

provide a reliable index to the relative number of flies in the congregation. An empirically justified index based on the average size of a constant number of the highest counts has been used as a guide for timing fly control activities in both individual establishments and in city-wide campaigns. It can also be adapted for use with blow flies (Calliphoridae).—W. M. UPHOLT.

~~28664 C.A. Holway #618~~
 PRELIMINARY STUDIES ON THE CONTROL OF BLOW FLIES WITH DDT. By W. C. Baker and L. G. Schwartz (U. S. P. H. S., Communicable Disease Center, Technical Development Division, Savannah, Ga.). Public Health Rpts. (Abstract.)

Preliminary tests were made with DDT for the control of blow flies (esp. *Cochliomyia* sp. and *Lucilia* sp.), at a fish market, an abattoir, a hide processing plant, and a seafood plant, using 5 per cent DDT-xylene-Triton X-100 emulsion applied at the rate of 200 and 300 mg. DDT per square foot. By means of the grill method of measuring the fluctuation in fly populations, the variation in the degree of control achieved was found to be dependent to a large extent upon the relationship between the night resting places of the flies and the extent to which such places were treated. When only the area about the daytime breeding places of the blow flies was treated, control was obtained for a 2 to 3 week period. When night resting places were treated in addition to the daytime feeding places, the control obtained was greater and lasted effectively for periods up to 3 months.—W. C. BAKER.

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 EFFECTS OF DDT MOSQUITO LARVICIDING ON WILDLIFE. Part I. The Effects on Surface Organisms of the Routine Hand Application of DDT Larvicides for Mosquito Control. By Clarence M. Tarzwell (Technical Development Division, Communicable Disease Center, U. S. P. H. S.). Public Health Reports 62(15):525-554. 1947. (Abstract.)

Quantitative sampling of the surface forms and counts of dead organisms on the water surface 24 hours after treatment were the methods used in this study. Routine applications of DDT as a dust caused little apparent damage to the surface organisms as indicated by gross observations. Paired square-foot surface samples taken before and 48 hours after treatment indicated few significant changes due to treatment. The seasonal trend of the population of surface organisms was somewhat affected by routine treatments with dust at the rate of 0.1 pound of DDT per acre, but the changes were not as great as those caused by treatments with solutions of DDT in fuel oil. DDT-fuel oil solutions killed the large surface insects such as Dytiscidae, Gyrimidae, Hydrophilidae and Corixidae at concentrations as low as 0.025 pound of DDT per acre. However, the kills resulting from applications of 0.05 or 0.025 pound of DDT per acre were proportionately much less than those resulting from applications

at the rate of 0.1 pound per acre. The seasonal effects of routine DDT treatments as indicated by a comparison of the population of surface organisms in the treated and check ponds were quite marked. There was an increase in the number of Oligochaeta, Nematoda, and Copepoda, and a decrease in the Chironomidae, Hemiptera, Coleoptera and Ephemeroptera. Insects as a group decreased in number in the treated ponds with the largest decrease occurring among the Chironomidae. The net results of these changes are difficult to evaluate, but it appears that there is some reduction in the available supply of fish food. Reductions noted to date, however, have not been sufficient to affect the breeding stock; and since treatment is in localized areas, it is probably not sufficient to limit seriously the fish population by restriction of the food supply.—Author's Abstract.

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 THE AUSTRALASIAN ANOPHELINES AS VECTORS OF MALARIA. By I. M. Mackerras. Med. Jour. Australia 1(1):1-8. Jan. 4, 1947.

Dr. I. M. Mackerras presents some of the data accumulated during and since the war concerning the Australasian malaria vectors. Studies on the "vector qualities" were carried out in so far as possible, an attempt being made to judge susceptibility to infection, abundance, association with man, avidity for human blood, and longevity.

Since all Australasian species were found to be apparently highly susceptible to malaria infection, that criterion is not a limiting one. Abundance, although a basic vector quality, must be weighed with the other factors because some species are very abundant yet not important transmitters, e.g., *Anopheles bancrofti* at Cairns and *A. longirostris* in parts of New Guinea. None of the Australasian anophelines are "domesticated" but *A. punctulatus punctulatus* and *A. p. farauti* show a tendency to concentrate near native villages in New Guinea, a habit not shown by other anopheline species, either there or on the mainland of Australia.

Avidity for human blood, based on precipitin tests, has been hard to evaluate because a true picture is not presented if specimens are collected from native huts, an unnatural resting place for Australasian species. Collections of recently engorged specimens from their natural resting places were desirable and significant, but often difficult to obtain. In evaluating the evidence, however, Dr. Mackerras concludes that *A. punctulatus punctulatus*, at least in the Milne Bay population, is strongly anthropophilic, *A. p. farauti* associates with man and his domestic animals but has no particular feeding preferences between them, and a few species strongly prefer other animals.

Nothing is known of survival rates and duration of life of Australasian anophelines in nature, so the author obtained longevity data from laboratory colonies maintained at Cairns. The percentage of 4 species studied surviving to 17 days