

ENTOMOLOGY

Chairman: JOHN W. HART, Stanley W. Hayes
Research Foundation, Richmond, Indiana 47374

ROBERT E. DOLPHIN, U.S.D.A., Entomology Research Division,
Vincennes, Indiana 47591, was elected Chairman for 1971

ABSTRACTS

Nest Mortality in Two Species of Mud Daubers in Eastern Indiana. BRUCE M. LINDSTROM and SARAH C. STRAWN, Earlham College, Richmond, Indiana 47374.—Results of a study of *Sceliphron caementarium* (Drury) and *Trypargilum politum* (Say) in the summer of 1970 show a change in nest mortality from north to south through Wayne, Union, Fayette, and Franklin counties in eastern Indiana. Nest mortality in *S. caementarium* decreased going south, while nest mortality in *T. politum* increased. This appears to reflect a decrease in nests of *S. caementarium* from north to south and an increase in nests of *T. politum*, which in turn is based on a habitat preference of the wasps. *T. politum* prefers the forest-dominated southern counties while *S. caementarium* is more plentiful in the field-dominated northern areas. Insects found to attack the two species were, in order of decreasing severity, the beetle *Trogoderma* (Dermestidae), the wasp *Melittobia chalybii* (Eulophidae), and the cuckoo-wasp *Chrysis* (Chrysididae).

Parasitic Lepidoptera in Indiana. LELAND CHANDLER, Purdue University, Lafayette, Indiana 47907.—Larvae of the lepidopterous family Epipyropidae are parasitic on several species, representing several families, of the Homoptera superfamily Fulgoroidea. Although this moth family has an extensive geographic range, records of its occurrence are from widespread areas, and individuals are relatively uncommon. One species has been extremely common in Tippecanoe and Warren counties in both 1969 and 1970. Immature stages and adults are described in a partial life history study.

Underground nests of *Augochlora pura* (Say) (Hymenoptera: Halictidae). LELAND CHANDLER, Purdue University, Lafayette, Indiana 47907.—Typically, the nests of *Augochlora pura* (Say) are excavated in the soft wood of decaying logs. Recently, females have been induced to nest in artificially prepared substrate. Females introduced into the Purdue Comparative Ethology chambers excavated nests in soil clumps which had been provided for another halictine species, *Halictus ligatus* Say. One of these nests produced two females and two males. Each of these females excavated nests and each brought forth a similar brood.

***Vespa crabro* L. and *Polistes hunteri* Bequaert in Indiana (Hymenoptera: Vespidae).** LELAND CHANDLER, Purdue University, Lafayette, Indiana 47907.—Since entering Indiana, the European hornet, *Vespa crabro*

L., has dispersed throughout the southern fourth of the state, and continues to expand its range northward. Workers have caused considerable damage to lilac in several localities, and mature white oaks have been girdled below the soil level at one site. One child has been viciously attacked in Harrison County. *Polistes hunteri* Bequaert, not previously recorded from Indiana, is now known from Crawford County.

NOTE

New Records of Indiana Collembola. JOHN W. HART, Hayes Research Foundation, Inc., Richmond, Indiana 47374.—Sixty-nine species and forms of Collembola were reported from Indiana by the author (1) in 1969. Fifteen 1970 records, which bring the total known Indiana species to 84 are presented as follows:

Odontella cornifer Mills, 1934; *Friesea pentacantha* Mills, 1934; *Tomocerus flavescens separatus* Folsom, 1913; *T. lamelliferus* Mills, 1934; *T. vulgaris* (Tullberg), 1871; *Folsomides parvus* Folsom, 1934; *F. stuchi* Folsom, 1934; *Holotoma elongata* (MacGillivray), 1896; *Folsomia diplophthalma* (Axelson), 1902; *F. quadrioculata* (Tullberg), 1871; *Hydroisotoma schäfferi* (Krausbauer), 1898; *Proisotoma americana* Mills, 1934; *Isotoma viridis* Bourlet, 1839; *Entomobrya atrocincta millsii* Bonet, 1942; *E. multifasciata* (Tullberg), 1872.

Three of these records, *Isotoma viridis* Bourlet, *Folsomides parvus* Folsom and *Folsomides stuchi* Folsom, were collected as part of studies at the new Brookville Ecological Research Center (BERC). This former farm is leased by the Army Corps of Engineers to Earlham College and Miami University (Ohio) for scientific study purposes.

Long term changes in Collembolan populations will be studied as they correlate with successional advance on abandoned farm land. Collections are made according to soil type as determined by the published soil survey for the county and an SCS soil survey of the study area. Concurrent studies of plants, mammals, birds, reptiles, amphibians, and soils are being carried out.

The assistance of Dr. D. L. Wray, North Carolina Department of Agriculture, who verified many of these determinations is gratefully acknowledged. All 84 Indiana records have been checked by competent Collembolan taxonomists. Author's voucher specimens are located in the Joseph Moore Museum, Earlham College.

Literature Cited

1. HART, J. W. 1970. A checklist of Indiana Collembola. Proc. Indiana Acad. Sci. 79: 249-252.

OTHER PAPER READ

Form and Function in the Invertebrate Nervous System. D. L. SHANKLAND, Department of Entomology, Purdue University, Lafayette, Indiana 47907 (by invitation).