THE HIBERNATION OF *Uranotaenia sapphirina* (Diptera: Culicidae). The adults of *Uranotaenia sapphirina* (Osten-Sacken) have been known for a number of years to hibernate. Lawlor (1935) and Hinman (1935) have published records of overwintering females. Lawlor took a total of five females throughout the winter in a small cave near South Bethelehem, New York, while Hinman reported millions overwintering on the inside of an old fort in Louisiana. However, Pratt (1946) states that in the warmer latitudes they will breed continuously throughout the year.

In view of the scarcity of records of overwintering adults the following may be of interest: Twin Lakes, Litchfield County, Connecticut, October 23, 1954. These were taken in a small cave several hundred yards in length with many passages and chambers. The opening to the cave is partially blocked by rocks so that the actual opening is only several feet in diameter, but, inside the obstruction, the cave opens up into a chamber large enough to stand in. It was in this area, only several yards inside, that the mosquitoes were resting. Twenty females were taken in five minutes collecting with a small pocket killing bottle. When disturbed they flew readily to an adjacent rock before settling again. Also taken in company were two females of the *Aedes excrucians* group (badly worn).

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PRATT, H. D. 1946. The genus *Uranotaenia* Lynch-Arribalzaga in Puerto Rico. Ann. Ent. Soc. Amer. 39:576–584.—Oliver S. Flint, Jr., Department of Entomology and Limnology, Cornell University. Ithaca, N. Y.

SPIROCHAETAL INFECTIONS OF SALIVARY GLANDS OF MOSQUITOES. Spirochaetal infections of mosquitoes have been found and described in both larvae and adults of many species. Jaffé (1907) proposed the name *Spirochaeta culicis* for the organism he found in the intestine of culicine larvae and in the Malpighian tubes of one culicine adult (Sinton and Shute, Jour. Trop. Med. and Hyg. 42(9):125–6, 1939). Most workers have found similar spirochaetes in the organs as described by Jaffé (1907), but they have not named them. Sinton and Shute (1939) claimed to be the first reporters of such an infection in the salivary glands of a specimen of *Anopheles maculipennis* var. *atroparvus*. The organism found by Sinton and Shute (1939) was said to be morphologically indistinguishable from *Spirochaeta culicis* Jaffé, and not pathogenic to man. Masseguin *et al.* (Bull. Soc. Path. Exot. 47(2):234–6, 1954) and Masseguin and Palinacci (Bull. Soc. Path. Exot. 47(3):391–2, 1954) reported the presence of spirochaetes, morphologically similar to those of the relapsing fever group, in the salivary glands of *Anopheles funestus* and *A. gambiae*, respectively. They stated that the origin of the spirochaetes is obscure.

During the malaria survey in the mountainous area of Northern Thailand in 1954, we had encountered a female specimen of *Anopheles jeyporiensis* var. *candidiensis* in which a large number of living spirochaetes was found in its salivary glands. Unfortunately, we had no way to study further whether they were pathogenic to man or animals. The infected salivary glands were fixed and stained with the J.S.B. stain (Singh and Bhattacharji, Ind. Med. Gaz. 79:102–4, 1944) which was the only stain we had at that time.

The insect was collected from a dwelling house in the Village No. 7, Fang District, Chiengmai Province, on May 25, 1954. Malaria was hyperendemic in this area, but relapsing fever has not been recorded so far. Now malaria is being controlled by DDT residual house spraying.

The spirochaete varied from 9μ to 23μ, with the average of 14.8μ in length. About 78 percent of them varied from 11μ to 17μ. The width was about 0.3μ to 0.4μ. The undulations were 2 to 6 in number, and were about 4μ apart. The depth of curves in regular forms was about 2μ. In comparing with the spirochaete found by Sinton and Shute (1939), this organism was quite similar in both size and shape. Its origin and pathogenicity are obscure.

The writer is indebted to Mr. Sweg Prinyapol, his assistant, for giving valuable information, and for staining the specimen.—Vimol Notananda, Medical Officer, Malaria Control Unit, Chiengmai, Thailand.

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