

BOLORIA FRIGGA (NYMPHALIDÆ) IN MICHIGAN

by STEPHEN P. HUBBELL

Prior to 1956 only two species of *Boloria*, *toddi* Holland and *selene* Schiff., were known from Michigan, where both are common. In the summer of that year a third species, *B. frigga* Thunberg, was discovered in the Northern Peninsula near Manistique in Schoolcraft County. This butterfly had neither been recorded from Michigan nor from the United States east of the Rocky Mountains. The closest localities known for *B. frigga saga* Staud. are Churchill, Manitoba, several hundred miles to the north, and others along the southwestern shore of Hudson Bay. According to Dr. A. B. KLOTS another form occurs in Quebec and northern Ontario, three hundred miles north of northern Michigan.

About 10 AM on June 25, 1956, a clear and sunny day, I entered a small bog 4.8 miles north of the city limits of Manistique on route M94. The usual small moths were flying in numbers about the leatherleaf (*Chamaedaphne*), but I noticed no butterflies. After about ten minutes I saw a *Boloria*, which appeared unusually dark, approaching with a slow, gliding flight two or three feet above the tops of the low bushes. Seeing that it did not intend to land, I swung my net and missed. The butterfly was much disturbed, and with a fast and erratic flight retreated across the bog too fast for me to follow. Soon afterward, seeing nothing else, I started back toward the road. At that moment the *Boloria* (apparently the same one, for it was flying as though it had been disturbed) flew past, headed for the center of the bog. I gave chase and this time bagged it. After a quick comparison with the figures and descriptions in KLOTS' *Field Guide* I concluded that I had a specimen of *B. frigga saga*.

Upon my return to Ann Arbor the fresh specimen, a male in perfect condition, was mounted, and its identification confirmed so far as was possible with available information. The collection of the University of Michigan Museum of Zoology contained no specimens of *B. frigga saga*, but comparisons by Dr. WARREN H. WAGNER, JR., and myself with very dark specimens of *B. toddi* eliminated the possibility that it could be that species.

A telegram was sent to Dr. EDWARD G. VOSS in Mackinac City describing the discovery, and he volunteered to go at once to Manistique to try to get more specimens. On the morning of July 10 he made a thorough reconnaissance of the bog where the specimen had been collected; but although the weather was good and he worked for an hour, from 10:30 to 11:30 AM, he found no additional specimens. Perhaps any remaining individuals had been killed by the hard rain that had occurred on the two preceding days.

Dr. Voss, a botanist as well as an entomologist, described the situation where the specimen was collected as follows: "The bog, which has no open water, has as its most abundant plants *Sphagnum*, *Chamaedaphne*, and *Vaccinium oxycoccus*. There are scattered black spruces (*Picea mariana*) and tamaracks (*Larix laricina*). Jack pine (*Pinus banksiana*) is locally common, and

there are scattered white pines (*Pinus strobus*). Bog rosemary (*Andromeda glaucophylla*) and swamp laurel (*Kalmia polifolia*) are common, and there is some Labrador tea (*Ledum grænlanticum*) and purple chokecherry (*Aronia prunifolia*). The sedge *Carex pauciflora* is common, especially in water sites. Cotton grass (*Eriophorum spissum*) is frequent and conspicuous, as are the occasional pitcher plants (*Sarracenia purpurea*). No sundews (*Drosera*) or orchids were seen." This bog lies in the NE $\frac{1}{4}$ of Sec. 14, T42N, R16W, Schoolcraft County. It is on the west side of Highway M94 about 1.25 miles south of a large bend in the road, and is bounded on the north by a low pine-covered ridge which makes a good landmark. It is the only area of peaty soil in the vicinity.

At the Montreal meetings in August I told Dr. KLOTS about the discovery of *B. frigga* in Michigan, and he thought it would prove to be the same as the form occurring in Quebec and northern Ontario. Later the specimen was sent to him for inclusion in his forthcoming revision of the genus, and he reported that it is neither that form nor typical *frigga saga*. More material will be needed to decide whether or not it is a new subspecies, and attempts will be made this season to capture additional specimens at the original locality and elsewhere in the vicinity.

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UNUSUAL OCCURRENCE OF *MELITÆA NYCTEIS* (NYMPHALIDÆ) IN LANCASTER COUNTY, PENNSYLVANIA

by GEORGE EHLE

This southeastern Pennsylvania county is predominately a low-lying, gently rolling agricultural region. Mountainous counties border it on the north and west, the southernmost ridges of the Alleghenies penetrating the county on its northern border. While the hilly portion reaches 1100 feet above sea level in a few spots, most of the county ranges between 300 and 600 feet. Although *Melitæa nycteis* Doubleday has been reported from various southern Pennsylvania localities, and even to the south, it is usually described as a northern species and an upland butterfly in this latitude (40°). It therefore would be expected only casually and locally in this county, and then probably only at the higher elevations.