

SAMPLING MICHIGAN LEPIDOPTERA BY THE FIXED LIGHT TRAP

The Edwin S. George Reserve is a tract of about 1600 acres in Livingston County, Michigan, donated to the University of Michigan by the late EDWIN S. GEORGE. It is what would be described as sub-marginal farm land, consisting of open fields, marsh, ponds, coppice, and hills, forested with the oak-elm-maple complex. A few junipers are the only conifers. It is used as a biological study area by faculty, students, and other research workers.

One of the research projects is a study of the insect fauna. Under the care of a resident curator, two or three light traps are operated during the season. These consist of a cyanide jar, an electric light, and an electric fan, which blows the attracted insects into the cyanide jar. In the morning, the catch is sorted into various groups and these are ultimately delivered to those studying the various groups.

During the past few years it has been the privilege of the writer to examine the microlepidoptera thus collected, and the results give a very good indication of the advantages and disadvantages of this method of collecting. As a means of studying the distribution of species it appears to be better than any one other method. Of the one thousand-odd micros recorded from Michigan, nearly 600 have been taken in Livingston County. There are species more usually expected from the south, the west, northwest, east and north; a number have previously been known only from the type material. It is useful in determining the relative abundance, although some come to the light only sparingly and some not at all. There are of course only negative indications of food plants. Five specimens of *Omphalicerca cariosa* Led., recorded as feeding in fruits of pawpaw, were taken, although the curator informs me that that plant does not occur on the Reserve. *Tortrix packardiana* Fern., feeding on fir, *Zenodochium citricolella* Cham., feeding in mummied oranges, and *Choristoneura fumiferana* Clem., the Spruce Budworm, were far from appreciable quantities of their recorded foodplants.

One of the most serious disadvantages of this method of collecting is the damage to specimens by the rapidly revolving fan and by larger Coleoptera. Less than half are of acceptable museum quality. Many can be determined only by wing and genital dissection. If any one is interested mainly in distribution rather than in making a slightly collection, these disadvantages are not such a major problem. Supplemented by the usual field work and such rearing as may be practicable, a few years should give an excellent approximation of the limits of the insect fauna.

RALPH BEEBE, 4169 Tenth St., Ecorse, Mich., U.S.A.

MIGRATION OF THE MONARCH BUTTERFLY THROUGH CHICAGO

On September 16, 1952, there was evidence of a migration of Monarch Butterflies (*Danaus plexippus* L.) through the city of Chicago. The weather was clear, with a moderate northwest wind and the maximum temperature reaching 80° F. During about 2 hours before sunset, 169 individuals were counted from the windows of an apartment. The location was about 2 miles west of "The Loop," well within the city, proper. The insects were flying westward at a leisurely rate; none were seen to alight. The migration was intermittent, several butterflies passing within a few seconds, then none being seen for 2 or 3 minutes. Only rarely did a butterfly pass in the opposite (eastward) direction, and such as did were seen to turn shortly and fly west with the others. With the monarchs was a smaller number of *Colias eurytheme* Bdv. As the sun sank in the west the butterflies flew higher in the air along the street. About half an hour before sunset it was discovered that many were migrating over the rooftops of the 3 and 4 story buildings that line the block. These were travelling in a southwesterly direction rather than west along the street like the earlier specimens. This may have been a response to light, as the street itself was by this time rather in the shade. Occasional stragglers were seen passing as late as the time of sunset. This apparent migration followed several days during which Monarchs were more numerous than usual, but not present in such numbers as were observed on this evening. A few were seen the following morning, but not again in such numbers.

MACDONALD FULTON, Loyola University School of Medicine, Chicago, Ill., U. S. A.