

THE MOSQUITO POPULATIONS OF NABUNTURAN:
THEIR IMPORTANCE TO PUBLIC HEALTH

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Master of Science in Biology

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to ALL,
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great or small, significant or insignificant,
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leonore

ABSTRACT

The mosquito fauna of five barrios of Nabunturan, Davao was assessed through two surveys: October through December, 1973 and March through April, 1978. Their breeding places and medical importance were determined. Larvae from the breeding sites that could be found in the study areas and adults were collected.

Twenty-four species were recovered in 1973 and 16, in 1978. Ae. albopictus was found to be ubiquitous in the areas, with an average frequency of 34%, during the two collection years. Natural and artificial breeding places were varied and abundant. Aedes larvae were more frequently found in artificial habitats; Culex and Anopheles were mostly ground breeders, though they were not totally absent from artificial sites; Armigeres were often recovered from coconut shells, banana or bamboo stumps and leaf axils; Malaya was constantly found in banana and gabi leaf axils; and Mansonia, in ponds and swamps with plenty of vegetations.

Seventeen species present in the study areas are efficient vectors of diseases. Some of the important ones are: Ae. aegypti and Ae. albopictus, vectors of dengue and other arboviral infections; Ae. poicilius and M. uniformis, of filariasis; An. maculatus, of malaria; Cu. tritaeniorhynchus and Cu. fuscocephala, of encephalitis.

Different measures for control and eradication of mosquitos in the municipality are discussed in the text.

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Chapter 1

INTRODUCTION

Man has suffered from the activities of mosquitos from time immemorial. In many tropical and subtropical places, this group of insects is largely responsible for a great percentage of premature deaths among human beings and animals (Horsfall, 1955). These small arthropods are the important vectors of the pathogens of many dreadful diseases which greatly affect the economy of many nations. National coffers are drained of money spent in the control of such diseases, and at the same time the nations are deprived of the necessary manpower for their economic development.

The Philippines has not been spared from this predicament. Filipinos have suffered much from mosquito-borne diseases, such as malaria, dengue, filariasis, Chikungunya fever, to name a few. In many parts of Mindanao, incidence of malaria and filariasis is a common fact. It has become a deterrent to the economic progress of these areas.

Nabunturan, Davao, where this study had been undertaken, is one of the progressive towns of the province, situated 85 km north of Davao City, Philippines. It is favored with fertile soil - clay loam in some areas suited for rice production; and sandy loam in other areas, for

coconut, corn, abaca, and coffee production. The town is rapidly becoming urbanized. People from other places keep on settling in this town. This influx, of course, will in many ways affect the ecosystem.

Meanwhile, the town's population, which as of 1975 was 32,738 (National Census and Statistics Office, 1975), is constantly besieged by a high incidence of parasitic diseases. Malaria is one of such diseases, and it is caused by a mosquito-transmitted protozoan. It is endemic to the area and has never been under control up to now. The most probable reason for such situation could be the presence of vectors. Another mosquito-borne disease suffered by the people of this municipality is filariasis. Its incidence, though, is much lower than that of malaria.

Schoenig (1972) and several other authors claimed that control of diseases can be achieved not only through control of disease-causing organisms, but also of the disease carriers. Unless the disease vectors be identified and their habitats determined, no rational means of controlling them can be attempted, much less carried out.

Although there are records of the mosquito species existing in the Philippines, in general, the mosquito fauna in Nabunturan, Davao has never been studied as a unit. Thus, there is a need to study the mosquito populations in the area, which may include important vectors