

**A Report on Some Heteroptera from the Hawaiian Islands,
with Descriptions of New Species**

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(Presented by O. H. Swezey at the meeting of December 5, 1935)

The material on which the present partial report is founded was kindly loaned to me by the Hawaiian Sugar Planters' Association and the Bishop Museum some time ago. It represents but a portion of the Heteropterous fauna of the islands but it contains some interesting forms including a few not previously known. Perhaps the most interesting genus is *Nysius* of which this collection contained many species. Of these I have worked out most of those already described but in the case of a number of the species more material and field work was needed. As there is a prospect of such field work being done soon it seemed best to return these *Nysius* for inclusion in a separate report on the results of that work, to be published later. The Miridae are in the hands of Dr. H. H. Knight of Ames, Iowa.

The types of the new species here described have been placed in the Bishop Museum.

FAMILY SCUTELLERIDAE

***Coleotichus blackburniae* White.**

Kilauea (29 miles), 4,000 ft., Aug. 29, 1917 (Giffard); Crater Road, Kilauea, Hawaii, Sept. 13, 1919, 3,800 ft. (Giffard); Tantalus, Oahu, 1,600 ft., Nov. 22, 1908 (Giffard); Kaholuamanu, Kauai, May 10, 1920 (Kusche).

FAMILY CYDNIDAE

***Geotomus pygmaeus* Dallas.**

Tantalus, Oahu, 1,300 ft., Oct. 15, 1905 (Giffard).

FAMILY PENTATOMIDAE

***Oechalia patruelis* (Stål).**

The 60 specimens of this species exhibit all variations in color from the pale greyish of *grisea* to blackish fuscous and even metal-

lic green. They represent the following islands: Oahu, Hawaii and Kauai. Studies in the field may disclose two or more species in this complex. The name *grisea* Burmeister probably should be used for this species.

***Oechalia virgula* Van Duzée n. sp.**

Size and aspect of *patruelis* Stål but at once distinguished by the rod-like styles of the male which are laterally flattened at apex. Length 10-12 mm.

Head square at apex with the angles rounded and the sides parallel to near the base, anteriorly with the narrow edges and four discal vittae pale, the median pair connivent at apex of tylus, the usual marking in the Hawaiian species but rather more prominent in this form. Humeri acute or subacute, about as in *patruelis*, more or less recurved. Apex of scutellum conspicuously pale and marked with two longitudinal rows of dark punctures, delimiting the smooth median line almost to the apex. Membrane smoky hyaline, darker at base, the nervures heavily marked with fuscous. Beneath pale, venter coarsely, sparsely fusco-punctate, the median area impunctate or nearly so; basal spine nearly or quite attaining anterior coxae, more or less recurved toward the apex. Legs rufous or rufotestaceous, the dark punctures almost obsolete. Surface above testaceous yellow, closely, coarsely punctate with black, the humeral area, base of scutellum and disk of the corium more or less blackish; narrow anterior margin of the pronotum, a line behind it, the latero-anterior margin before the sinus and the latero-posterior edge pale and calloused, the median line to the apex of the scutellum also pale. Styles of male straight, subterete, flattened laterally at apex. Basal plates of female produced on the median line, the apical margin sinuate on either side; surface tumid either side of the median line; valve short, rounded, with a thickened margin, lateral plates sinuate externally near apex; seventh segment scarcely exceeding the prominent tooth on the sixth.

Described from 15 males and 4 female examples.

Holotype, male, taken by W. M. Giffard at Puuwaawaa, N. Kona, Hawaii, at 3,700 ft., Aug. 25, 1917; allotype, female, taken by O. H. Swezey at Waiahole, Oahu, May 30, 1920; paratypes, 3 males taken with the holotype, six males taken at Kilauea, Hawaii, at 4,000 ft., Jan. 19, 1917 (W. M. Giffard), and one female taken at same place Aug. 5, 1919 (O. H. Swezey); two dark males taken in the Dry Forest, Hawaii, Jan. 1917 (Muir and Giffard); one female from Mt. Tantalus at 1,300 ft. (W. M. Giffard); one female from Alakai Swamp, Kauai, July 1917 (C. N. Forbes); one female from Kahuku, Kau, Hawaii, on "a-a" flows at 1,800 ft., May 29, 1918 (W. M. Giffard).

Oechalia pacifica (Stål).

Mr. Kirkaldy placed this as a synonym or mere variety of *patruelis* Stål which he synonymized with *grisea* Burmeister. Probably *patruelis* is a straight synonym of *grisea* but it is impossible to say positively that this is the case without a comparison of the types, so for the present I am using Stål's name *patruelis*, of the determination of which we can feel reasonably certain. *Pacifica*, however, is a quite distinct species. The shorter, more obtuse humeri will most quickly distinguish it. The length of the ventral spine varies in both species but in *pacifica* it is less curved, or more frequently quite straight. The male styles in *pacifica* have the apical margin broader, being drawn out into acute angles either side as viewed from behind, and the basal plates of the female are distinctly produced and subacute at the sutural apex, while these plates in *patruelis* are shorter and together roundedly arcuate across their whole apex; *pacifica* also averages darker in color and often has a distinct violaceous glint. All the Hawaiian species known to me have a small tooth below the humeral angles.

The 38 specimens before me represent the following islands: Oahu, Maui, Kauai and Lanai.

Oechalia kaonohi Kirkaldy.

Iao Valley, Maui, Aug. 8, 1918 (Swezey), 2 examples. This is a quite distinct species resembling *pacifica* but with even less prominent humeri.

Oechalia hirtipes Van Duzee n. sp.

Allied to *pacifica* and averaging as dark in color; ventral spine shorter; legs conspicuously clothed with bristly hairs; male styles strongly angled but with these angles not so much produced as in the allied species; basal plates of female longer, more produced at the suture. Length 10-13 mm. to tip of membrane.

Head broad at apex, the sides feebly sinuate; marked above as in the allied species with three impunctate vittae at base and apex, the median forked posteriorly and including the median basal vitta, thus showing five vittae medianly; smooth vitta near the eye broader than in *pacifica* and pale. Pronotal humeri usually more acute than in *pacifica*. Membrane of the elytra heavy and more contrasting. Beneath essentially as in *pacifica*, the ventral spine usually shorter, but little surpassing the intermediate coxae, and distinctly curved. Legs clothed with bristly hairs which are about as long as the diameter of the femora, these bristles becoming more sparse on the femora, especially anteriorly. Male styles sharply keeled below, more obtusely angled in *pacifica*, the lateral angles at the truncate apex not as

strongly produced. Basal plates of the female taken together more produced at apex, the acute inner angles in contact, not broadly rounded as in *patruelis*.

Color blackish castaneous, the pronotal apex rarely showing conspicuously pale, the humeral angles and vertex more or less blackish; median line of vertex sometimes paler and impunctate; sides of venter sometimes broadly black, the mesosternum black either side; hairs of legs pale.

Holotype, male and allotype, female, taken at Kilauea, Hawaii, Febr. 24, 1919, by Mr. O. H. Swezey. Paratypes, seven females, Kau Road, Hawaii, Jan. 16, 1919 (Muir and Giffard) 4 examples; Kilauea, Hawaii, June 18, 1918 (W. M. Giffard) 1 example; Kaholuamanu, Kauai, April 1920 (J. A. Kutsche) 2 examples.

Like *pacifica* this is a deeply colored species but the humeri are rather more acute and the long bristly hairs on the legs as well as the form of the male styles will distinguish the species.

FAMILY COREIDAE

Liorhyssus hyalinus (Fabricius).

Kahala, Oahu, Febr. 18, 1917 (Giffard); Wailuku, Maui, March 1909 (Giffard); Kaena, Oahu, April 20, 1907 (Giffard); Kilauea, Hawaii, Dec. 10, 1911 (Giffard).

Ithamar hawaiiensis Kirk.

Oahu, March 25, 1917 (Giffard); Lanai, May 1908 (Giffard); "a-a" flow, Kau, Hawaii, 3,600 ft., Aug. 18, 1918 (Giffard); Kaena Coast, Oahu, April 20, 1907 (Giffard); Haleakala, Maui, Aug. 29, 1918 (Swezey).

This genus pertains to Stål's subfamily Rhopalida as the fourth tergal segment is sinuate before and deeply emarginate behind. Kirkaldy placed it in what he called subfamily Coriscinae, or the family Alydidae of the Lethierry and Severin Catalogue and the subfamily Alydinae of Stål and most recent systematists. It is closely related to *Harmostes* Burm. but may be distinguished by the depressed clypeus, the shorter bucculae and the less expanded pronotal margins which are unarmed before.

Ithamar annectans Van Duzee n. sp.

Male. Proportionately shorter and broader than *hawaiiensis*, the head and pronotum being much the same as in *Corizus*. Head less produced behind the eyes with the ocelli on a line connecting the hind angles of the eyes, not distinctly behind such line as in *hawaiiensis*. Cheeks scarcely elevated

above the level of the tylus, arcuate at apex, produced in a short tooth in the type species; antennal segments as 10:28:28:20, in *hawaiiensis* as 15:28:-29:33. Pronotum shorter, its length is to its humeral width as 4:7, in the type species as 5:7. Scutellum as long as its basal width, in *hawaiiensis* a fourth longer. Membrane hyaline, nervures concolorous; corium with a large vague smoky cloud before the apex, otherwise hyaline with pale veins. Head and pronotum ochraceous with obscure dark lines on vertex and dots on pronotum forming four darker clouds on the hind margin of the latter; scutellum and clavus more or less dusky at base. Antennae and legs dotted with fuscous; hind femora dusky at apex and showing three faint transverse clouds; tergum black, margins pale, more widely so on segment VI. Length 7 mm.

Female stouter, tinged with red, especially on elytral veins, possibly indicating immaturity, the fuscous dotting less obvious and the smoky cloud on the corium scarcely indicated. Length 8 mm.

Holotype, male, taken at Iao Valley, Maui, Aug. 8, 1918; allotype, female, taken at Kuliouou, Oahu, Dec. 22, 1918, both by Mr. O. H. Swezey. With the holotype are a number of larvae taken at the same time and place that are obviously this species.

(NOTE: Besides the above there is a series of 7 specimens at the Bishop Museum collected by J. C. Bridwell, Nuuanu Pali, Oahu, June 28, 1917; and at the Experiment Station, H.S.P.A., 3 specimens, Waiahole, Oahu, June 12, 1921; one Haleauau Valley, Oahu, April 28, 1935; one nymph Olympus Ridge, Oahu, Jan. 12, 1936, collected by O. H. Swezey. All are from *Euphorbia*. This is the bug previously referred to as "*Ithamar* n. sp." Swezey, O. H., Proc. Haw. Ent. Soc., IV, p. 7 and p. 54, 1919; VI, p. 202, 1925.) [Ed.]

FAMILY LYGAEIDAE

Nesocymus calvus (White).

Tantalus, Oahu, 2,000 ft., Jan. 31 (Giffard); 23 miles, Olaa, Hawaii, 2,300 ft., Jan. 31, Sept. 9, 1919 (Giffard); Mt. Kaala, Oahu, July 22, 1917 (Bridwell).

Pseudocymus Van Duzee n. gen.

Near *Neocymus* but with rostrum not passing anterior coxae, and opaque, strongly punctured elytra. Head less produced, its width a third greater than its length; eyes prominent but not at all stylate; ocelli very small, their distance apart and from the eyes subequal; cheeks produced in minute acute teeth, scarcely attaining the apex of the tylus; surface of vertex somewhat convex, strongly punctate, these punctures omitting two broken longitudinal lines; antenniferous tubercles tumidly convex; antennae about

as long as the elytra, segments as 8:16:8:11, I much thickened, one-half the length of the head, IV less thickened, fusiform; rostrum attaining apex of anterior coxae, Seg. I subequal to II, attaining anterior line of eyes, IV shortest; pronotum nearly as long as its humeral width, sides parallel on posterior two-thirds, collum wanting, callosities smooth, elsewhere the surface strongly punctured; scutellum equilateral, median line smooth; corium moderately expanded, strongly punctured excepting the narrow smooth costa; membrane narrow, nervures wanting. Pleura strongly punctured; mesosternum punctate, not at all channeled; venter smooth, its median line villose.

Genotype, *Pseudocymus giffardi* n. sp.

This genus may be distinguished by its unusually short head and the strongly punctured fusiform elytra. The approximate ocelli allies it with genus *Nesomartis* Kirkaldy but the short rostrum and the characters of the antennae and elytra as well as the less prominent eyes will distinguish it.

***Pseudocymus giffardi* Van Duzee n. sp.**

Fulvo-testaceous deepened on the pronotum anteriorly and on the head to rufo-testaceous or light castaneous; tip of rostrum and clavus black, membrane hyaline. Length 4-4½ mm.

Holotype, male, and allotype, female, taken October 29, 1916, at Nuuanu Pali, Oahu, by the late Mr. W. M. Giffard to whom this interesting insect is dedicated in recognition of the efficient work he did in making known the Hemipterous fauna of the Hawaiian Islands. Paratypes 2 males and 8 females, same data as the types and three males and one female taken by Mr. O. H. Swezey at Lanihuli, Oahu, May 25, 1919.

(Note.—This is the bug previously referred to as "*Nesocymus* sp. on *Eragrostis*." Bridwell, J. C., Proc. Haw. Ent. Soc., IV, pp. 281-282, 1920. Timberlake, P. H., Proc. Haw. Ent. Soc., IV, p. 325, 1920). [Ed.]

***Metrarga contracta* Blackburn.**

Tantalus, Oahu, Aug. 12, 1906, 1,800 ft (Giffard).

***Metrarga nuda* White.**

Moanalua, Oahu, 2,000 ft., Dec. 31, 1905 (Giffard); Tantalus, Oahu, 2,000 ft., Febr. 1, 1906 (Giffard); same place, 1,800 ft., June 11, 1906 (Giffard); same, 1,300 ft., Sept. 15, 1905 (Giffard); Iao Valley, Maui, Sept. 24, 1896 (Koebele). The latter specimen differs in having unicolorous elytra and in wanting the pale median pronotal line. Kirkaldy calls it var. *mauiensis* Kirk.

Metrarga villosa White.

Nuuanu Pali, Oahu, Oct. 19, 1919, Dec. 24, 1918; Kaiwiki, Hawaii, Sept. 22, 1918 (Swezey).

Nesomartis psammophila Kirk.

Kahala, Oahu, Jan. 30, 1917 (Giffard); Waianae Mts., Oahu, Nov. 9, 1919 (Swezey).

Clerada apicicornis Sign.

Tantalus, Oahu, 1,200 ft., April 15, 1906 (Giffard).

Reclada moesta White.

Nihoa Island, June 12, 1923, ex *Euphorbia* (E. H. Bryan).

Orthaea nigriceps (Dallas).

Tantalus, Oahu, Jan. 14, 1905; Nov. 24, 1903 (Giffard); Honolulu, Nov. 18, at light (Giffard); Lanai, 1,900 ft., Jan. 25, 1917 (Giffard); Keanae, Maui, July 4, 1920 (E. H. Bryan); Kokee, Kauai, Febr. 1919 (Kusche).

Orthaea vincta (Say).

Lihue, Kauai, Aug. 31, 1920 (Swezey); Honaunau, Hawaii, Aug. 13, 1919 (Swezey); Hilo, Hawaii, 1,500 ft., Aug. 3, 1901 (Giffard).

Sephora criniger (White).

Kaiholena, Lanai, Nov. 19, 1916 *Scaevola* (G. C. Munro); Kapano, Lanai, Nov. 27, 1916 (Giffard).

FAMILY TINGIDIDAE

Teleonemia lantanæ Dist.

Tantalus, Oahu, 1,300 ft., Jan. 8 and 29, 1905; April 16, 1905 (Giffard); Punchbowl, Oahu, Dec. 10, 1904 (Giffard); Nuuanu Pali, Oahu, Nov. 19, 1916; Kilauea, Hawaii, Jan. 25, 1916; Kahuku, Kau, Hawaii, Jan. 15, 1917.

FAMILY REDUVIIDAE

Empicoris rubromaculatus (Blackb.).

Kahuku, Kau, Hawaii, Jan. 15, 1917 (Giffard); Kilauea, Hawaii, Aug. 5, 1919 (Swezey); Dry Forest, Hawaii, Jan. 7, 1917 (Muir); Tantalus, Oahu, 1,300 ft., March 5, and April 11, 1905 (Giffard); Moanalua, Oahu, Febr. 8, 1920 (Swezey).

Empicoris whitei (White).

S. Kona, Hawaii, Aug. 16, 1919 (Swezey); Dry Forest, Kilauea, Hawaii, 4,000 ft., Jan. 9, 1919 (Giffard).

Zelus renardii Kol.

Honolulu, Dec. 16, 1904, Febr. 10, 1905 (Giffard); Kahuku, Kau, Hawaii, Jan. 15, 1917 (Giffard); Kau Road, Hawaii, Jan. 16, 1917 (Muir); Lanai, Oct. 19, 1907 (Giffard); Tantalus, 1,300 ft., Febr. 19, 1905 and Oct. 8, 1904 (Giffard).

FAMILY NABIDAE

Nabis capsiformis Germ.

Many examples of this common and widely distributed species were taken on the island of Hawaii and on Oahu, and it was also taken at 1,200 feet on the island of Maui.

Nabis blackburni White.

Nearly or quite as abundant as the preceding species and on the same islands and also on Kauai.

Nabis kahavalu (Kirk.).

Kahuku, Kau, Hawaii, Jan. 11, 1917 (Muir); Middle Puna, Hawaii, 750 ft., Aug. 16, 1918; Puuwaawaa, N. Kona, Hawaii, 3,700 ft., Aug. 14, 1917; Kilauea, Hawaii, 4,000 ft., Dry Forest, Hawaii, July 16, 1918; "a-a" flow, Kau, Hawaii, 4,000 ft., July 27, 1918 (Giffard).

This series also contains two aberrant males taken on the "a-a" flow, Kau, Hawaii, 3,600 ft., July 18, 1918, that differ from the typical form only in having a quite distinct male genital hook, its apical margin being oblique and its edge cut into a fringe of distinct teeth. This variation is certainly intraspecific with little if any significance, a less variation is common in related species.

Nabis giffardi Van Duzee n. sp.

Closely related to *kahavalu* (Kirk.), but fusco-maculate and with different male hooks. Length $8\frac{1}{2}$ mm. to tip of elytra.

Structurally like *kahavalu* but with the antennae distinctly longer, the segments being as 8:12:11:7 while in Kirkaldy's species they are as 6:11:11:6. Pronotum obviously shorter, the posterior lobe opaque and obscurely rugose-punctate; scutellum shorter, flatter, with the discal punctures almost obsolete; elytra slightly but obviously more opaque with heavy fuscous veins, the two veins of the median area approximate for most of their length, the

outer sending off one or two short branches exteriorly; apical veins crowded at apex of the median area; lower surface of head heavily white pubescent, in *kahavalu* with fewer and longer pale hairs. Male genital hooks closely twisted at base, the blade wanting the ventral notch as well as the dorsal notch just before the upturned point as found in *kahavalu*.

Color pale testaceous as in *kahavalu* with the following fuscous markings; narrow apex of segments I and II of antennae, tips of tibiae and tarsi, a subapical spot on the femora, the tylus, a cloud between the antennal base and the eye, a spot before the ocelli, a larger one behind the eye invading the base of the head, a trilobate spot on the pronotal collum, a five-lobed spot covering most of the posterior lobe of the pronotum, the scutellum, broad scutellar and commissural margins of the clavus, deepened in two spots on the median vein, a spot at base of radial vein, another on inner ulnar vein, two on apical margin of the corium, a cloud on the membrane and its veins, two spots on the disk of the tergum and one on the apical dorsal segment. Eyes reddish; lower face of antennal I faintly dotted.

Holotype, a male, taken by Mr. W. M. Giffard Aug. 22, 1907, on S. Kona Road, Hawaii, at 1,900 ft. Paratypes, two pale males same data. This form is too distinct from *kahavalu* to be considered a mere color variety. It has every indication of being a pre-cinctive form.

Nabis tarai (Kirk.).

Haleakala, Maui, Aug. 25, 1918 (O. H. Swezey); "a-a" flow, Kau, Hawaii, 4,000 ft., July 27, 1919, one female. A series of 8 examples of the reddish form named *kaonohiula* by Kirkaldy were taken by Mr. Giffard from the same "a-a" flow at 3,600 ft. on July 13, 1912, Sept. 5, 1919, July 22, 1913 (on *Cyathodes*) and July 18, 1918 (on *Cyathodes*). Another female from N. Kau, Hawaii, Aug. 18, 1919 (Swezey), also belongs to this red form.

Nabis koelensis Blackb.

Kahuku, "a-a" flow, Kau, Hawaii, 1,800 ft., July 22, 1918, one male; Kahala, Oahu, Febr. 18, 1917, one female.

Nabis truculentus (Kirk.).

Tantalus, Oahu, 1,300 ft., April 1, 1906, one male; Maunawili, Oahu, 800 ft., Febr. 23, 1905 (labelled "co-type G. W. K., Fauna Haw."), one adult and two young.

Nabis subrufus White.

Tantalus, Oahu, 1,300 ft., Febr. 19, 1905 (labelled "*subrufus*" as determined by Kirkaldy); Kahuku, Kau, Hawaii, Jan. 15, 1917; Kilauea, 29 miles, Jan. 8, 9, 14, 21, 1917; Oloo, Hawaii, 27

miles, 3,600 ft., July 30, 1918; Kilauea, 29 miles, 4,000 ft., Aug. 21, 1917, July 9, 1912, June 9, 1911, July 19, 1918 (lumber camp); steam crack, Kilauea, Hawaii, 3,800 ft., Sept. 6, 1919; Olaa, Hawaii, 27 miles, 2,300 ft., Sept. 9, 1919, Aug. 1913; Glenwood, Hawaii, Jan. 1917; Lanihuli, Oahu, May 26, 1919 (Swezey); Kaiwiki, Hawaii, Sept. 22, 1918 (Swezey); Kaunuaehona, Oahu, Jan. 12, 1919 (Swezey). This is a long series showing the usual variation.

Nabis lusciosus White.

This long series includes one labelled *lusciosus* on Kirkaldy's authority. It represents the islands of Kauai, Oahu, Maui and Hawaii. It shows much variation in size, the smaller ones being no larger than *pele*. However, the blade of the male hook is broader with the inflexed lower surface more expanded.

Nabis pele (Kirk.).

Kilauea, Hawaii, June 9, 1911. The unique male is undoubtedly correctly placed here. There is a female without data determined by Kirkaldy in the Bishop Museum material.

FAMILY ANTHOCORIDAE

Lasiochilus denigratus (White).

Glenwood, Hawaii, March 2, 1919 (Swezey), two adults and two nymphs.

Physopleurella mundula (White).

Hookena, Hawaii, Aug. 18, 1919 (Swezey), one specimen.

Triphleps persequens White.

Wailuku, Maui, May 15-16, 1918 (Giffard and Fullaway); Honuapo, Kau, Hawaii, July 31, 1918, ex Naio (Giffard); Kahuku, Kau, Hawaii, "a-a" flow at 1,800 ft. (Giffard); Honaunau, Hawaii, Aug. 13, 1919 (Swezey); Tantalus, Oahu, 2,000 ft., Oct. 12, 1919 (Giffard).

Xylocoris discalis Van Duzee.

Honolulu, Dec. 29, 1921 (S. Bickerton), one example. This must have been a recent importation from southern California.

FAMILY VELIIDAE

Microvelia vagans White.

Waianae, Oahu, Febr. 29, 1920 (E. H. Bryan); Tantalus, Oahu, 1,300 ft., Dec. 23, 1905 (Giffard); Malamalama, Oahu, Nov. 30, 1919 (E. H. Bryan).

FAMILY SALDIDAE

Saldula exulans (White).

Molokai, 1,300 ft. (Giffard); Honomanu, Maui, June 23, 1920 (Bryan).

Saldula humifera (Kirk.).

Haipuaena, Maui, June 30, 1920 (Bryan); Alakai Swamp, Kauai, July 1917 (C. N. Forbes).

Saldula oahuensis (Blackb.).

Olaa, 23 miles, Hawaii, 2,300 ft., Aug. 8, 1918 (Giffard); Glenwood, Olaa, Hawaii, Sept. 3, 1917 (Giffard); Tantalus, Oahu, 1,300 ft., Febr. 25, 1906 (Giffard); Kokee, Kauai, Febr. 1919 (J. A. Kutsche).

Saldula procellaris (Kirk.).

Palolo, Oahu, Feb. 26, 1922, 4 specimens (O. H. Swezey).