

apparent epidemic was observed during the study the rôle that mosquitoes play in the epidemiology of the disease still has to be demonstrated.

Study of the epidemiology of the mosquito-borne virus diseases found in Bwamba is complicated by the fact that the mosquito fauna is very varied and includes many rare and little-known species. The adult females of several species are either inseparable or the separating characters so minute as to be almost impossible to see on the living specimen. All the catches were made by hand which, of course, would yield mainly females, and the specimens were identified alive in individual vials without the aid of an anaesthetic. Those who have ever tried to examine a living mosquito through the glass wall of a vial under a microscope will appreciate the difficulties. For these reasons the mosquitoes are referred to "groups" and not to species on the sound assumption, stated in an earlier paper, that

it is better to refer a specimen to the correct group than to the wrong species. Virus was isolated from *Eretmapodites* spp., from a complex of *Aedes* (*Aedimorphus*) *tarsalis* Newst. and from a species which the authors have tentatively identified as *Aedes* (*Stegomyia*) *de-boeri* ssp. *de-meillonii* Edw. However, it is believed that the important vector or vectors are in the *Eretmapodites* group.

This paper is the latest to appear in a series of studies from a research institute which has as its primary objective the elucidation of the epidemiology of yellow fever. The studies and observations made in Bwamba are undoubtedly leading to that goal and at the same time providing the foundation for further fundamental studies on the interrelationships of viruses.—J. McClintock, Dominion Livestock Insect Laboratory, Lethbridge, Alberta, Canada.

## CHRISTIAN COUNTY MOSQUITOES

EUGENE FIELD, 1850-1895

Dr. Cyrus Thomas, formerly of Carbondale, but now connected with the national entomological department at Washington, is temporarily in Illinois, investigating the habits of the mosquitoes that infest that magnificent Christian-county waterway, Flat Branch. By a judicious system of bear-traps exposed along the banks of Flat Branch, Dr. Thomas has possessed himself of a number of handsome specimens of Christian-county mosquitoes, and he is enabled therefore to pursue his researches with uncommon accuracy and ease. His investigations have not progressed to the extent, however, that he is able to declare positively that the Christian-county mosquito is an insect, and not a bird: in fact, there are numerous reasons for believing that these curious and ravenous creatures are a species of reptile, provided, by an inscrutable dispensation of nature, with wings. But his researches have developed many interesting and hitherto unknown facts about these remarkable and remorseless nondescripts. In the first place, the Flat Branch mosquitoes are carnivorous mammals: they nurse their young, and they are provided with incisor and molar teeth for the tearing and masticating of flesh. There is something almost human in the way they wear their beards and moustaches, yet they resemble the equine species in the particular of the spiked shoes with which they are invariably shod when they arrive at maturity, viz., the twenty-first year. In the matter of rearing their young, their habits seem to be like those of the ordinary prairie-chicken, for they retire in the early spring to quiet burrows or corn-fields along Flat Branch, and raise their broods, which have

been known to number six hundred souls to one family; in July they become gregarious, and congregate in the timber, roosting in the high trees, and laying waste the human population of the surrounding country. Christian-county huntsmen—notably the Taylorville Sportsman's Association—employ different methods of capturing these destructive creatures. One way is by means of quail-nets; another is the old way of hunting them with pointer-dogs and gun; in the latter case, buckshot is used, and the heaviest kind of fowling piece is preferred. But the most popular method of capture is the pitfall—the same employed to entrap elephants in India. A deep pit is dug, a light covering is thrown over the opening, and on this covering is placed a hindquarter of beef. Attracted thither by the fumes of the meat, the mosquito unsuspectingly steps upon the deceitful pitfall, the slight fabric yields under the leviathan's weight, and with a sickening groan the winged monster is precipitated into his gloomy prison, from which he is not hoisted by his captors till he is enfeebled by captivity and starvation. In this way thousands of mosquitoes are taken annually by the people of Christian county, who derive a handsome profit from the pelts of the mosquitoes, which are tanned into shoe-leather, and the tusks, which are utilized for those varied purposes to which ivory is usually put. Considering the importance of this industry, it is not strange that the results of Dr. Thomas's explorations and researches are awaited with a solicitude bordering upon suspense.—Found and Contributed by Austin W. Morrill, Jr.