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REVIEWS AND ABSTRACTS

LOS ANOFELINOS DE LA ISLA DE GRAN CANARIA. By J. M. Romeo Viamonte, 1946. Rev. de Sanid. e Hig. Pub. [Madrid] 20(5):449–455. (Abstract of author's summary.)

During a brief stay in the Gran Canaria [one of the Canary Islands] the author collected 96 adults of *Myzomyia hispaniola* and 23 of *M. sergenti*. Characteristics differentiating the two species are given. Although both are considered malaria carriers of little significance on the island, the author saw endemic malaria of some importance due to these species. The habits and life cycle of the two appear similar since larvae and adults of both are found in the same situations.—HELEN SOLLERS, U. S. Bureau of Entomology and Plant Quarantine. Translated by Clark Collins, Columbia University.

NOTA PREVIA SOBRE UN NUEVO MÉTODO DE LUCHA ANTILAVARIA CON EL HEXACLORURO DE BENCENO (666). By Alvaro Lozano Morales. 1946. Rev. de Sanid. e Hig. Pub. [Madrid] 20(5):456–459.

In the laboratory, benzene hexachloride was found to be toxic to larvae of *Culex pipiens, C. hortensis, Theobaldia annulata, T. longeareolata, T. fumipennis, Aedes rusticus, Anopheles maculipennis atroparvus,* and *A. claviger*. Benzene hexachloride dust, although lethal to both *Culex* and *Anopheles,* killed the latter more quickly. However, an emulsion containing 10 per cent 666 was equally effective against both.

The author feels that the two genera apparently ingest microscopic particles of this insecticide. The optimum dose per cubic meter of water was found to be 10 cc. of the emulsion for anophelines and 15 cc. for culicines. In the laboratory larvae died within a few hours, usually within one hour.

Even though the emulsion had been mixed for more than 15 days, it still retained its power to kill larvae in experimental jars. In the field, immediate effect of this emulsion was noted on the larvae, particularly those of *Culex* and *Theobaldia* of which even the pupae were killed.

In the near future, the author proposes to give more complete details concerning these experiments.—HELEN SOLLERS, U. S. Bureau of Entomology and Plant Quarantine.

INSECT MICROBIOLOGY. By E. A. Steinhaus. Comstock Publishing Co., Inc. 763 + x pp. 1946. This unique book, though its implications are wide, is of interest to all workers in the field of insect biology and control. It is an extensive account of the microbes associated with insects and acari (ticks and mites) with special reference to the biologic relationships involved. The author points out that while it is not a book on insect pathology or on medical entomology, an attempt has been made to include biologic relationships existing between pathogenic agents and their arthropod hosts and vectors as well as all those between non-pathogenic agents and insects, ticks, and mites in general.

There are 13 chapters, each dealing separately with the following subjects, extracellular bacteria and insects, specific bacteria associated with insects, intracellular bacteriumlike and rickettsialike symbiotes, rickettsiae, yeasts and insects, viruses and insects, fungi and insects, spirochetes associated with insects and ticks, protozoa and insects, protozoa and termites, immunity in insects, methods and procedures. There are 88 pages of references and an author index comprising 12 pages. The subject index deserves high praise; it consists of over 57 pages. There are nearly 270 separate references to mosquitoes in the index, e.g., *Culex tarsalis* Coq., associated with bacterium, *Pasteurella tularensis*, p. 166 and p. 168; associated with viruses, encephalitis p. 438, St. Louis encephalitis p. 438 and p. 439, western equine encephalitis p. 438 and p. 439.

Dr. Steinhaus, the author, is widely known for his excellent contributions in the field of biologic relationships existing between agents pathogenic for man, animals, and plants, as well as those between non-pathogenic microbes and their hosts. The author is to be highly commended for bringing together in systematic form this mass of hitherto practically unavailable information. Dr. Steinhaus was formerly a member of the United States Public Health Service, and is now a member of the Department of Agriculture, University of California, Division of Biological Control, Berkeley, California.—W. B. HERMS.

THE INSECTICIDE SITUATION. By F. C. Bishopp. J. Ec. Ent. 39(4):449–459, 28 refs. 1946. Due to conditions brought about by the war, it became impossible to obtain adequate supplies of copper, pyrethrum, and rotenone for the manufacture of essential insecticides. This resulted in strict allocations of these materials to meet the more pressing needs, and intensive research to find new insecticides. In this article the author directs attention to the unprecedented pace with which research in the insecticide field is pressing forward and briefly reviews the following: seed treatments, fumigants, insecticidal materials of plant origin, and synthetic organic compounds. Several insecticides, including *sabadilla, Ryania, hydroxypentamethylflavan, benzene hexachloride, DDT, TDE, methoxy analog of DDT, bromine and fluorine analogs of DDT, benzyl benzoate, sulfones,* and *synergists* are discussed in some detail.

The effects of benzene hexachloride (1, 2, 3, 4, 5, 6-hexachlorocyclohexane) upon different insects as reported by various research workers is reviewed. Attention is directed to the need of

much chemical, biological, and toxicological work on this promising insecticide before its potentialities and limitations can be fully known. As one would expect, DDT still holds the spotlight in the insecticide field. Due to its general availability, the public has had the opportunity to evaluate DDT. In spite of all the research conducted with DDT and its acclaim by the public there are still many things to be learned, particularly the many possible secondary effects of DDT applications.

It is assumed that because of the interest resulting from publicity given insect control during the war and the increased problems resulting from the war, the use of insecticides in the United States and other parts of the world will be greatly increased. The United States is expected to take a leading part in the production of insecticides for other countries. The development of DDT put new life and hope into our endeavor to find potent insect killers among chemical groups previously thought to hold little promise as insecticides. Many other new insecticide developments may be expected within the next few years. The author stresses the fact that synthetic organic insecticides are more or less specific and one must not expect any one of them to be a panacea. Thus the search for other insecticides to close the gaps in insect control must continue.—S. J. Carpenter, National Biscuit Company, New York, N. Y.

WAR LOSSES AMONG INSECT COLLECTIONS AND ENTOMOLOGISTS IN JAPAN. By C. L. Remington. Ann. Ent. Soc. Am. 39(3):448–450. 1946. The author has assembled information on the extent of destruction to insect collections, particularly to types, and to casualties among entomologists in Japan. Most of the insect collections with their numerous types were undamaged. However, there were two exceptions both in Tokyo. The extensive slide collections of parasitic mites and mosquito pupae prepared by Y. Asanuma at the Research Institute of Natural Resources were completely destroyed by incendiaries. Few types, if any, were lost, because Asanuma's studies were in manuscript form; and the destruction of this manuscript before publication precluded the designation of any of the lost collection as types. The other loss due to incendiary raids on Tokyo was the collection of the Tokyo College of Agriculture, which contained the large number of aquatic Coleoptera assembled by Dr. K. Lamiya. Types of aquatic Coleoptera and some Staphylinidae were destroyed with this collection. There were no casualties from the bombing among entomologists in the home islands of Japan according to the information obtained by the author. The greatest loss to entomology from the raids was the literature. The stocks of numerous booksellers and publishers of Tokyo and the smaller cities were burned out completely.—LOUISE GOODE, Natl. Inst. Health, Bethesda, Md.

WAR LOSSES AMONG INSECT COLLECTIONS AND ENTOMOLOGISTS IN JAPAN. (Pérdidas de colecciones de insectos y entre los entomólogos en el Japón debidas a la guerra.) Por C. L. Remington. Ann. Ent. Soc. Am. 39(3):448–450. 1946.

El autor ha reunido datos sobre el monto de la destrucción de colecciones de insectos, especialmente de tipos, y acerca de las fatalidades que hubiera entre los entomólogos en el Japón. La mayor parte de las colecciones con sus numerosos tipos no sufrieron daño alguno. Hubo, sin embargo, dos excepciones en Tokio. Las extensas colecciones de láminas de ácaros parasíticos y ninfas de mosquitos preparadas por Y. Asanuma en el Instituto de Investigaciones de Recursos Naturales, fueron destruidas completamente por bombas incendiarias. A lo sumo, pocos tipos se perdieron, porque los estudios de Asanuma estaban todavía en forma manuscrita y la destrucción del manuscrito antes de que fuera publicado impidió que ejemplar alguno de la colección perdida fuese designado como tipo. La otra pérdida que se debió a los ataques contra Tokio con bombas incendiarias fué la colección de la Facultad de Agricultura de Tokio, la cual contenía el gran número de Coleóptera acuáticas reunido por el Dr. K. Lamiya. Algunos tipos de Coleóptera acuáticas, así como algunas Staphylinidae, fueron destruidos junto con esta colección. No hubo fatalidades entre los entomólogos en las islas principales del Japón a causa de los bombardeos, según los informes recibidos por el autor. La pérdida más grave sufrida por la entomología debida a los ataques fué la de la literatura. Las existencias de muchas librerías y casas editoriales de Tokio y de las ciudades de menor importancia fueron consumidas completamente por los incendios.—Translation of review by Louise Goode.

AEDES ATROPALPUS (COQ.) A NEW MOSQUITO VECTOR OF *Plasmodium gallinaceum* BRUMPT. By H. L. Trembley. J. Parasit. 32(5): 499–501. 1946. The author describes the infection of *Aëdes atropalpus* with *Plasmodium gallinaceum*, compares the incidence and intensity of the infection in this species with those observed in *A. aegypti*, and records the transmission of the infection by *A. atropalpus* to the domestic fowl. In preliminary tests, 53 *A. atropalpus* were examined from 12 different lots, and 45 infected mosquitoes were found. Five tests were carried out to compare the incidence of infection, and 4 to compare the intensity of infection in the 2 species of mosquitoes. In each test, 100 *A. aegypti* were exposed to an infected chick, after which the engorged females were removed by means of a suction tube. The *A. atropalpus* were then applied singly to the same infected chick.

For comparison of incidence, the midguts, salivary glands, or both, were examined; and the *A. atropalpus* showed 78 positive out of a total of 87 mosquitoes (89.65 per cent); the