

OPERATIONAL AND SCIENTIFIC NOTES

DISCOVERY OF *Mochlonyx fuliginosus* (Felt) IN PASSAIC COUNTY, NEW JERSEY.—This rare species of *Mochlonyx* was collected by the author in the larval, pupal and adult stages in West Milford Township, Passaic County, New Jersey. No records have been found of previous collections of this species in New Jersey.

The breeding site is a cold sphagnum bog heavily shaded around its perimeter by hemlock (*Tsuga canadensis*) white pine (*Pinus strobus*) and rhododendron (*R. maximum*) with a thick growth of *Vaccinium* spp., swamp azalea (*Rhododendron viscosum*) swamp laurel (*Kalmia polifolia*) and many herbaceous plants growing in the water and upon the hummocks.

Observations throughout six or seven years in the particular area of the bog where *M. fuliginosus* were collected have shown that during the summer all standing water disappears but the sphagnum and leaf litter remain quite damp. After heavy late summer and fall rains and subsequent raising of the water table the bog becomes flooded and remains so until the following June or July.

All specimens of *M. fuliginosus* were collected in late summer and fall and one adult was even found emerging from the pupal skin on December 1, 1955 while a skim of ice was present on the breeding site. Larvae were collected September 11, 1952 and pupae were found on September 15, 1955 and September 27, 1957.

Although the life history of this species has not been established it seems possible, since adults have been collected in May, June, July and August in other states, that some eggs laid by these early emerging females hatch with the late summer and fall rains producing the late broods such as found in this breeding site, in Passaic County, New Jersey.

All *M. fuliginosus* specimens, including male genitalia slides, were sent to Professor Edwin F. Cook of the Department of Entomology and Economic Zoology, University of Minnesota for confirmation. Professor Cook was especially interested in examining larvae and pupae which were unknown up to this time. He will report on these elsewhere.—Robert W. Lake, Assistant Superintendent, Passaic County Mosquito Extermination Commission.

References

COOK, E. F. 1953. The Nearctic Chaoborinae (Diptera: Culicidae). Minn. Agr. Exp. Sta. Tech. Bull. 218:48-50.

COOK, E. F. Personal Communications.

A NOTE ON *Mansonia* BREEDING IN OREGON LOG PONDS.—During 1956, cooperative studies on the ecology and control of log pond mosquitoes

were carried out at Roseburg, Oregon, by the Logan Field Station Section of the U. S. Public Health Service, the Oregon State Board of Health, and the Douglas County Health Department. In the course of these investigations, a major breeding site for *Mansonia perturbans* was discovered in a group of log ponds near Sutherlin, Oregon.

The ponds studied range in area from 10 to 20 acres, and are about 10 feet deep. The logs are stored in bundles 8-10 feet in diameter, held together by steel bands.

During the 10 years that the ponds have been in use, the margins have become occupied by a dense stand of cattail (*Typha* sp.), which has extended out from the banks for 10 feet or more as a floating mat. Parts of the mat have become detached, forming floating islands. Cattail also grows abundantly on the emergent tops of the floating log bundles, the roots extending down through the logs into the water.

During surveys in December and late May, large numbers of *Mansonia perturbans* larvae were found on the roots and rootstocks of the cattail plants. During the late July and early September surveys few larvae could be found attached to the plants, although they were readily obtained by scraping the under side of floating cattail mats with a long-handled pint dipper. This seasonal difference in larval behavior is probably due to the low water temperatures prevailing in winter and spring, the larvae being then too lethargic to release rapidly.

May samples contained only 4th instar larvae and pupae, July samples 2nd and 3rd instar larvae, and the September and December samples 3rd and 4th instar larvae. These observations substantiate that there is a single generation each year (Horsfall, 1955), that the species overwinters as larvae, and that emergence takes place in early summer. A light trap installed near the ponds showed *Mansonia perturbans* to be the most abundant mosquito species in the area in June and July.

It is suggested that surveys of *Mansonia* breeding areas be carried out in cold weather, as the larvae are then easily obtained by pulling up plants. Another large wetland plant, *Juncus effusus*, grows in the water at the edge of the ponds in association with cattail; no larvae were ever found on *Juncus* roots, probably because they are woody in consistency and lacking in large air spaces.—Laverne S. Miller, Oregon State Board of Health, Portland, and Robert A. McHugh, C.D.C., P.H.S., Greeley, Colorado.

Literature Cited

HORSFALL, W. R. 1955. Mosquitoes—their bionomics and relation to disease. Ronald Press, p. 377.