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DEVELOPMENT OF RESISTANCE TO DDT BY ANOPHELES SACHAROVII IN GREECE

by

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A D D E N D U M

(Kindly prepared by Professor Livadas)

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Note that in addition to Anopheles sacharovi and A.superpictus mention should also be made of A.maculipennis var. subalpinus.

According to observations of the pre-DDT period, all these three species rest during the day inside houses and stables. A.sacharovi is the most house-frequenter and anthropophilic, among the three, feeding either on man or on domestic animals; this species presents the highest sporozoite rate. A.superpictus and A.maculipennis feed preferably on domestic animals, and bite man more frequently when no domestic animals are present. A.superpictus ranks next to A.sacharovi in sporozoite rate. A.maculipennis shows a very low sporozoite rate, and its importance as vector is considered very limited. During the day searches, all these three species were usually caught in large numbers within bedrooms and stables. Occasionally, they were found, in small numbers, in cavities under bridges and in other outdoor shelters. Systematic catches made during the day in fixed stations (houses and stables) formed a reliable criterion in evaluating the efficiency of anti-larval programmes carried out at that time.

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Among the villages of the Mornos area mention should also be made of Kimina which is at 25 km from Salonica. Kimina was sprayed on 23 June 1952 for the seventh consecutive time since 1946. The number of vectors (A.maculipennis and

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A. sacharovi) captured within sprayed premises of said village was considerably high already before the tenth day after the spraying and increased still further during the succeeding ten day periods.

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Although no doubt is felt concerning the development of resistance to DDT, the degree of this resistance still remains to be determined. Also undetermined remains the role possibly played in this development by DDT air-spraying. It is worthy of special notice that the above facts have not so far affected the malaria trend in the country. Both in Skala area and in the village of Kymina-Salonica, in spite of the anopheline vector density observed in the summer of 1952, there was not the slightest increase in malaria incidence. In other words, there was, here also, save a few insignificant exceptions, a recurrence of what was also observed in other malarious areas of the country where the extended residual spraying programme had been suspended for one or two years. The complete elimination effected of the sources of infection consequent to the previous five year of malaria control is the most probable explanation of this phenomenon.