

The Great Lakes Entomologist

Volume 40

Number 3 & 4 - Fall/Winter 2007 *Number 3 & 4 -
Fall/Winter 2007*

Article 11

October 2007

Designation of a Neotype for Mitchell's Satyr, *Neonympha Mitchellii* (Lepidoptera: Nymphalidae)

Christopher A. Hamm
Michigan State University

Follow this and additional works at: <https://scholar.valpo.edu/tgle>



Part of the [Entomology Commons](#)

Recommended Citation

Hamm, Christopher A. (2007) "Designation of a Neotype for Mitchell's Satyr, *Neonympha Mitchellii* (Lepidoptera: Nymphalidae)," *The Great Lakes Entomologist*: Vol. 40 : No. 2 , Article 11.
Available at: <https://scholar.valpo.edu/tgle/vol40/iss2/11>

This Peer-Review Article is brought to you for free and open access by the Department of Biology at ValpoScholar. It has been accepted for inclusion in The Great Lakes Entomologist by an authorized administrator of ValpoScholar. For more information, please contact a ValpoScholar staff member at scholar@valpo.edu.

**DESIGNATION OF A NEOTYPE FOR MITCHELL'S SATYR,
NEONYMPHA MITCHELLII (LEPIDOPTERA: NYMPHALIDAE)**

Christopher A. Hamm¹

The Mitchell's satyr, *Neonympha mitchellii* French 1889 (Lepidoptera: Nymphalidae) was described as a new species based on a series of six males and four females collected by J. N. Mitchell from "Wakelee bog" in Cass County, Michigan (French 1889). French did not designate a holotype from this series. Much of French's collection, and the original material included in the description, are thought to be lost (J. Shuey, M. Nielsen and J. Wilker, pers. comm.).

I did not find the syntype series of *Neonympha mitchellii* in potential repositories including the collections of the American Museum of Natural History, Michigan State University, the University of Michigan, and the Field Museum of Natural History. Also, lepidopterists throughout the Great Lakes region did not have any knowledge of the whereabouts of the syntype series.

There is an exceptional need to designate a neotype for *N. mitchellii* because its species boundaries have been questioned. Recently a new subspecies of *N. mitchellii* was described. *Neonympha mitchellii francisi* Parshall and Krall 1989 is thought to represent a southern regional morphological variant; the northern *N. mitchellii* were subsequently designated *N. m. mitchellii* (Parshall and Krall 1989). Aspects of this southern regional variation are present among individuals from northern populations. Also, the species boundary between *N. mitchellii* and *Neonympha areolatus* (Smith, 1797) (Lepidoptera: Nymphalidae) is blurred because the wing maculation characters used to distinguish species are continuous rather than discrete (Mather 1965, Scott 1986). Male genitalia characteristics were later used to distinguish *N. mitchellii* from *N. areolatus* (Parshall and Krall 1989), though these characters have subsequently been found to vary beyond the described limits (Goldstein *et al.* 2004, C. Hamm pers. obs.). Recent molecular work is also beginning to shed light on the relationships between *N. m. mitchellii* and *N. m. francisi* and a change in the taxonomic status of these subspecies may occur in the near future (Goldstein *et al.* 2004).

Neotype.- A male, vouchered in the Albert C. Cook Arthropod Collection at Michigan State University, bearing the following labels:

- 1) Cass Co., MI
T5S R13W S30
"Wakelee Bog"
Tamarack Swamp
4 July 1971
M.C. Nielson

- 2) EUPTYCHIA
MITCHELLII French
McDunn No. 101
Det M.C. Nielson

¹Department of Entomology, Michigan State University, 204 Center for Integrated Plant Systems, East Lansing, MI 48824. (e-mail: chamm@msu.edu).

3) 000705 MI Lep Survey
(barcode label)

I designate this male as the neotype of *Neonympha mitchellii* and, therefore, of the nominate subspecies. This specimen does not vary in any distinguishable way from French's original description.

ACKNOWLEDGMENTS

I would like to thank James Boone of the Field Museum of Natural History; David Grimaldi and Suzanne Rab Greene of the American Museum of Natural History; Mark O'Brien of the University of Michigan; Anthony Cognato, Gary Parsons and Mogens Nielson of Michigan State University; Jay McPherson of Southern Illinois University; and James Wilker for their invaluable assistance during my research. This research was partially supported by a Michigan State University Plant Science Fellowship to Christopher A. Hamm.

LITERATURE CITED

- French, G. H. 1889. A new species of *Neonympha*. Can. Entomol. 21: 25-27.
- Goldstein, P. Z., S. Hall, B. Hart, S. M. Roble, and J. Shuey. 2004. Evaluation of relationships and conservation status within the *Neonympha mitchellii* complex (Lepidoptera: Nymphalidae). Report for the U.S. Fish and Wildlife Service.
- Mather, B. 1965. *Eupythchia areolata*: Distribution and variation, with special reference to Mississippi (Satyridae). J. Lepidopt. Soc. 19: 139-160.
- Parshall, D. K., and T. W. Krall. 1989. A new subspecies of *Neonympha mitchellii* (French) (Satyridae) from North Carolina. J. Lepidopt. Soc. 43: 114-119.
- Scott, J. A. 1986. The butterflies of North America. Stanford Univ. Press. 583 pp.
- Smith, J. E. 1797. The natural history of the rarer lepidopterous insects of Georgia 2: 25.