Aedes (Finlaya) japonicus japonicus (Theobald), a New Introduction into the United States

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ABSTRACT. Aedes (Finlaya) japonicus japonicus is recorded for the 1st time in the United States. Four adult females were collected in light traps at 2 sites in New York and one site in New Jersey during the months of August and September 1998. Notes on bionomics are provided. Illustrations of the adult female, male, and larva are included.

Key words Aedes japonicus japonicus, United States, 1st record, bionomics, illustrations of adult and larva

Introduction

Evidence suggesting established, propagating populations of Aedes (Finlaya) japonicus japonicus (Theobald) in New Jersey and New York is reported here for the first time.

Materials and Methods

One female of Ae. j. japonicus was captured in a Centers for Disease Control (CDC) light trap on August 13, 1998, in Southold, Suffolk County, NY (41°03'N, 72°24'W). On September 18, 1998, a 2nd female was captured at the same site and a 3rd female was captured in a New Jersey light trap at Brookhaven, Suffolk County, NY (40°46'N, 72°55'W). These sites are located in coastal, rural residential areas on eastern Long Island. A 4th female was captured in a New Jersey light trap on September 17, 1998, at Colliers Mills, Ocean County, NJ. This site is in a rural area on the northern border of the New Jersey Pine Barrens (40°04'N, 74°26'W). Suitable containers that could serve as possible larval habitats were sampled at this site, and yielded larvae of Aedes triseriatus (Say), Culex restuans Theobald, and Toxorhynchites rutilus septentrionalis (Dyar and Knab). No prey larvae were present in the container with Toxorhynchites. Although the above adult specimens suffered the usual damage expected in light trap collections, critical morphologic characters for the accurate identification of this subspecies were intact. One of the above females is retained as a voucher at the National Museum of Natural History, Walter Reed Biosystematics Unit (WRBU).

Discussion

Aedes japonicus japonicus is one of 4 subspecies treated in Tanaka et al. (1979). This subspecies is known from Korea (Peninsula and Cheju Do) and Palearctic Japan (Hokkaido, Honshu, Shikoku, Kyushu, Yakushima, and Tsushima) where Tanaka et al. (1979:312,315) stated that it is one of the most common mosquitoes. The subspecies has also been reported from the USSR by Gutsevich and Dubitskiy (1981). According to Tanaka et al. (1979),

LaCasse and Yamaguti (1948:68) reported collecting larvae above 1,219 m. The wide variety of natural and artificial container habitats listed for this subspecies in LaCasse (1948:50, Fig. X) nearly mirrors that reported for the more well-known Aedes (Stegomyia) aegypti (Linnaeus) and Aedes (Stegomyia) albopictus (Skuse). This brings us to the conclusion...
Fig. 1. Adult female habitus; male proboscis, maxillary palpus, fore- and midungues.
Ae. (Fln.) japonicus japonicus

From Tanaka et al. (1979)

Fig. 2. Fourth instar showing complete chaetotaxy.
that the most likely mode of introduction into the United States for Ae. j. japonicus may have been through the used tire trade.

We know little of the medical importance of the subspecies. Preliminary studies by Takashima and Rosen (1989) showed that Ae. j. japonicus had a vector competence to transmit Japanese encephalitis virus horizontally to mice and the capability to transmit the virus vertically to its offspring.

Because the 987-page book by Tanaka et al. (1979) is not readily available to North American workers, we are including their original drawings of the adult female, male, and larva (Figs. 1 and 2 here), so that the subspecies can be identified. These plates are deposited at the WRBU. With the aid of these superb drawings, identification of this mosquito should be relatively easy. We have not suggested characters for insertion in the Darsie and Ward (1981) key to North American mosquitoes because it is being revised.

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REFERENCES CITED


