

ENTOMOLOGY

Chairman: R. E. NISWANDER, Manchester College

R. E. SIVERLY, Ball State Teachers College, was elected chairman for 1961

ABSTRACTS

Sorghum Resistance to the Corn Leaf Aphid, *Rhopalosiphum maidis* (Fitch). BENJAMIN T. FORD, Pennsville, N. J., and RAY T. EVERLY, Purdue University.—The corn leaf aphid is a common pest of sorghum and corn and when abundant can result in serious loss of yield. Due to its habit of infesting the whorl, leaf sheaths and other inaccessible areas, resistance in the host plants to attack and survival of the aphid would provide an ideal method of control. In this study, 23 sorghum varieties and one corn hybrid were infested in the seedling stages under greenhouse conditions with mature apterous corn leaf aphids. Highly statistically significant differences between the sorghum varieties were found in the number of aphids developing on the plants 2 weeks following infestation.

The Use of Light Traps to Protect Tobacco in Southern Indiana from Tobacco and Tomato Hornworms. H. O. DEAY, Purdue University, and J. G. HARTSOCK, A.R.S., U. S. Department of Agriculture.—Experiments were conducted in Jefferson County, Indiana, from 1954 to 1959 on the control of tobacco and tomato hornworms [*Protoparce sexta* (Johan.) and *P. quinquemaculata* (Haw.)] on tobacco. On an average, one trap equipped with one 15-watt BL lamp decreased the number of plants infested 73.5 per cent and the amount of leaves eaten 77.4 per cent in an area 100 feet from the trap.

Occurrence of *Aedes thibaulti* Dyar and Knab in Indiana. R. E. SIVERLY, Ball State Teachers College.—Larvae of *Aedes thibaulti* D. and K. were collected during the spring of 1960 in a bog area in Delaware County, Indiana. This mosquito is generally regarded as southeastern U. S. in distribution, but has been reported from Illinois. Breeding sites are usually restricted to tree cavities at ground level. Locally, it was taken at such a site, in breeding association with *Aedes aurifer*. To the author's knowledge, there are no previous records of the occurrence of *A. thibaulti* in Indiana. Identification is confirmed in the adult stage by the peculiarly modified claspette filament of the male terminalia.

New Materials for the Control of Cabbage Worms. GEORGE E. GOULD, Purdue University.—Two insects, the imported cabbage worm [*Pieris rapae* (L.)] and the cabbage looper [*Trichoplusia ni* (Hbn.)], continue to be a major problem in the production of cabbage and related crops. When DDT first became available in 1945, this new insecticide gave spectacular control of both caterpillars. Then in the mid-1950's, commercial growers in Marion and Lake counties reported poor results with this material. In our experimental tests, DDT continued to be the outstanding insecticide until 1958 when it dropped in efficiency below that of several other materials. In 1960, the rate per acre for DDT was doubled and again it was one of the better materials. Other insecticides found to be effective

against the two caterpillars included endrin, toxaphene and parathion. The new phosphate insecticides, in general, gave an excellent quick kill, but plants were reinfested in a week. A new biological control agent made up of live spores of *Bacillus thuringiensis* has been tested extensively against the two caterpillars on cabbage and against the mint looper on peppermint and spearmint. In all tests, the material gave fair to good initial kills, but plants were reinfested in about seven days.

Differential Predation in *Osmia cordata* Robt.—*O. lignaria* Say Nesting Associations (Hymenoptera, Megachilidae). LELAND CHANDLER, Purdue University.—Females of *Osmia cordata* and of *O. lignaria* constructed nests in sections of hollow elderberry stems that had been placed as trap nests. Various combinations of stem occupancy by the two species were obtained. Predation by the larvae of several species of Dermestidae was responsible for the destruction of 91.7 per cent of the cells of *O. cordata* in stems which had been occupied solely by that species. In stems containing cells of both species, only 42.1 per cent of the *O. cordata* cells were destroyed. The cells of *O. lignaria* were destroyed only when dermestid infestation occurred prior to cell closure. A major factor contributing to the observed differential predation upon the two species is the different materials utilized in cell construction. *O. lignaria* constructs cells of mud; *O. cordata* uses chewed plant materials.

An Inherited Color Factor in the German Roach, *Blattella Germanica* (L). R. E. NISWANDER, Manchester College.—The usual color pattern of the German roach is black with light brown or cream markings. The color variation observed concerns the change of the black to a light brown or red color. This difference in color is easily observed in nymphs before wings develop. But the color differences can be seen in the adults with closer observation. A pure strain of both color types was developed by isolating females with egg capsules and observing the offspring as to color. By isolating these offspring, allowing them to mature, crosses were made which showed the black color was dominant with the red color being recessive. The results show this to be a simple dominant and recessive factor with no evidence of sex linkage.