

SYMPOSIUM: MOSQUITO TAXONOMY - IS IT NEEDED?<sup>1</sup>

Introduction

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The study of mosquito taxonomy appears to be of great interest to fewer and fewer American scientists each year. Evidence of this is significant. If one examines the bibliography of Mrs. Sollers-Riedel, which appears in Mosquito News, the proportion of articles dealing with taxonomy in the years 1951-52 was 6%, in 1961-62 4.7%, and in the years 1971-72 only 2.7%. On this basis, in 20 years the amount of taxonomic work has been reduced by one-half in comparison to the total amount of work being done in the broad field, as reflected by the bibliography.

Another illustration of the diminishing activity in mosquito taxonomy is the reduction in the staff at the U. S. National Museum which deals with Diptera, including Culicidae and other medically important families. This resource and its associated research and cataloguing endeavors, which through the years provided taxonomic support for so many scientists from the United States and other countries, have been substantially curtailed.

One can just about count on the fingers of one hand the number of academic institutions actively supporting research on mosquito systematics. I am sorry to say that my own University has not continued the prominent role it once played in the study of the Nearctic mosquito fauna.

In the terms of reference for this symposium, mosquito taxonomy will be treated in its broadest interpretation. That is, it is not being viewed simply as the routine identification of mosquito trap collections or larval surveys but includes detailed study of populations, delineation and descriptions of species, construction of identification keys, and the development of alternative methods of differentiating species.

With the evidence cited above, it is logical to ask if the Nearctic mosquito fauna is so well known that there is no further need to study it. There are many indications that such is not the case. In the Catalogue of the Diptera of the Nearctic Region, published in 1965, there were 155 species

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and subspecies listed under the family Culicidae. At last count 165 taxa have now been described, and surely more are yet to be discovered. During the 1973 AMCA meeting I reported 53 changes in the names and concepts of mosquito species in the United States alone between 1955, when Carpenter and La Casse's monograph on the Nearctic mosquitoes was published, and 1972 (see Darsie, 1973, *Mosq. Systemat.* 5(2):187-193). I have had a continuing interest in the pupal stage and will report elsewhere at this meeting on the status of the genus *Aedes*. Only 50 of the 74 members of the Nearctic aedine fauna have been described to date, which suggests that much more could be learned about the details of mosquito life cycle stages and their contribution to the understanding of speciation.

In an effort to bring into focus the relative position which taxonomy should have in comparison to the other facets of the mosquito as an organism of enormous economic importance in the United States, I have asked some well-qualified AMCA members to speak on various aspects of the general theme, "Mosquito Taxonomy - Is It Needed?". It will start with a sketch of the history of taxonomic achievements in the Nearctic Region and the men who made them. Next, three speakers will comment on the value of taxonomy in their special fields of interest. The symposium will conclude with a discussion of methods employed in the study of systematics and their prospects for the future.