

SCIENTIFIC NOTES

FIELD OBSERVATIONS OF *Aedes ventrovittis* DYAR
(DIPTERA: CULICIDAE) PARASITIZED BY
Panisopsis sp (ACARINA:
THYASIDAE)

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Among specimens of *Aedes* mosquitoes collected in the Sierra Nevada mountains of California, in June, 1966, it was observed that numerous adult *Aedes ventrovittis* Dyar mosquitoes, attempting to bite man, were heavily parasitized by larval hydrachnid mites. Dr. Frank J. Radovsky and Dr. P. H. Vercammen-Grandjean of the University of California Medical Center, San Francisco, California have identified the mites as a possible new species of the genus *Panisopsis*.

The association of larval aquatic mites parasitic on mosquitoes is reviewed by Horsfall (1955) and Christophers (1960). Evans, Sheals and MacFarlane (1961) observe that of the Diptera, Tipulidae and Culicidae are most frequently infested. Hughes (1959) notes the presence of Hydryphantidae parasitizing anopheline and culicine mosquitoes. The infestation of *A. ventrovittis*, however, has not been previously reported.

Collections of parasitized *A. ventrovittis* were made at an elevation of 6600 feet in a meadow of

El Dorado County, 3 miles south of Meyers, California on June 4 and 18. Numerous parasitized mosquitoes were observed, and of the six collected (Table 1), three specimens bore mites between the thorax and abdomen only. The remaining mosquitoes were infested asymmetrically

TABLE 1.—Attachment sites of *Panisopsis* sp. mites on *Aedes ventrovittis* Dyar mosquitoes.

| No. of mites between head and thorax | No. of mites between thorax and abdomen | Total mites per mosquito |
|--------------------------------------|---|--------------------------|
| 1 | 2 | 3 |
| 3 | 11 | 14 |
| 2 | 7 | 9 |
| | 1 | 1 |
| | 1 | 1 |
| | 6 | 6 |



FIG. 1.—*Aedes ventrovittis* Dyar with parasitic larval mites.

with mites attached to the membranous areas between the head and thorax, as well as between the thorax and abdomen.

Blood engorgement of parasitized *A. ventrovittis*, on the observer in the field, seemed unaffected by the presence of mites. The average time to completion of blood feeding of 6 unparasitized *A. ventrovittis* was 130 seconds, and of 6 parasitized specimens, 105 seconds. Blood volume, however, could not be measured and compared.

Although *A. ventrovittis* had been collected biting hourly throughout the day, between 7 a.m. and 8 p.m., 5 of the 6 parasitized specimens were collected between the hours of 6 p.m. and 8 p.m. on both days.

Host seeking of parasitized *A. ventrovittis*, seemingly restricted to dusk (6 p.m. to 8 p.m.) may suggest a limitation of flight activity and host seeking of parasitized *A. ventrovittis* to hours of optimal conditions of light, temperature and humidity, whereas, unparasitized *A. ventrovittis* fed throughout the day. Furthermore, the absence of mites from three other *Aedes* species (*A. fitchii*, *A. hexodontus* and *A. increpitus*), collected from the same area, could be the result of host specificity for this species of *Panispopsis*.

Identification of *A. ventrovittis* specimens was verified by G. Grodhaus, Bureau of Vector Control, California State Department of Public Health.

Literature Cited

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GYNANDROMORPHISM IN *Culex tarsalis* (COQUILLET)

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A gynandromorph of *Culex tarsalis* was taken in a mosquito light trap at Yuma Proving Ground, Arizona on 28 August 1966. The specimen has typical male palpi and proboscis and typical female genitalia. The antennae are missing.

In 1964 Rigby and Blakeslee reported gynandromorphism in *Culex tarsalis* taken in light trap at Yuma Proving Ground, Arizona with characteristics such as "typical female antennae, palpi and proboscis, and typical male genitalia." In 1965,

Blakeslee and Rigby reported these same characteristics in *Culex erythrothorax*. In 1966 Taylor, Meadows and Branch commented that the majority of specimens in their study had this combination of characteristics.

While the combination of characteristics found on the mosquito collected on 28 August 1966 is unusual in *Culex*, as pointed out by Taylor *et al.*, this same combination was found in *Aedes dorsalis* by Blakeslee, Rigby and Bomotti in February 1966 (to be described in California Vector Views).

Literature Cited

RIGBY, P. T. and BLAKESLEE, T. E. 1964. Gynandromorphism in *Culex tarsalis* (Coquillett). Mosquito News 24(4):460.

BLAKESLEE, T. E. and RIGBY, P. T. Gynandromorphism in *Culex erythrothorax* (Dyar). Mosquito News 25(2):219.

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A PITFALL TRAP FOR MOSQUITO LARVAE

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An adaptation of the simple pitfall trap to an aquatic environment was found to be useful in catching larvae of *Aedes* spp. Modifications of the trap might be of practical control value in areas where the collection and storage of rain-water for household use is commonly practiced and where treatment with insecticides might be objectionable.

In its simplest form the trap was made from an 11 cm polyethylene funnel with a 60° taper. The stem of the funnel was inserted into a hole in the cover of a plastic dish which was 9.5 cm in diameter and 7 cm deep.

When the larvae filter down through the water to feed or to escape from surface enemies they enter the funnel, slide along its sloping sides and eventually find themselves in the bottom of the trap. A funnel angle of more than 60° restricts the effective catching area of the trap while an angle of less than 60° permits the larvae to settle on the sides of the funnel so that few are trapped. When larvae attempt to surface while in the trap their characteristic angle of rise (40-80 degrees) precludes their escape in all but a few instances. Because there is no free air in the trap the larvae eventually suffocate.

Different combinations of black or white funnels and black or transparent containers were compared for efficiency. A black funnel and a black container with a clear cover caught 3-4 times more larvae than any other combination. Crushed dog chow as an attractant in the trap