

IDENTITY OF *PALAEONYMPHA AVINOFFI* SCHAUS, A SATYRINE BUTTERFLY FROM CHINA (LEPIDOPTERA, NYMPHALIDAE)

Brian Harris¹, Gerardo Lamas², Robert K. Robbins^{1*}

1. Department of Entomology, PO Box 37012, NHB Stop 105, Smithsonian Institution, Washington, DC 20013-7012 USA

2. Museo de Historia Natural, Universidad Nacional Mayor de San Marcos, Apartado 14-0434, Lima-14, Peru

Abstract Identity of the Chinese satyrine butterfly *Palaeonympha avinoffi* Schaus, 1927 has been uncertain since its description. The holotype is illustrated, and reasons are presented for considering it to represent the same species as *Sinonympha amoena* Lee, 1974, new synonym. *Sinonympha avinoffi* is a new combination. The systematic placement of *Sinonympha* is yet uncertain.

Key words *Palaeonympha avinoffi*, *Sinonympha amoena*.

Identity of *P. avinoffi*, a Satyrine Butterfly from China

William Schaus (1859-1942) described more than 300 species of Neotropical butterflies over a period of about 40 years beginning in 1890 (references in Lamas 2008). Near the end of his career, however, he altered his geographical focus to name one butterfly from China, the satyrine *Palaeonympha avinoffi* (Nymphalidae). This species was described from a female (wing expanse 38 mm) collected by D. C. Graham in "Mowchow, Szechuen" at 3 000 ft. in July (no year given) (Schaus, 1927). A second female with a slightly different wing pattern was also noted. *Palaeonympha avinoffi* was not illustrated; hence its identity has remained uncertain for more than 80 years.

The Schaus collection is deposited in the National Museum of Natural History, Smithsonian Institution, Washington, DC, USA (USNM), but no types of *Palaeonympha avinoffi* were

segregated in the type collection. We looked for a type of *Palaeonympha avinoffi* in the general USNM Lepidoptera collection using the text from the original description.

There are two females and one male of *Palaeonympha avinoffi* in the USNM collection. One female and one male are labeled "Mowchow, Szechuen, China / July / 915 m / DC Graham Collector", but only the female has type labels (Cat. No. 33125) (Fig. 1). A second female is labeled "MieChow, 65 mi NW Chengtu 5 000 ft 193 / DC Graham Collector". The description in Schaus (1927) of the second female with a 42 mm wing expanse refers, as best we can tell, to the male from Mowchow, not the female from MieChow (wing expanse 37 mm). For this reason, we consider the female from Mowchow to be the holotype fixed by original designation (Fig. 1). We do not know the meaning of the number "193" on the label of the second "female".



Fig. 1. Dorsal (left) and ventral wing surfaces of the holotype of *Palaeonympha avinoffi* Schaus (wing span 38 mm) with data labels.

The reason why Schaus (1927) described *P. avinoffi* in *Palaeonympha* Butler, 1871 was unstated. As currently understood, *Palaeonympha* is monobasic, with a single species (*P. opalina* Butler, 1871), occurring in China and Taiwan. *Palaeonympha* is regarded as the only Old World member of

subtribe Euptychiina (Peña *et al.*, 2006).

Lee (1974) described a new satyrine genus and species, *Sinonympha amoena*, from "Tsa-Ku-Lao (Lihsien), Szechuan" by comparison with *Coenonympha oedippus* (Fabricius). He illustrated wing pattern variation and the female foreleg, which he called

* Corresponding author: Robert K. Robbins, PO Box 37012, NHB Stop 105, Smithsonian Institution, Washington, DC 20013-7012 USA. Tel: 1-202-633-1042; E-mail: robbins@SI.edu

Received 12 Apr. 2010, accepted 10 June 2010.

“unarticulated”. The wing pattern of the holotype of *P. avinoffi* falls within the range of variation documented by Lee (1974). Based on this evidence, *Sinonympha avinoffi* is a new combination, and *S. amoena* is a new junior synonym of *S. avinoffi*.

The female foreleg illustration in Lee (1974) is problematic. We presume that the word “unarticulated” refers to fused tarsomeres, but the tarsus in Lee’s illustration has articulated segments. Female foreleg structure is highly variable among satyrines (Miller, 1968), and foretarsus segmentation may be intraspecifically variable in the non-walking legs of butterflies (Robbins, 1988). For these reasons, the significance of the female foreleg structure illustrated by Lee (1974) is unclear.

The reason why Lee (1974) compared *Sinonympha* with *Coenonympha* Hübner, 1819 was unstated. *Sinonympha* is currently “placed” in the subtribe Coenonymphina of the tribe Satyrini (Nymphalidae, Satyrinae) (Bozano, 2002; Kodandaramaiah & Wahlberg, 2009). Hopefully, *Sinonympha* will eventually be combined with at least one other genus because it is philosophically questionable whether monotypic genera are falsifiable scientific hypotheses and because the information content of monotypic generic names is redundant (Farris, 1976).

Acknowledgements We thank David Ahrenholz for superb photographic advice. Robert Busby made excellent suggestions on the manuscript, for which we are grateful.

中国古眼蝶的鉴别 (鳞翅目, 蛱蝶科)

Brian Harris¹, Gerardo Lamas², Robert K. Robbins^{1*}

1. Department of Entomology, PO Box 37012, NHB Stop 105, Smithsonian Institution, Washington, DC 20013-7012 USA

2. Museo de Historia Natural, Universidad Nacional Mayor de San Marcos, Apartado 14-0434, Lima-14, Peru

REFERENCES

- Bozano, G. C. 2002. Guide to the butterflies of the Palearctic Region. Satyrinae part III. Omnes Artes, Milano.
- Farris, J. S. 1976. Phylogenetic classification of fossils with recent species. *Syst. Zool.*, 25: 271-282.
- Kodandaramaiah, U. and Wahlberg, N. 2009. Phylogeny and biogeography of *Coenonympha* butterflies (Nymphalidae: Satyrinae) - patterns of colonization in the Holarctic. *Syst. Entomol.*, 34: 315-323.
- Lamas, G. 2008. Bibliography of butterflies. An Annotated Bibliography of the Neotropical Butterflies and Skippers (Lepidoptera: Papilionoidea and Hesperioidea). Revised Electronic Edition. p. 580. accessed 6 Nov. 2009, at <http://museohn.unmsm.edu.pe/divisiones/zoologia/entomologia/entopublicaciones.html>
- Lee, C. 1974. Some new species of Rhopalocera from China. IV. *Acta Entomol. Sinica*, 17 (2): 201-204.
- Miller, L. D. 1968. The higher classification, phylogeny and zoogeography of the Satyridae (Lepidoptera). *Mem. Amer. Entomol. Soc.*, 24: (6) + iii + 174 pp.
- Peña, C., Wahlberg, N., Weingartner, E., Kodandaramaiah, U., Nylin, A., Freitas, A. V. L. and Brower, A. V. Z. 2006. Higher level phylogeny of satyrine butterflies (Lepidoptera: Nymphalidae) based on DNA sequence data. *Molec. Phylog. Evol.*, 40 (1): 29-49.
- Robbins, R. K. 1988. Male foretarsal variation in Lycaenidae and Riodinidae, and the systematic placement of *Styx infernalis* (Lepidoptera). *Proc. Entomol. Soc. Washington*, 90: 356-368.
- Schaus, W. 1927 (“1926”). A new satyrid from China (Lepidoptera). *Proc. Entomol. Soc. Washington*, 28 (9): 218.

* 通讯作者.