

Oxyteninae Jordan, 1924: first confirmed Paraguayan records (Lepidoptera: Saturniidae)

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Abstract

The first confirmed records of Oxyteninae (Lepidoptera, Saturniidae) from Paraguay are presented herein. Two specimens from Reserva Natural Laguna Blanca (San Pedro) are assigned to *Oxytenis modaustralis* Brechlin, Meister & Käch, 2014.

KEY WORDS: Lepidoptera, Saturniidae, Oxyteninae, *Oxytenis*, Laguna Blanca, Paraguay.

Oxyteninae Jordan, 1924: primeros registros confirmados del Paraguay (Lepidoptera: Saturniidae)

Resumen

Los primeros registros confirmados de Oxyteninae (Lepidoptera, Saturniidae) de Paraguay se presentan aquí. Dos especímenes de la Reserva Natural Laguna Blanca (San Pedro) son asignados a *Oxytenis modaustralis* Brechlin, Meister & Käch, 2014.

PALABRAS CLAVES: Lepidoptera, Saturniidae, Oxyteninae, *Oxytenis*, Laguna Blanca, Paraguay.

Introduction

The Oxyteninae Jordan, 1924, had for a long time been considered to be a family (JORDAN, 1924, MICHENER, 1952), but the current consensus is that they are best placed as a subfamily of Saturniidae within the superfamily Bombycoidea (MINET, 1994, LEMAIRE & MINET, 1998, NIEUKERKEN *et al.*, 2011). For much of this time, the group had comprised around 35 Neotropical species placed in three genera: *Homoeopteryx* C. Felder & R. Felder, 1874, *Oxytenis* Hübner, [1823] and *Therinia* Hübner, [1823] (LEMAIRE & MINET, 1998). Recently, however, based on studies of adult morphology and DNA barcode sequence data, 36 further species have been described by BRECHLIN & KÄCH (2014), BRECHLIN & MEISTER (2014) and BRECHLIN *et al.* (2014), six each in *Homoeopteryx* and *Therinia*, and 24 in *Oxytenis*, bringing the current total number of species in the subfamily to 65.

Results

Adults are medium to large (45-98 mm wingspan) nocturnal moths with triangular, usually falcate wings. Most species are dull-coloured, with a brownish or white ground colour, with various darker maculations, and vertical or horizontal lines (HEPPNER, 2008). The larvae, many of which mimic snakes or faeces, are leaf-feeders (NENTWIG, 1985, AIELLO & BALCAZAR,

1997) and all recorded host plants are Rubiaceae (HEPPNER, 2008). The subfamily is known from Mexico, south to Bolivia, southeastern Brazil (Santa Catarina) and northeastern Argentina (Misiones), (JORDAN, 1924, BRECHLIN & KÄCH, 2014, BRECHLIN & MEISTER, 2014, BRECHLIN *et al.*, 2014, PASTRANA, 2004), but has not been previously confirmed from Paraguay.

There are two female *Therinia lactucina* (Cramer, 1780) in the collection of the Natural History Museum, London with accession number “92-125” that were collected by Mr. Spencer Moore and bear the locality data “Paraguay”. These were cited by JORDAN (1924: 149), thereby contradicting a statement in the same work (JORDAN, 1924: 136) in which he excluded Paraguay from the distribution of the family. However, these specimens were in fact collected during the Percy Sladen Mato Grosso Expedition (1891-1892) on the “Upper Paraguay River” and are actually from Brazil. Consequently, there are indeed no confirmed records of any species of Oxyteninae in Paraguay, as JORDAN (1924) surmised.



Fig. 1.– *Oxytenis modaustralis* Brechlin, Meister & Käch, 2014 (CZPLT-i-2555) from Laguna Blanca, San Pedro, Paraguay.

However, on 24 October 2014 at 21.30 h, a specimen of an *Oxytenis* species was collected in a light trap at the Reserva Natural Laguna Blanca (S 23° 48', W 56° 17'), Departamento de San Pedro, Paraguay by Olga N. Petko. This moth, with specimen number CZPLT-i-2555 (Fig. 1), was collected at a light trap, is deposited in the Colección Zoológica Para La Tierra housed at the

reserve. A second specimen, with specimen number CZPLT-i-2472, was taken on 3 November 2014 at 23.20 h at the same light trap by the same collector. They were initially identified as *Oxytenis modestia* (Cramer, 1780). However, this species was recently divided into a number of closely related taxa by BRECHLIN *et al.* (2014) and *Oxytenis modestia* is now restricted to those populations inhabiting the Guiana Plateau west to the eastern slopes of the Andes (Colombia to Bolivia) (R. Brechlin pers. comm. to IJK, 29-V-2015). Three new species were described: *Oxytenis modoccidentalis* Brechlin, Meister & Käch, 2014 (Costa Rica to northwest Ecuador along the Andes Occidentales, with a second subspecies, *O. modestia modhondurana* Brechlin, Meister & Käch, 2014 from southern Mexico and Honduras), *O. modbahiana* Brechlin, Meister & Käch, 2014 (Brazil, Bahia state) and *O. modaustralis* Brechlin, Meister & Käch, 2014 (Brazil, Minas Gerais and Santa Catarina states, Argentina, Misiones province). No specimens were reported from Paraguay and so those reported here represent the first confirmed records of the subfamily from Paraguay. The habitat within the small 804 ha reserve in which they were captured is a mosaic of Cerrado and Atlantic Forest, with areas of transitional semi-deciduous, semi-humid gallery forest bordering a freshwater lake of 157 ha. This is similar to those of the localities from which the type series of *O. modaustralis* was collected and so we provisionally assign the Paraguay moths to this species. However, final confirmation must await study of the male genitalia and preferably also DNA barcode analysis.

BIBLIOGRAPHY

- AIELLO, A. & BALCAZAR, M. A., 1999.– The immature stages of *Oxytenis modestia* with comments on the larvae of *Asthenidia* and *Homeopteryx* (Saturniidae: Oxyteninae).– *Journal of the Lepidopterists' Society*, **51**: 105-118.
- BRECHLIN, R. & KÄCH, H., 2014.– Sechs neue Taxa der Gattung *Homoeopteryx* Felder, 1874 (Lepidoptera: Saturniidae, Oxyteninae).– *Entomo-Satsphingia*, **7**(4): 11-28.
- BRECHLIN, R. & MEISTER, F., 2014.– Sechs neue Taxa der Gattung *Therinia* Hübner, [1823] (Lepidoptera: Saturniidae, Oxyteninae).– *Entomo-Satsphingia*, **7**(4): 13-20.
- BRECHLIN, R., MEISTER, F. & KÄCH, H., 2014.– Vierundzwanzig neue Taxa der Gattung *Oxytenis* Hübner, [1823] (Lepidoptera: Saturniidae, Oxyteninae).– *Entomo-Satsphingia*, **7**(4): 32-57.
- HEPPNER, J.B., 2008.– American Tropical Silkworm Moths (Lepidoptera: Oxytenidae).– *In* J. L. CAPINERA. *Encyclopedia of Entomology* (second edition), **1**: 4346 pp. Springer, Netherlands.
- JORDAN, K., 1924.– On the Saturnoidean families Oxytenidae and Cercophanidae.– *Novitates Zoologicae*, **31**: 135-193.
- LEMAIRE, C. & MINET, J., 1998.– The Bombycoidea and their relatives. *In* N. P. KRISTENSEN. *Handbuch der Zoologie 4 (Arthropoda), (2) (Insecta), (35) Lepidoptera. Moths and butterflies 1 (Evolution, systematics and biogeography)*: x + 491 pp. Walter de Gruyter, Berlin.
- MICHENER, C. D., 1952.– The Saturniidae (Lepidoptera) of the Western Hemisphere. Morphology, phylogeny, and classification.– *Bulletin of the American Museum of Natural History*, **98**: 335-501.
- MINET, J., 1994.– The Bombycoidea: phylogeny and higher classification (Lepidoptera: Glossata).– *Entomologica scandinavica*, **25**: 63-88.
- NENTWIG, W., 1985.– A tropical caterpillar that mimics faeces, leaves and a snake (Lepidoptera: Oxytenidae: *Oxytenis anemia*).– *Journal of Research on the Lepidoptera*, **24**: 136-141.
- NIEUKERKEN, E. J. VAN, KAILA, L., KITCHING, I. J., KRISTENSEN, N. P., LEES, D. C., MINET, J., MITTER, C., MUTANEN, M., REGIER, J. C., SIMONSEN, T. J., WAHLBERG, N., YEN, S. H., ZAHIRI, R., ADAMSKI, D., BAIXERAS, J., BARTSCH, D., BENGTSOON, B. Å., BROWN, J. W., BUCHELL, S. R., DAVIS, D. R., DE PRINS, J., DE PRINS, W., EPSTEIN, M. E., GENTILI-POOLE, P., GIELIS, C., HÄTTENSCHWILER, P., HAUSMANN, A., HOLLOWAY, J. D., KALLIES, A., KARSHOLT, O., KAWAHARA, A., KOSTER, S.J.C., KOZLOV, M., LAFONTAINE, J. D., LAMAS, G., LANDRY, J. F., LEE, S., NUSS, M., PARK, K. T., PENZ, C., ROTA, J., SCHMIDT, B. C., SCHINTLMEISTER, A., SOHN, J. C., SOLIS, M. A., TARMANN, G. M., WARREN, A. D., WELLER, S., YAKOVLEV, R. V., ZOLOTUHIN, V. V. & ZWICK, A., 2011.– Order Lepidoptera Linnaeus, 1758. *In*

Z. Q. ZHANG. Animal biodiversity: an outline of higher-level classification and survey of taxonomic richness.– *Zootaxa*, **3148**: 212-221.

PASTRANA, J. A., 2004.– *Los Lepidópteros Argentinos: Sus plantas hospedadoras y otros sustratos alimenticios*. 334 pp. Sociedad Entomológica Argentina, Buenos Aires.

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