

A New Species of *Nysius* from the Leeward Hawaiian Islands (Heteroptera: Lygaeidae)

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This species is being named so that it can be included in a faunal list of the insects of Kure Island by G. D. Butler and R. L. Usinger. It does not seem to be related to any *Nysius* species of either the main Hawaiian islands, or to any that have been recorded from the leeward chain. As it was collected on introduced plants, it seems very likely that it is not native to Kure and Sand Islands. For the first time, details of the vesica of the aedeagus and of the spermatheca are used in the description of a *Nysius*. I have found in work I am now doing on the American *Nysius* fauna that these structures are of specific value. Measurements in the description are in millimeters.

Nysius palor Ashlock, new species (fig.1).

Head flattened between eyes, densely punctate, clothed with appressed pale hairs; length 0.59; width 0.84; anteocular length 0.28, about equal to eye length 0.26; eye width 0.18; interocular space 0.45; bucculae widest anteriorly, narrowing posteriorly, more abruptly near apex at base of head; labium reaching third (second visible) abdominal segment, first labial segment surpassing anterior margin of prosternum, segment lengths from base 0.45, 0.45, 0.38, 0.33; antennal segment lengths from base 0.23, 0.56, 0.42, 0.36.

Pronotum sparsely clothed with fine, pale, appressed pubescence; sides moderately sinuate; disk moderately punctate, punctures separated by more or less than width of one puncture; impunctate laterally and on hind margin; length 0.63, width 1.07.

Hemelytra of moderate length, slightly exceeding abdomen; corium with costal margins subparallel and with a few laterally projecting hairs about to apical third of scutellum, then moderately dilated and feebly arcuate to apices, surface with sparse, fine, pale, appressed pubescence, glabrous lateral to vein R+M, branch M of R+M obsolescent, corial length 1.62; membrane length 1.47, length of membrane from base to point between corial apices 0.71, length from that point to apex 0.76.

Aedeagus with normal *Nysius* phallosome and conjunctiva; vesica with a basal twisted bulb, a basally pigmented bulb with one basal pigmented

lobe and one short unpigmented lobe, followed by a basally pigmented bulb without lobes, vesica and sperm duct ending in a thick, tightly twisted gonoporal process.

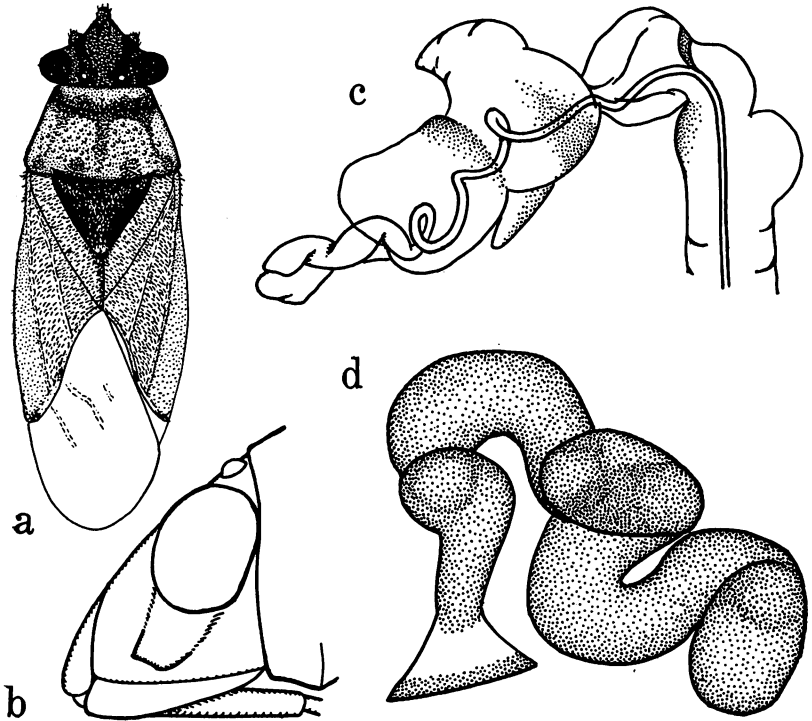


FIGURE 1.—*Nysius palor*: a, holotype, dorsal view; b, head, side view; c, vesica and apex of conjunctiva of aedeagus; d, spermatheca.

Spermatheca with flaring base without lateral indentations; pedicel nearly straight, swollen apically; coil with various configurations but making about three turns, about twice diameter of pedicel; terminal bulb of about same diameter as coil.

Color grayish yellow, head black with pale area becoming broader anteriorly from middle; clypeus pale, bordered with black; narrow ocular margin, apices of antenniferous tubercles, spots on posterior margin dorsally and ventrally near eyes, and bucculae pale. Pronotum pale, with callosities, area around callosities extending to anterior angles, and midline not to anterior or posterior margins black; lateral depressed areas and four spots along posterior margin dark brown. Scutellum black, white at apex. Clavus and corium uniformly grayish hyaline but darkened along claval commissure, with two dark spots on apical margin of corium. Membrane hyaline, unmarked. Undersurface black but anterior portion of prosternum, acetabula, scent gland auricle, evaporitorium in part, meta-

pleural posterior lobe, all lateral margins and venter of fifth and sixth abdominal segments pale. Labium with basal two segments pale, apical two dark brown, apex black. Antennae pale, segments with indistinct dark apical annulations, last segment dark brown. Legs with femora pale, spotted with black, tibiae pale, dark brown at apex, apex of first tarsomere and entire last tarsomere black, remainder pale.

Size: Male, length 3.2 (2.7–3.8), width 1.1; female, length 3.6 (3.0–4.1), width 1.13.

Holotype male: Kure Island, leeward Hawaiian Islands, Sept. 12, 13, 1961, on *Erigeron canadensis*, R. L. Usinger. Deposited in collection of B. P. Bishop Museum.

Paratypes: Same data as holotype, six males, 11 females; same data but on *Gnaphalium*, 42 males, 54 females; same data but no host, 6 males, 10 females. Sand Island, Midway Island, May 11, 1957, 2 males 2 females; Sand Island, East side, Jan. to Mar. 1957, 2 males, all by Y. Oshiro, collector. Deposited in the B. P. Bishop Museum, California Academy of Sciences, U. S. National Museum, British Museum (Natural History), and the personal collections of R. L. Usinger, T. Hidaka, J. A. Slater, and the author.

Nysius palor (*palor*, to wander about, stray) will not pass through the first couplet of Usinger's (1942:87) key to the leeward island species of *Nysius*. The antecular length is about equal to the eye length, and the body is clothed with short appressed pubescence only. The only *Nysius* from the Pacific area that approach *N. palor* are from Japan. The specimens from Sand Island were tentatively identified by R. L. Usinger as *Nysius plebeius* Distant, a Japanese species, and so reported by Suehiro (1960).

In 1883 Distant described *Nysius plebeius* and *N. expressus* from two localities on Honshu, Japan. The descriptions are poor, hardly a character is comparative. Moreover, as many of the characters listed by Distant for the two species are similar (including the length, four millimeters), it seems possible that he described the same species twice. Japanese workers have generally used the name *N. plebeius* for their common *Nysius*, while *N. expressus* has remained an enigma.

Nysius palor bears a strong resemblance to the species of *Nysius* common in Japan. A few Kure Island specimens were sent to Dr. T. Hidaka of Kyushu University, who is working on Japanese and other Oriental Lygaeidae, but he wrote that the Kure Island specimens were not a Japanese species.

Japanese specimens of *Nysius* are mostly larger than the leeward island specimens. A series of 47 males and 39 females from several localities on Honshu (from the U. S. N. M. collection) ranged from 3.4 mm. to 4.7 mm., with half of the specimens lying between 4.2 and 4.4 mm. for the males and from 3.8 to 5.1 mm., with half lying between 4.4 and 4.8 mm. for the females. There is some overlap in the measurements, but a

statistical analysis is not necessary to see the differences between the lengths of the leeward island specimens and those from Japan.

The vesica of the larger Japanese specimens has several lobes on it—more than I found on *N. palor*—and the gonoporal process is not tightly twisted. I was unable to get a good inflation of the aedeagus of the smaller Japanese specimens available to me, but here the gonoporal process was tightly twisted. The smaller females (collected at the same time and place as the smaller males) have a spermatheca that differs in several respects from that of the leeward island species; the terminal bulb is several times the diameter of the coil, the coil makes about four turns, and the pedicel is sharply bent at its apical third.

Specimens from Japan are very similar to *N. palor* in color pattern, shape of the prothorax, and relative lengths of the basal and apical parts of the membrane, but the labium is a little shorter so that the first segment may reach the prosternum but does not go onto it, and the last segment may reach the middle of the hind coxae but not surpass it.

It is possible that the small specimens from Japan may belong to this new species described here from the leeward islands. It is also possible that these small specimens, including those from the leeward islands, are one of the two species described by Distant in 1883. A final decision must wait until Distant's types can be compared with one another and with specimens of *N. palor*.

Because there are continuing flights between several islands in the Aleutian chain and Midway Island, I compared *Nysius palor* with the specimens of *Nysius* available to me from Alaska and could find no similar species. One unusual feature of *N. palor*—the long first labial segment that exceeds the bucculae in length—is shared by *N. groenlandicus* (Zett.). This species is purported to have a circumpolar distribution by Wagner (1958), but comparison of a specimen from Greenland with *N. palor* reveals several differences. Especially notable is the highly elaborate aedeagus of *N. groenlandicus* with many more inflatable lobes than are found in *N. palor*.

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