ZOOLOGY

Chairman: F. R. Elliott, Valparaiso University

W. H. Johnson, Wabash College, was elected chairman for 1953.

ABSTRACTS

An Indiana microsporidian parasitic on Drosophila. Robert L. Bell, U. S. Army.—In the latter part of 1950 a Drosophila (wild-type) culture was prepared using the bloom from a water lily (yellow variety) in the culture medium. The bloom came from George Lake near Hobart, Indiana, and seems to be indicated as the vector of the Nosema-like disease which became prominent later. The legs of the infected individuals are pale in color and seem more fragile than the normal individual's, the abdomen is also pale in color as well as being somewhat swollen. The general character of the infected individual is a languid one, the individuals often remaining motionless for long periods of time.

The infecting organism, in no case observed more than 10 micra long, was found generally distributed throughout the tissues. A few individuals with pseudopod-like projections were observed; but, the presence of a discrete amebula stage seems contraindicated. Internal differentiation is strongly demonstrated upon proper staining of the fixed organism. Pansporoblasts were not observed as such; but, at least one individual with the same physiological function was observed. The rapid growth of these organisms in the host seems to produce a functional castration; since, even though there may be many imagoes in a culture there may be just a few or no larvae at all.

Regression and replacement of hydranths in *Obelia* and *Campanularia*. Sears Crowell, Indiana University.—Actively growing colonies of *Campanularia flexuosa* have been observed for several weeks and the history of each hydranth has been recorded. After only a few days' existance a hydranth loses its form and its substance is resorbed by the colony as a whole. In about a day a new hydranth develops on the pedicel of the one which had undergone regression. Thus, though a colony may be old, its hydranths are always young. A hydranth has an average life span of only 3.8 days at 21°C. and of 6.8 days at 17°C. The regression is a regular and cyclic phenomenon. Older hydranths regress before younger ones. In a colony about 15% of the hydranths are at some stage of the regression-replacement process. Under unfavorable conditions the per cent is higher.

The regression of hydranths in *Obelia* and *Campanularia* was well described long ago (Loeb, Huxley and DeBeer, and others), but only Hammett has believed it to be a naturally occurring and endogenous phenomenon. However he did not follow the history of identified hydranths.

These suggestions may be made as to the significance of the regression-replacement process: The resorption following dedifferentiation insures that there is no loss of substance by the colony except for the

hydrothecae. The senesence of the colony is avoided by the replacement of its older members by new hydranths. The feeding parts of a colony are kept clear of attaching organisms by the frequent shedding of the hydrothecae.

An investigation of marine trematodes in Puerto Rico. R. M. CABLE, Purdue University.—In an eleven-month study of larval and adult stages of marine trematodes in Puerto Rico, 51 species of cercariae were found and the life cycles of several of these were determined. The number of adult trematodes found will not be known until the collection can be studied in detail. Although effort was concentrated on those occurring in fishes, some attention was given to birds after finding trematode larvae expected to have their adult stages in avian hosts. This paper, preliminary in nature, is a general report dealing largely with the locale including both the island of Puerto Rico and Mona Island which was visited twice.

Some unusual cases of arthropod infestation. WILLIAM HUGH HEADLEE, Indiana University Medical Center.—Our parasitology laboratory has been requested frequently to identify specimens pertaining to medical entomology, these being suspected of influencing the mental or physical well-being of individuals, in some real or fanciful way. A wide variety of arthropod species have been examined and histories secured concerning their relationship to a specific medical problem. Some cases were of interest because of the infesting organism, per se, while others were of interest because of the peculiar circumstances of the case and the incriminations made prior to detection and/or the correct specific identification of the arthropod.

In one instance, the dermatitis caused by flea bites led to a mistaken primary diagnosis of chickenpox. Squirrels living in the attic were the source of the fleas. In another instance, the cause of an unusual case of dermatitis was found to be the bites of the bedbug, *Cimex lectularius*, harbored in a wicker chair. In a third case, suspicions of possible attempted "arsenic poisoning" were finally allayed when the white particles in sandwiches (served in the cafeteria at an important war-time industrial plant) were identified as fly eggs. The larvae that hatched from these eggs were identified as those of *Lucilia sericata*. Perhaps of most import was the finding and identification of the grain itch mite, *Pediculoides ventricosus*, by the writer in October of 1950, in straw brought to him from an Indiana industrial concern which was using straw in its manufacturing process. This mite had appeared in great numbers for the first time in several decades, and was causing incapacitating dermatitis among persons working with straw. Visitors and workers at the Indiana State Fairgrounds were plagued with these same mites in 1950 and 1951, which were found and identified in straw being used in the barns as bedding.