 13.843, 13.878, 9.532, 13.876 and 13.793, male genitalia no. CM03892 = 1096/04 Naumann.

The low altitude locality mentioned by G. Lamas make an occurrence in San Eduardo near Guayaquil, Ecuador, as mentioned by LEMAIRE (1973a, 1973c, 2002, LEMAIRE & VENEDICTOFF 1989) explainable.

Only recently LAMPE (2004) described a new species *L. piura* in this same journal after a singleton from Abra Porculla, 1,100 m, in the Piura Departamento of northwestern Peru. Generally, there is some criticism on this description as it looks somewhat incomplete if in a genus of such similar species a necessary genitalia dissection is rejected with the reasons that in near future it may be possible to determine specific identities of a dead species by DNA analysis. In our mind it would be absolutely necessary to define differences to nearly related species by dissection. Neither ventral view nor the genitalia was figured by LAMPE; he did not follow the regulations of the International Code on Zoological Nomenclature when forming the name *L. piura* (see ICZN 1999; ICZN 2000: Article 25). According to Article 25 (ICZN) a scientific name must be formed and treated in accordance with the relevant provisions of Article 11, Articles 26 to 34, and Appendix B, General Recommendations (ICZN 2000: 186 – Anhänge: IV. Namen nach geographischen Bezeichnungen). The name of a species formed after its geographical origin should be either an adjective or a substantive in genitiv. The wrongly emendated species group name should be replaced by a corrected substitute name by the author himself in time. Last not least: the holotype remains in the Lampe collection. According to the original description it will be given to a museum of natural history sometimes in the future, but no further information on depository was given.

Confusion also happened with the type locality of *L. piura*: Due to the kind notes of Gerardo Lamas, Lima, who knows the collector from the place in Piura, we found that Lampe's holotype specimen came from material imported by R. Marx, Aachen who gave misleading locality data. Regarding the notes of G. Lamas, the locality "Abra Porculla" is a mountain pass in the western chain of the Andes which lies at 2,100 m altitude, in the southern tip of the Departamento Piura, at around 5°51'S 79°31'W. The true locality data should either be cited as "Abra Porculla, 2,100 m" with different altitude to the type locality mentioned, or "La Beatita, road west of Abra Porculla, 5°55'S 79°32'W, 1,100 m" at a different place where the collector sometimes stayed. The senior author of this paper has corresponded with that local collector who confirmed that the series in the author's collection was collected at 2,100 m altitude. Further specimens with same misleading data as the holotype are in the collections of Senckenberg-Museum, Frankfurt/Main (1 male), and Luigi Racheli, Roma (2 males).

All details of the taxon described by Lampe agree with the males of *L. memusoides*, so herewith we interpret *L. piura* LAMPE, 2004 **syn. nov.** as **new junior subjective synonym** of *L. memusoides* LEMAIRE, 1973.

In his revision LEMAIRE (2002: 595) described a new species *L. conlani* from high altitudes in Bolivia. This species fits in all characters with the earlier in 2002 described species *L. anikae* MEISTER & BRECHLIN from similar altitudes in Argentina; therefore *L. conlani* LEMAIRE, 2002 **syn. nov.** is interpreted as a **new junior subjective synonym** of *L. anikae* MEISTER & BRECHLIN, 2002. The publication date of *Arthropoda* 10(2) was August 2002; that of LEMAIRE's book officially October 31st, 2002 after a note in the wrapper [*recte* December 6th, 2002 = correct publication-date according to personal note of the publisher, E. Bauer, Keltern].

***Mielkesia paranaensis* (RÊGO-BARROS & O. MIELKE, 1968)** (figs. 1, 5, 8)

M. paranaensis was described in the genus *Cicia* OITICICA FILHO, 1964, but later due to the distinct genitalia structures and absent tibial spurs in the genotypical species LEMAIRE established a new, monobasic genus *Mielkesia* LEMAIRE, 1988. So far only the males (fig. 1) of this taxon were known, now a first female was collected in the state of Paraná in Brazil which is described and figured here for the first time. A photo of the male genitalia structures (fig. 8) shows the peculiar structures of the aedeagus, with typical long dorsal process, a small right lateral spine, a longer left ventrolateral thorn and a tubelike vesica with apical spine. Obviously the drawn figure of this structure in LEMAIRE's generic description (1988: 224) is partly inverted, as here the longest process is shown on ventral side. The main genitalia structures are almost similar to LEMAIRE's drawing although valves are little longer in reality.

Diagnosis of the female of *M. paranaensis* (fig. 5). Generally the female is almost similar to the male with the exception of some details caused by sexual dimorphism. Wingspan: 64 mm. Forewing length: 31 mm. Antennae simple without scales. Forewing more rounded with a wider postmedial area. Around costal area, discal cell and basomedian area of the forewing and in the marginal area appear some dark scales. Abdomen except the first two and the last segments entirely covered with dark purplish grey hairs, despite of some yellow intersegmental parts and anal tuff on dorsal side.

Only one female is known so far. The collecting locality remains well preserved, and some more males were collected at the same place. All males were collected just after dusk between 19:15 h and 19:30 h. The female came to light at 19.45 h.

Studied material: One female, several males, Brazil, Paraná, Campo do Tenente, Estr. Campo do Tenente – Piên, 6 km, 25.X.1997, C. Mielke leg., coll. C. Mielke no. 10.887. Male genitalia no. CM10999 = 1097/04 Naumann.

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