

Additional Species of Anopheles on Guam¹

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To date, one species of Anopheles has been recorded on Guam, An. subpictus indefinitus Ludlow. It was first found in 1948 (Yamaguti and LaCasse 1950) and further reported to be there by Reeves and Rudnick (1951), Hull (1952), Hu (1953), and Hayes and Whitworth (1969). Two studies on the mosquitoes of Guam prior to 1948 by Swezey (1942) and Bohart and Ingram (1946) failed to turn up anophelines.

Collections of immature mosquitoes were made on Guam (by RFD), September 24-25, 1970, in Apra Heights, Agat District. All were dipped from temporary ground pools in grassy areas. Subsequent collections were made February 10-14, 1971, by Capt. W. K. Reisen from hoof prints and wallows of water buffaloes. As many of the larvae as possible were individually reared to the adult stage, and indeed these associated skins are necessary to distinguish males of two closely related species (subpictus and indefinitus).

From the material collected, three species of Anopheles have been identified. They are An. (Cellia) vagus Donitz, An. (Cellia) indefinitus Ludlow, and An. (Cellia) subpictus Grassi. There is little doubt that all three species, as currently comprehended in the literature on Southeast Asia anophelines, were present in the Guam collections - viz., King (1932); Christophers (1933); Russell and Baisas (1934, 1936); Colless (1948); Bonne-Wepster and Swellengrebel (1953); Peyton and Scanlon (1966); Reid (1966, 1968); Stone et al. (1966) and Ramos and Darsie (1970).

Surprisingly, An. vagus was the predominant species, constituting 92 percent of all anophelines collected, whereas An. indefinitus and An. subpictus represented only 4 percent each. This occurrence suggests that the former may not be a recent introduction, but escaped notice. One problem is identification of these closely related species for the palpal characters which separate the females of the three species, following Reid (1968), are very subtle and require close scrutiny, even measurement with a micrometer. Another is that the keys used for routine identification of Guam mosquitoes, e.g., Holway and Bridges (1970), contain only generic characters for recognition of Anopheles since it was presumed that only one species was present.

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