REVIEWS AND ABSTRACTS

COLLECTING, PREPARING AND PRESERVING INSECTS. By Bryan P. Beirne. Pub. 922, Science Service, Entomology Division, Canada Department of Agriculture, 133 pp., May, 1955. Price 50 cents. This publication was compiled by Dr. Beirne with the collaboration of other officers of the Systematic Entomology Unit and of other specialists. In a foreword G. P. Holland, Head, Systematic Entomology Unit, states that the publication was prepared for the use of amateur or professional entomologists.

Over a period of years numerous bulletins and pamphlets describing methods for the collection and preservation of insects have appeared. In addition similar material is presented in a number of textbooks. This latest publication was prepared with Canadian conditions in mind; the principles and techniques are, of course, of general application.

This reviewer finds that Dr. Beirne's contribution is excellent in all respects. It is certainly one of the most complete publications of its type. The material is divided into sections dealing with Equipment and Methods for Collecting, Equipment and Methods for Preserving and Mounting, Storage and Care of Collections, and Application of Methods. A section giving formulae and an index are included.

Mosquito workers will perhaps find the section on aquatic insects too brief while other groups are covered in much more detail. This unevenness is acknowledged in the foreword as being due to multiple authorship and emphasis on popular groups or groups of economic importance.

The inclusion of sections on arachnids and nematodes is justified quite apart from the stated reason that these groups are being studied by entomologists in Canada.

The only lacuna found by this reviewer, unless it was overlooked in a subsection, is the failure to mention the use of a plastic spray on certain pinned insects to reduce loss of delicate and brittle parts.

Specialists frequently are occasioned needless difficulty when improperly preserved material or material lacking essential data is submitted for identification. The task of the specialist will be made easier if the amateur and professional entomologist alike pay closer attention to the correct methods of collecting, preparing and preserving insects.—A. S. West, Queen's University, Kingston, Ontario.

EGG PRODUCTION IN COLEOPHILA PIPERIS PALLENS CROCELETT. III. GROWTH AND DEGENERATION OF OVARIAN FOLLICLES. By Teruhiko Hoshii. Jap. J. Med. Sci. Biol. 7(2):111-127, 1954. 18 refs. In English. 1. Number of follicles developing or matured in the mosquito after one full feeding on human blood varies extensively even among individuals with equal wing length. There is found, however, a simple functional relationship between wing length and the means of these numbers.

2. When the mosquitoes are fed on human blood, degeneration occurs in a large number of follicles at the second stage of development. The ratio of these degenerating follicles is kept fairly constant among the mosquitoes with equal wing length, irrespective of the differences in the actual number of follicles produced or starting development in each individual.

3. Both the number of mature follicles and the rate of follicle development vary considerably, depending on the amount of kind of ingested blood. The results are not different from those obtained by previous workers with various species of mosquitoes.

4. Gonadotropic dissociation occurred not uncommonly among the mosquitoes fed on human blood in the laboratory. These mosquitoes, however, almost invariably matured eggs following the second meal, in a number larger than that which would be expected from the result of a single blood feeding.

5. Feeding on a 5 percent solution of casein promoted growth of the first-stage follicles, which developed to the second stage in some individuals; nevertheless only a small proportion of these follicles were able to develop beyond this stage.
Mosquitoes fed on hen’s egg could develop a considerable number of follicles up to the final stage.

6. Blood corpuscles, on the other hand, are very effective in promoting egg formation of the mosquito. Among various organs of chickens, the testis and the ovary were found to contain some growth factors, which could be utilized by the mosquitoes as supplements to casing in raising a large number of follicles to maturity.—Author’s summary.

**Egg Production in Culex pipiens pallens Coquillett. V. Relation to Fattening and Biting Activity.** By Teruhiko Hosoi. Jap. J. Med. Sci. Biol. 7(5):241-245, 1954. 19 refs. In English. 1. The desire of female mosquitoes for blood feeding is not derived solely from a state of hunger. With respect to the biting activity of active females, it was virtually immutable whether the mosquitoes had previously been starved or fed on a concentrated solution of sugar. In hibernating females, however, fasting seems to reduce the resumption of blood feeding.

2. Illumination promotes various kinds of physiological processes in imagines. It increases flying and biting activity, and also promotes the first-stage development of follicles as well as both enlargement and diminution of the fat body.

3. Experiments involving abdominal ligature and transplantation of the ovary revealed that, in spite of the apparent correlation between the biting activity and the capacity for egg formation, the biting activity did not relate directly to the state of the ovaries. No evidence of a direct control of the follicle development was found, at least after the mosquito had taken a meal of blood. The ovarian follicles seemed to be able to commence development according to their own activity, as soon as their nutritional requirements were satisfied.—Author’s summary.


**Egg Production in Culex pipiens pallens Coquillett. IV. Influence of Breeding Conditions on Wing Length, Body Weight and Follicle Production.** By Teruhiko Hosoi. Jap. J. Med. Sci. Biol. 7(2):139-134, 1954. 8 refs. These two papers, as well as Parts I, III, and V, will be of interest to workers in the field; and I shall be pleased to lend them to AMCA members.—MLTD.

**Hormonal Control of Ovary Development in Mosquitoes.** By A. N. Clements. J. exp. Biol. 35(1):211-223, March 1956. 28 refs. A study was made of ovary development in Culex pipiens form molestus Fuscakl, an autogenous mosquito nor needing food in the adult stage to develop its eggs, and in C. pipiens form L. and other anautogenous mosquitoes which require blood for ovary development. Comparison of the reserves of fully grown larvae of the autogenous and anautogenous forms of C. pipiens showed that the autogenous form had a rather larger fat body, but that the anautogenous form contained sufficient protein reserves to develop a number of eggs. It was considered that autogeny did not depend solely upon the ability to amass extensive reserves but also upon some other physiological mechanism.

Decapitation and ligation at the base of the abdomen prevented ovary development in C. pipiens form molestus when performed within a few hours of emergence, but when performed 7 or more hours after emergence it often failed to prevent ovary development. It is suggested that a gonadotropic hormone is secreted during this time.

Ligation of the abdomen within an hour of feeding on blood appeared to prevent ovary development in Anopheles stepheni Liston. Ovary development occurred in a small proportion of females ligated 1 or more hours after feeding, and this proportion increased with time. Ligation of the abdomen immediately after blood feeding failed to prevent ovary development in Culex pipiens form berberiens Rohdau, Aedes aegypti (L.) and Anopheles labranchiae interiorus van Thiel, even in some cases where the ligation was tied within 2-3 minutes of the start of feeding.—Author’s summary.

**NOTA SÔBRE UMA POSSÍVEL MODIFICAÇÃO DE HÁBITOS DE AMOSTRAS DOS SUBGÊNEROS KERTESZIA EM ÁREA SUBMETIDA A DESESPERACAO DOMICILIÂRIA.** By Maria O. Ferreira and Carlos E. A. Azinhina. Rev. Bras. Malariol. e Doenças Trop. 7(2):557-560, 1955. The authors report the results of preliminary observations showing that in areas submitted to domiciliary DDT spraying the Kerteszia adults that were mainly captured on the internal surface of walls are found in marked predominance on external surfaces of the walls after some applications of DDT are carried out. They state that they are not yet sure whether the change is due to a repellent or irritative effect of the insecticide or a true modification of the habits of the Kerteszia. The results of further observations will be repeated in the future.—Authors’ summary.