Approximately 164 non-anopheline mosquitoes are known definitely to occur in the Philippines. Of all these, only *Aedes aegypti* and *Aedes albopictus* are of importance as vectors of disease. Both species transmit dengue fever on the island o Luzon, where the disease appears to b confined to the lowlands. Urban yello fever, transmitted by *A. aegypti,* has neve made an appearance in the Philippines.

OBSERVATIONS ON THE BITING HABITS OF *CULICOIDES CREPUSCULARIS* MALLOCH IN WESTERN NEBRASKA, WITH NOTES ON OTHER SPECIES COLLECTED IN LIGHT TRAPS (DIPTERA, HELEIDAE)

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A small blood-sucking gnat, *Culicoides crepuscularis* Malloch, occurs in large numbers in the irrigated North Platte Valley of western Nebraska. In certain localities populations of this heleid cause a great deal of annoyance to humans. The bite produces a sharp pain followed generally by irritation. The swellings or small red weals with intense itching sensation may persist for several days. These gnats, sometimes called "Punkies" or "no-see-ums," are most annoying to people out of doors in the evening, and, owing to their small size and attraction to light, frequently pass through screens and are troublesome within homes. The bites of these small gnats are often mistaken for those of mosquitoes.

During the summer of 1953, while studies were being made on biting habits of mosquitoes, severe annoyance from *C. crepuscularis* was experienced. The heleids were first noted on May 27; and when the adult populations persisted, more detailed studies were initiated in the vicinity of Mitchell, Nebr. Beginning in July adults were collected, with a chloroform tube, as they attempted to bite exposed surfaces of the legs below the knees. Biting activity was recorded for eight consecutive 15-minute periods (2 hours) following sunset on 18 evenings from July 24 to Oct. 1 Air temperatures were recorded durin each 15-minute period.

The seasonal averages of biting collec tions of females for successive 15-minut periods during the two hours followin sunset, from July 24 through October 1 1953, were as follows, in chronologica order: 120, 278, 305, 179, 53, 33, 28, 3 Average temperatures during the collec tions periods varied from 51° to 76° F

A total of 1,035 adults of *C. crepuscu laris* was collected; individual collection ranged in numbers from 9 to 166 pe night, with an average of 57.5. Bitin activity reached a peak in September; th largest numbers were taken on Septembe 8 and 9. Although a complete seasona picture was not obtained for *C. crepuscu laris* in the Mitchell area, James (1943 found, from light trap studies on Heleida in northern Colorado, that the populatio of this species remained fairly constan throughout the season.

C. crepuscularis was not found bitin during the bright daylight hours. Bitin activity started generally a few minute preceding sunset, reaching a peak durin the second and third 15-minute period following sunset (15 to 45 minutes). O August 6, 1953, collections of *C. crepus*

ularis were made from 7 to 12 p.m. Biting activity reached a peak between 30 and 45 minutes following sunset, and the heleids continued to bite in small numbers during the remainder of the period.

Several factors probably influenced the biting activity of *C. crepuscularis*; however, the relative importance of the various factors was not studied. From general observations, light intensity appears to be of major significance; while daily variations in temperature, within the ranges observed, appeared to have little effect in the daily activity.

Culicoides haematopotus Malloch females were collected while biting on several occasions along with *C. crepuscularis* but in smaller numbers. During July 1953, 839 specimens of *Culicoides* were taken in a New Jersey-type light trap operated in Mitchell, Nebr. *C. crepuscularis* (657 specimens) was the most abundant species collected. Other species taken and their order of abundance were: *Culicoides hieroglyphicus* Malloch (132), *Culicoides palmerae* James (21), *Culicoides stellifer* (Coq.) (14), *Culicoides variipennis* (Coq.) (10), and *C. haematopotus* (5).

Most of the Heleidae were identified through the courtesy of Dr. Willis W. Wirth of the Division of Insect Detection and Identification, Bureau of Entomology and Plant Quarantine, Washington 25, D. C.

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THE DISCOVERY OF *PARAEDES (UDAYA) ARGYRURUS* EDWARDS, 1934, IN THAILAND (DIPTERA: CULICIDAE)

DEED C. THURMAN, JR.[1]

Edwards (1934) erected the genus *Paraedes* for two species of mosquito found in South India and Assam, which, though very different in ornamentation, possessed the following characters:

Paraedes Edwards, 1934 (pp. 446–447). "Margin of squama quite bare. Membrane of wing with distinct microtrichia. Pulvilli absent. Anterior pronotal lobes small and well separated. Several posterior pronotal and a few postspiracular bristles present, but no spiracular and no lower mesepimeral. Wing-venation normal; vein-6 extending to well beyond the base of the fork vein-5. Wing-scales normal, not emarginate at tips."

This generic diagnosis led Edwards to the conclusion that the two species under discussion could not be placed in any then known genus of Culicidae. The genotype of *Paraedes* he described as *P. barraudi* from two males and figured the male terminalia (Edwards, 1934). The other species he called *Paraedes* (?) *argyrurus* (Edwards, 1934, pp. 448–449).

Recently, specimens of this second species have been collected by the author

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