War-Time Dispersal of Pacific Island Nysius (Hemiptera: Lygaeidae)

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(Presented by Mr. Zimmerman at the meeting of May 10, 1948)

Species of the genus *Nysius* occur on most of the islands of the world, the most noteworthy exceptions being the islands of central and southeastern Polynesia. A high degree of endemicity is exhibited by these species, even on low islands such as Jarvis Island, Wake Island, and the leeward islands of the Hawaiian archipelago; therefore, it would appear that the group is readily dispersable, highly adaptable, and quite variable.

Attention was called to an apparently immigrant species, *Nysius caledoniae* Distant, on Guam (Usinger, B. P. Bishop Mus. Bull. 189: 28, 1946). World War II greatly increased the chances of dispersal of Pacific Island insects. As might be expected, several species of *Nysius* were distributed during this period. New records which have come to my attention are recorded at this time as an aid to future students of insular speciation.

1. *Nysius terrestris* Usinger, 1942. Hawaiian Islands. New record: Johnston Island, May 1, 1946 (N. L. H. Krauss) sent for determination by E. C. Zimmerman.
2. *Nysius pulchellus* Stål, 1859. Guam. New record: Eniwetok Atoll, May 13, 1946, on *Portulaca* (R. G. Oakley), determined by R. I. Sailer.
3. *Nysius picipes* Usinger, 1937. Wake Island. New records: Engebi Island, Aomon and Japtan Island, Eniwetok Atoll, May 15 to 18, 1946 (R. G. Oakley and Henry Townes), sent for determination by R. I. Sailer.

Notes on Parasites of Agonoxena argaula Meyrick

By R. H. VAN ZWALUWENBURG
(Presented at the meeting of October 11, 1948)

The finding of *Agonoxena argaula* Meyrick attacking various palms in Honolulu late in June, 1948, by C. E. Pemberton and the writer, adds another to the list of insects attacking coconut palms in Hawaii. This agonoxenid moth is a native of Fiji, Samoa and the Ellice Islands, and was recently found to be established on Palmyra Island. It is believed to have been present on Oahu for at least two years, but escaped attention because of confusion of its damage with that caused by the native pyralid, *Omiodes blackburni* (Butler). The *Agonoxena* larva is greenish yellow and feeds on the epidermis of the under leaf-surface beneath a fine web; it does

not tie the edges of the leaf together as *Omiodes* does. At first the feeding scar is confined to a long, narrow area, but later this is expanded into an irregular blotch. Pupation takes place beneath a tight oval web, usually on the underside of the leaf. The egg of this moth is not known.

J. S. Rosa and the writer soon found that *Agonoxena* is attacked by two parasites already known here: *Zaleptopygus* (*Cremastus*) *flavo-orbitalis* (Cameron) and *Brachymeria polynesialis* (Cameron). The combined parasitism of these species is usually high, and it seems improbable that *Agonoxena* will ever become a serious pest here. However, the accumulated feeding over a period of some two years, which is about the length of time any one coconut frond persists on the tree, gives the trees an unsightly appearance, even though the *Agonoxena* population is never high at any one time.

Through the cooperation of Blair Menardi of Tutuila, American Samoa, a shipment of parasitized *Agonoxena* material was made to Honolulu in August, 1948. From this were reared one individual of *Apanteles agonoxenae* Fullaway, and four adults of a *Brachymeria* which D. T. Fullaway, who identified all the parasites from the Samoan material, reports to be an undescribed species. The following refers to this new *Brachymeria,* which was bred in the laboratory by Mr. Rosa and the writer.

Only one female survived from the Samoan material; confined for a day or two with males from the same source, she lived in the laboratory for 54 days. Prepupae or freshly formed pupae of *Agonoxena* were exposed to the female (the first when she was four days old) every few days, as field material was available. During her life this female produced seven males and nine females. Her first progeny was a male which issued 14 days after she was observed (when seven days old) to oviposit in a host pupa. The average time between oviposition and emergence of the adult progeny was between 14 and 15 days, with evidence that males require slightly less time for development than females. The average mean temperature during the period involved was 79.1 degrees F. A second generation male *Brachymeria* survived 37 days in the laboratory. Eleven *Brachymeria* (eight females and three males) reared from the original Samoan female were released at Kaalawai, Honolulu, August 23 and September 8, 1948. No field recoveries of the parasite have yet been made.