NOTES ON THE GREAT ELM LEAF BEETLE

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The great elm leaf beetle *Monoceresa coryli* (Say), during the spring of 1944, completely defoliated two trees of Florida elm, *Ulmus floridana*, growing on the grounds of the Vegetable Crops Laboratory, Bradenton, Florida. The beetles appeared again in the spring of 1945. No damage occurred to the trees that were so heavily attacked in 1944. Heavy egg deposition

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Adults and egg mass of *Monoceresa coryli* (Say). The beetle nearest the leaf is a male, the other a female. Photograph by D. G. A. Kelbert.

1 Det. by C. F. W. Muesebeck.
2 Det. by Erdman West.
took place in the spring of 1945, but parasitism reduced the numbers so greatly that little damage resulted. A group of elm trees that escaped injury in 1944 were completely defoliated later in the year of 1945. Most of the damage is done by the larvae although the adults feed for a short time in the spring.

THE EGG

The eggs, 24 to 58 in number, are deposited in a hard yellow crusty mass on the under surface of the elm leaf. The eggs hatch in 14 days.

THE LARVA

The larvae hatch out inside and hollow out the entire mass, leaving just a shell. The newly emerged larvae are greenish yellow in color and average 3 mm. in length. When they chew their way out from the egg mass they remain gregarious for 3 to 4 days before dispersal. The full grown larvae are orange in color, averaging 20 mm. in length. They have a disagreeable habit of releasing an orange liquid when disturbed.

Upon completion of feeding the larvae crawl down to the ground and search around for a few days before crawling down into the ground where they remain as curled up larvae until pupation the next spring.

THE PUPA

The pupae are of a yellow to orange color. Larvae collected July 19, 1944 remained in the ground as larvae from then until Feb. 9, 1945, when the first pupa was observed. The first insectary emergence was March 10, 1945.

THE ADULT

The adult beetles are from 13 to 17 mm. in length, dark brown in color with a broad yellow band on the dorsum. The adults, like the larvae, release an orange liquid when disturbed. Field emergence was first noted April 8, 1945. Copulation and egg laying were observed May 11, 1945.

Further observations will be carried on.

Blatchley in his “Beetles of Indiana” mentions the beetle as occurring in Virginia, Illinois and Kansas. In his “Chrysolinae of Florida” (The Florida Entomologist, Volume 8, Number 1, page 4, July, 1924) he makes the following records: “In Palmetto, July 3, 1918, the only record we have.” [For
Florida.] In "Forest Insects" by Doane, Van Dyke, Chamberlin and Burke, page 299, there is a note, quoted from Riley (1878), on this beetle "doing great damage to slippery elm in Missouri."

OBSERVATIONS ON THE ABATEMENT OF PEST MOSQUITOES WITH DDT RESIDUAL SPRAYS

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During the investigations on the use of DDT (1-trichloro-2,2-bis(p-chlorophenyl)ethane) for the control of mosquitoes, which were conducted in the vicinity of the Stuttgart Army Air Field at Stuttgart, Ark., in the summer of 1944, observations were made on the value of DDT residual sprays as a method of abating the nuisance of pest mosquitoes, such as the Psorophora spp. Studies by Gahan et al. (1, 2) had shown that these sprays were effective against Anopheles quadrinaculatus Say and other mosquitoes when applied to their diurnal resting places.

As a result of the alternate drying and reflooding of the surrounding rice fields, enormous numbers of Psorophora mosquitoes invaded the cantonment area of the Stuttgart Army Air Field during the summer of 1944. The annoyance was so great that it became necessary to resort to daily treatment of all halls and corridors in the hospital building by power spraying of regulation Army issue insecticide containing Thanite (a thiocyanate). This situation was undesirable because it disrupted the regular hospital routine and tied up manpower and equipment needed for other mosquito-control work, and because of the rather disagreeable odor produced by the spray.

In July a 10 per cent DDT emulsion was applied to the screens on all entranceways and windows with an ordinary decontamination-type spray cylinder. This spray was made from a basic concentrate consisting of 25 per cent of DDT, 7 per cent of Triton X-100 (an aralkyl polyether alcohol), and 68 per cent of xylene. (Less than 2 gallons of liquid were used to treat

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