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APHROPHORINAE OF THE FIJI, NEW HEBRIDES AND BANKS ISLANDS (RHYNCHOTA: HOMOPTERA: CERCOPIDAE)[1,2]

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Abstract. Fifteen new species of spittlebugs are described in the genera *Interocrea* and *Nesaphrestes.* These together with the 6 species previously reported from the Fiji, New Hebrides and Banks islands are keyed and assigned to 4 genera, with 4 new combinations: *Amarusa subnigricans, Interocrea auberti, Liorhina speiseri,* and *Nesaphrestes hebridensis.*

The Cercopidae of the subfamily Aphrophorinae are not well known for the Melanesian islands between Samoa and New Caledonia. Two species were described from the Fiji Islands by Kirkaldy (1907), 3 other species were described from the New Hebrides (now Vanuatu) by Walker (1858), Distant (1914), Lallemand (1942), and a 4th from the New Hebrides and the Banks Islands by Lallemand (1942). All these islands have a well-developed endemic fauna: 20 species from these islands are represented in the collections of the Bishop Museum (BISHOP) in Honolulu, Hawaii. The 21st species reported from the New Hebrides (Walker 1858) has not been confirmed as yet. All types are deposited in BISHOP, except for some paratypes in the Canadian National Collection, Ottawa (CNC), as noted.

FAUNAL ELEMENTS

Three genera are known from the Fiji, New Hebrides and Banks islands. One of these, *Nesaphrestes* Kirkaldy, which encompasses most of the species, is apparently restricted to this area (Fig. 25). *Interocrea* is represented by 2 species in the northernmost islands of the group; this genus is best developed in the Solomon Islands. *Liorhina* Stål is represented in the New Hebrides, and has its closest relative in Rennell Island, the southernmost island in the Solomon chain. *Amarusa* is also recorded from the New Hebrides, but this record has not been confirmed. It is represented in the Solomon Is, Borneo, New Guinea and northern Australia.

The fauna of the Banks Is is, at present, known only from a single record of 1 species that also occurs in the northern islands of the New Hebrides (Lallemand 1942). This may perhaps reflect lack of collecting on these islands.

The spittlebug faunas of the New Hebrides and the Fiji Islands exhibit great similarities, while that of adjacent New Caledonia is quite dissimilar (Hamilton 1981).

1. Based on material in the Bishop Museum, Honolulu, Hawaii. A revision of the genera of the Aphrophorinae and illustrations of the male genitalia of the species described here will be published in a Memoir of the Entomological Society of Canada.
2. Material examined partially resulted from fieldwork supported by a grant to Bishop Museum from the U.S. National Institutes of Health (A1-01723).
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Only a single genus, *Interocrea,* is recorded from both New Caledonia and the New Hebrides, where it is represented by only 2 species, 1 on each island group. By contrast, *Nesaphrestes* is well represented on both the New Hebrides and the Fiji Islands, and *Interocrea* is also represented in the Fijis. Only at the specific level is the difference between the New Hebridesian and Fijian faunas evident, for no 1 species is represented in both.

In general, the highest islands have the richest fauna: Espirito Santo has 7 species, Viti Levu has 9 species, Ambrym has 2, Efate has 3, and all others, of elevations of 1300 m or less, have 2, 1, or no species (Fig. 25). Whether this reflects the insect-catching abilities, or the insect collector-attracting abilities of the higher islands remains unclear.

Six species are represented on more than 1 island. In such cases, adjacent islands usually have similar species. However, some adjacent islands are apparently "skipped over" by certain widespread species. This probably represents collecting gaps rather than natural distributions. It is likely that many of the species represented in the New Hebrides may occur on several, or most of the islands. The faunas of the Fiji Is are more strongly endemic. Vanua Levu,[4] Viti Levu, Kandavu and Rotuma each have their unique fauna. Only Ovalau, which is very close to Viti Levu, shares its fauna with another island in this group.

SYSTEMATICS

The genera and species of the fauna of Aphrophorinae in the Fiji, New Hebrides and Banks islands can be identified with the aid of the following key. Descriptions of the genera and new species can be found below.

Key to the Aphrophorinae of Fiji, New Hebrides and Banks islands

1. Size large, 14 mm or more (including folded tegmina); head short, less than ½ length of pronotum at middle ... (New Hebrides?) ..... **Amarusa subnigricans, n. comb.**
   Size smaller, 11 mm or less; head long, at least ⅔ length of pronotum at middle 2
2 (1). Outer anteapical cell of tegmen not meeting costal margin, connected to costa by perpendicular crossveins 19
   Outer anteapical cell of tegmen meeting costal margin, apically closed by an oblique crossvein meeting costa ..... *Nesaphrestes* ... 3
3 (2). Fore femora unmarked yellow or tawny (Fig. 9) ... (Fiji, New Hebrides) 13
   Fore femora mostly fuscous or black (Fig. 13, 17, 21) (in teneral specimens, tawny with fuscous lateral streaks) ... (Fiji) 4

4. A single specimen from Vanua Levu, tentatively identified as *Nesaphrestes pallidior,* a species from Viti Levu, may prove to be an undescribed species distinct from *pallidior* when the male is discovered.

4 (3). Face with apex of frons yellow or tawny usually with black arcs (Fig. 9, 13) 10
Face shining black without paler areas, except traces of yellow frontal arcs, and yellow near mouth (Fig. 17, 21) 5
5 (4). Crown and pronotum blackish brown . . . (Vanua Levu) ..... **Nesaphrestes crepidulans, n. sp.**
Crown and pronotum tawny 6
6 (5). Venter entirely black, except for yellow basal segment of beak, and yellow hind coxae (Fig. 21) 8
Venter pale on midline: all coxae, apex of clypellus and lora, and basal segment of beak yellow (Fig. 17) 7
7 (6). Length (including folded tegmina) of ♂ 5.5 mm or more, of ♀ 6.0 mm or more . . . (Viti Levu) ..... **Nesaphrestes ptysmatophilus**
Length of ♂ 5.3 mm or less, of ♀ 5.9 mm or less . . . (Viti Levu) ..... **Nesaphrestes bicolor, n. sp.**
8 (6). Median length of crown greater than median length of pronotum; crown with 3 transverse rufous bands (Fig. 22) . . . (Vanua Levu) ..... **Nesaphrestes longiceps, n. sp.**
Median length of crown equal to, or shorter than median length of pronotum; crown unmarked (Fig. 23, 24) 9
9 (8). Median length of crown shorter (0.9) than median length of pronotum; scutellum dark brown (Fig. 24) . . . (Viti Levu) ..... **Nesaphrestes soporifer, n. sp.**
Median length of crown equal to median length of pronotum; scutellum tawny (Fig. 23) . . . (Viti Levu) ..... **Nesaphrestes brevior, n. sp.**
10 (4). Dorsum mostly tawny (Fig. 14) . . . (Viti Levu, Vanua Levu) ..... **Nesaphrestes pallidior, n. sp.**
Dorsum mostly blackish brown (Fig. 15, 16) 11
11 (10). Clavi each with 1 white discal spot (Fig. 15) . . . (Viti Levu) ..... **Nesaphrestes clavocularis, n. sp.**
Clavi uniformly blackish brown (Fig. 16) 12
12 (11). Tegmina more than ⅓ as wide as long; ♀ more than 10 mm long (with tegmina folded); ♀ tegmen 3.0 mm wide (Fig. 8) . . . (Viti Levu) ..... **Nesaphrestes fortior, n. sp.**
Tegmina less than ⅓ as wide as long; ♀ less than 9.5 mm long; ♀ tegmen 2.0–2.5 mm wide (Fig. 6, 7) . . . (Viti Levu, Ovalau) ..... **Nesaphrestes dreptias** Kldy.
13 (3). Pleura tawny, unmarked (Fig. 1); crown *and* at least anterior ½ of pronotum rufous or tawny, unmarked (Fig. 2–4) 16
Pleura brown or black, at least on upper ½ (Fig. 9); crown *or* anterior ½ of pronotum barred with fuscous (Fig. 10–12) 14
14 (13). One or 2 of the 3 transverse fuscous coronal bars complete, not broken

at middle (Fig. 16); length (including folded tegmina) of ♂ 7.4 mm ... (Fiji: Kadavu) ..... **Nesaphrestes tenuis, n. sp.**

All transverse coronal bars broken at middle, or reduced to spots (Fig. 10–12); length of ♂ 6.8 mm or less ... (New Hebrides) 15

15 (14). Apices of tegmina brown or blackish, marked with clearly-defined whitish costal spot confined to outer anteapical cell (Fig. 12); length of ♂ 6.1 mm or less ... (Espiritu Santo, Malekula, Efate, Ambrym) ..... **Nesaphrestes hebridensis, n. comb.**

Apices of tegmina pale brownish (Fig. 10), *or* marked with an indefinite paler transverse bar extending across all anteapical cells (Fig. 11); length of ♂ 6.5 mm or more ... (Espiritu Santo, Malekula) ..... **Nesaphrestes transversis, n. sp.**

16 (13). Rufous, with costal margins contrastingly black (Fig. 2); crown $^4/_5$ (0.8) as long as median length of pronotum ... (Viti Levu) ..... **Nesaphrestes costans, n. sp.**

Tawny, unmarked, or with brown markings on pronotum, corium and clavus (but not confined to costa) (Fig. 3, 4); crown less than ¾ (0.7–0.72) as long as median length of pronotum ... (New Hebrides) 17

17 (16). Evenly tawny above, unmarked ... (Espiritu Santo, Pentecost) ..... **Nesaphrestes ochraceus, n. sp.**

Tegmina and posterior ½ of pronotum largely brown, contrasting with tawny crown and anterior ½ of pronotum 18

18 (17). Scutellum and base of costal margins of tegmina tawny (Fig. 3) ... (Espiritu Santo) ..... **Nesaphrestes varidorsum, n. sp.**

Scutellum and base of tegmina entirely brown (Fig. 4) ... (Espiritu Santo) ..... **Nesaphrestes exclamans, n. sp.**

19 (2). Crown with transverse fasciae of yellow and brown ... (New Hebrides: Espiritu Santo, Ambrym, Epi, Efate, Tanna) ..... **Liorhina speiseri, n. comb.**

Crown without transverse fasciae ..... *Interocrea* ... 20

20 (19). Pronotum and tegmina tawny, densely maculate with brown or fuscous spots ... (Banks; New Hebrides: Vanua Lava, Espiritu Santo, Aoba, Pentecost, Efate) ..... **Interocrea auberti, n. comb.**

Pronotum and tegmina with bold pattern of ochre and chocolate brown, not with small dark spots ... (Rotuma) ..... **Interocrea xanthidorsum, n. sp.**

Genus **Amarusa** Walker

Amarusa Walker, 1857: 166. Type-species by monotypy: *A. picea* Walker, 1857.

Large, short-headed forms resembling *Ptyelus* LeP. & Serv., but densely setose; tegmina with anteapical cells of similar width, outer anteapical cell connected to costa by several perpendicular or weakly oblique crossveins; tegminal apex pointed in region of 1st longitudinal vein.

New Hebridean species. Amarusa subnigricans (Walker), **new combination.** This species was doubtfully recorded from the New Hebrides by Walker (1958) and has not been recorded since. In view of its large size and striking generic characters, it is unlikely to have been correctly recorded. Until the critical species characters of other members of the genus become better known, examination of the holotype is unlikely to settle this question.

Genus **Interocrea** Walker

Interocrea Walker, 1870: 328. Type-species by monotypy: *I. nigripes* Walker, 1870.

Small, slender or robust forms resembling *Nesaphrestes* Kldy., but often with crown longer than its interocular width and tegmina usually maculate with blackish dots; tegmina with anteapical cells of similar width, outer anteapical cell connected to costa by a few perpendicular or weakly oblique crossveins; tegminal apex rounded.

New Hebridean and Banksian species. I. auberti (Lallemand), **new combination.**

Fijian species. One new species described below.

Interocrea xanthidorsum Hamilton, **new species**

♂, 5.4–6.8 mm; ♀, 5.2–7.2 mm. Dorsum ochre, marked with chocolate brown as a zig-zag area on corium and across tip of clavus, defining 3 ochre spots on corium: 1 at midlength of claval suture, 1 just behind apex of clavus, and 1 halfway between these on costa; venter chocolate brown, with gena, pleura and frontal arcs blackish, and with coxae, midline of face (except black spot on disc of clypellus), fore femora, apical halves of middle femora and sometimes also base of hind tibiae ochre to tawny. Penis shaft slender, almost straight beyond strongly curved base, unarmed; style apices tapered, armed with 2 saw-like teeth on dorsal margin well before tip.

Holotype ♂ (BISHOP 12,070), ROTUMA I: Saluaka, 29.VIII.1938, H. St. John. 200 paratypes: ROTUMA I: coll. H. St. John: 19♂,5♀, same data as holotype; 9♂,9♀, same data, 6.VIII.1938; 1♂, same data, 11.VIII.1938; 28♂,19♀, Kongai, 25.VIII.1938; 3♂,1♀, nr Kongai, 13.VIII.1938; 8♂,9♀, Saulei, 12.VIII.1938; 7♂,8♀, Solkope, 24.VIII.1938; 9♂,5♀, Motura, 12.VIII.1938; 8♂,3♀, Jolmea, 13.VIII.1938; 5♂,4♀, Soloroa, 200′ [61 m], 11.VIII.1938; 4♂,2♀, Kilinga, 1–305′ [0.3–93 m], 20.VIII.1938; 3♂, same data, 200′ [61 m], VIII.1938; 3♂,3♀, Jarua, 30′ [9 m], 15.VIII.1938; 2♂,4♀, Melisa, VIII.1938; 4♂,2♀, Oinata, 23.VIII.1938; 1♂,5♀, Solmatiha, 500′ [152 m], 6.VIII.1938; 5♂,1♀, Paho, 100–650′ [30–198 m], 8.VIII.1938; 1♂, VII–VIII.1938; 1♀, Fapufa, 15′ [5 m], 15.VIII.1938. 4 paratypes in CNC.

Remarks. Adults of *I. xanthidorsum* superficially resemble those of certain species of *Nesaphrestes* but differ in the tegminal venation and slender, unarmed penis shaft. From other species of *Interocrea, xanthodorsum* may be distinguished by the color pattern.

Genus **Liorhina** Stål

Liorhina Stål, 1879: 722. Type-species by monotypy: *L. reflexa* Stål, 1870.

Robust; crown moderately long, patterned with transverse bars of yellow and brown; frons globose; ♂ front tibiae foliaceous; tegmina as in *Interocrea.*

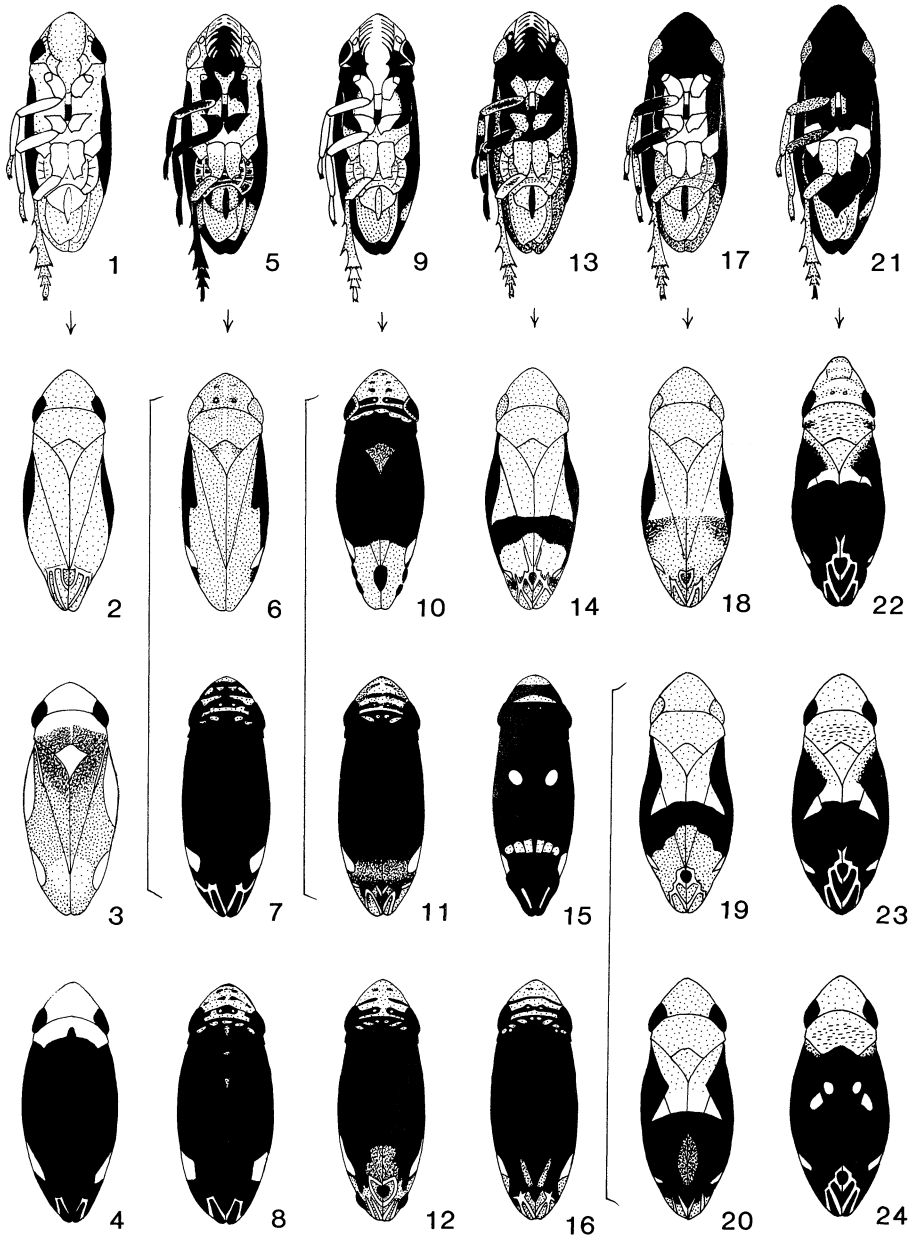

FIG. 1–24. Color patterns of *Nesaphrestes* spp., arranged in vertical rows according to associated ventral pattern (in upper row); color varieties of a single species bracketed. **1–2,** *N. costans*; **3,** *N. varidorsum*; **4,** *N. exclamans*; **5–7,** *N. dreptias*; **8,** *N. fortior*; **9–11,** *N. transversis*; **12,** *N. hebridensis*; **13, 15,** *N. clavocularis*; **14,** *N. pallidior*; **16,** *N. tenuis*; **17–18,** *N. ptysmatophilus*; **19–20,** *N. bicolor*; **21–22,** *N. longiceps*; **23,** *N. brevior*; **24,** *N. soporifer*.

New Hebridean species. Liorhina speiseri (Dist.), **new combination.**

Genus **Nesaphrestes** Kirkaldy

Nesaphrestes Kirkaldy, 1907: 20. Type-species by subsequent designation of Lallemand (1912): *N. dreptias* Kirkaldy, 1907.

Small, slender forms resembling short-headed forms of *Interocrea,* but without blackish dots on tegmina; tegmina with inner anteapical cell narrow, outer anteapical cell broadened, meeting costa, closed apically with a strongly oblique vein resembling a crossvein; tegminal apex rounded.

Fijian species. Nesaphrestes dreptias Kirkaldy, *N. ptysmatophilus* Kirkaldy, and 10 new species, described below.

New Hebridean species. N. hebridensis (Lallemand), **new combination,** and 4 new species, described below.

Nesaphrestes bicolor Hamilton, **new species** Fig. 19–20

♂, 4.8–5.3 mm; ♀, 5.2–5.9 mm. Crown as long as median length of pronotum. Dorsum tawny, tegmina marked with blackish brown on costa and disc of corium, the same color usually extending also over apical ½; apical tegminal veins orange (Fig. 19, 20); venter black, with coxae and basal segment of beak contrastingly yellow, apices of femora tawny, legs variable from black to brown (as in Fig. 17). Penis shaft broad, lamellate, almost parallel-margined to tapered base, armed with long, slender, strongly curved apical processes directed caudoventrad, and shorter lateral processes before apex of shaft; style apices slender, right-angled.

Holotype ♂ (BISHOP 12,071), FIJI: VITI LEVU: Nandarivatu, I.1955, N.L.H. Krauss. 19 paratypes: FIJI: VITI LEVU: 6♂,1♀, same data as holotype; 2♂,4♀, same data, V.1951; 1♂,1♀, Lami, V.1951, N.L.H. Krauss; 1♂, same data, 100–300 m, 1.III.1971; 1♂, Suva, 6.II.1952, J.L. Gressitt; 1♂, Tholo-i-Suva, IX.1950, Krauss; 1♀, same data, II.1951. 2 paratypes in CNC.

Remarks. Adults of *N. bicolor* are similar to *ptysmatophilus* but are much smaller, usually have much more extensive dark markings (except in some females), and have a much stouter penis shaft. They are also similar to adults of *brevior,* n. sp. but differ in the color of the fore and middle coxae and legs and have a more nearly parallel-margined penis shaft.

Nesaphrestes brevior Hamilton, **new species** Fig. 23

♂, 4.2–4.9 mm; ♀, 5.1–5.9 mm. Crown as long as median length of pronotum. Dorsum tawny, tegmina marked with black on basal ⅔ of corium and along costa to apex, often with entire corium blackish-brown, interrupted with triangular yellow dash on middle of claval suture directed towards costa, and with apical veins orange (Fig. 23); venter black, with hind coxae, adjacent part of metapleura, and basal segment of beak yellow (as in Fig. 21). Penis shaft broad, lamellate, widened abruptly just before tapered base, armed with long, slender, strongly curved apical processes directed caudoventrad, and shorter lateral processes before apex of shaft; style apices slender, right-angled.

Holotype ♂ (BISHOP 12,072), FIJI: VITI LEVU: Colo-i-Suva, 3–6.III.1963, malaise trap, C.M. Yoshimoto. 17 paratypes: FIJI: VITI LEVU: 8♂,5♀, same data as holotype; 1♂,3♀, Tholo-i-Suva, IX.1950, N.L.H. Krauss; 1♂, Tholo-i-Suva, 500′ [152 m], 25.VII.1938, beating, E.C. Zimmerman. 2 paratypes in CNC.

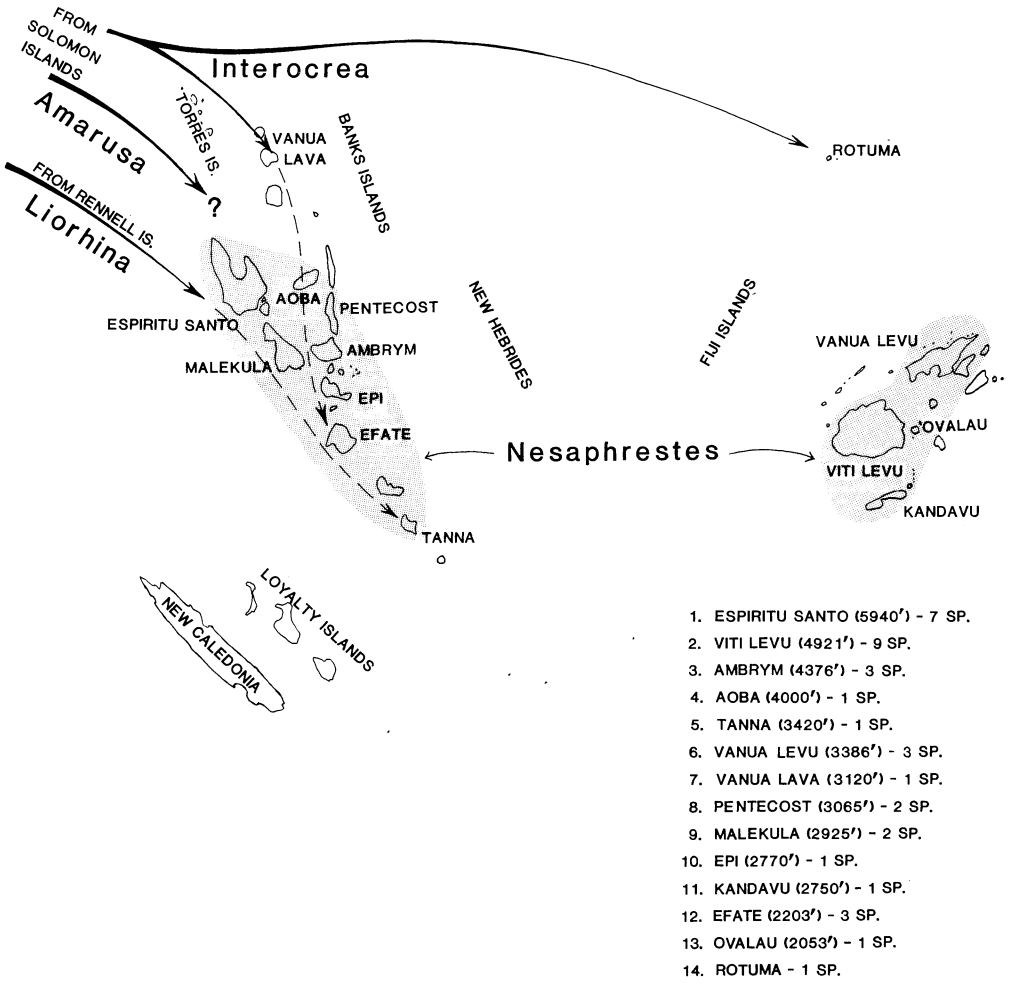

FIG. 25. Dispersal of Aphrophorinae on the Banks, Fiji and New Hebrides islands. The shaded area represents the range of the endemic genus *Nesaphrestes*.

Remarks. See *N. bicolor* and *soporifer,* n. sp.

Nesaphrestes clavocularis Hamilton, **new species** Fig. 13, 15

♂, 6.2–7.1 mm; ♀, 7.9–8.0 mm. Crown 4/5 (0.8) as long as median length of pronotum. Blackish-brown, marked with tawny on disc of frons (except black frontal arcs), hind coxae, apical ⅔ of fore femora, hind tibia, and apical ⅓ of fore and middle tibiae (Fig. 13); tegmen marked with a white spot on disc of clavus, a white streak from apex of clavus to center of inner anteapical cell, and a large white patch on outer anteapical cell where it meets costa; apical veins of tegmina pale yellow (Fig. 15). Penis shaft very broad, lamellate, widest on apical ½, armed with short, scarcely curved apical processes directed caudad, and longer lateral processes before apex of shaft; style apices stout, tapered to point, right-angled.

Holotype ♂ (BISHOP 12,073), FIJI: VITI LEVU: Lami, V.1951, N.L.H. Krauss. 6 paratypes: VITI LEVU: 3♂, Ndeumba, IV.1951, N.L.H. Krauss; 1♂,2♀, same data, V.1951. 1 paratype in CNC.

Remarks. Specimens of *N. clavocularis* are strikingly marked with white claval spots and are further distinguished from specimens of all other species of *Nesaphrestes* by the very wide apex of the penis shaft.

Nesaphrestes costans Hamilton, **new species** Fig. 1–2

♂, 5.5 mm; ♀, 6.9 mm. Crown 4/5 (0.8) as long as median length of pronotum. Rufous; costa of tegmina with basal ⅔ black; inner anteapical cell of tegmen brown (Fig. 1, 2). Penis shaft and style as in *brevior*.

Holotype ♂ (BISHOP 12,074), FIJI: VITI LEVU: Tholo North, W slope Mt Victoria, 3000–4000′ [914–1219 m]; 13.IX.1938, beating, E.C. Zimmerman. 2 paratypes: 1♀, same data as holotype; 1♀, same data, 4341′ [1323 m], 3.IX.1938.

Remarks. N. costans is easily distinguished from its relatives by the unique pattern of the tegmina.

Nesaphrestes crepidulans Hamilton, **new species**

♂, 7.5 mm; ♀ unknown. Crown about ⅔ (0.7) as long as median length of pronotum. Blackish brown, lighter brown on basal segment of beak, apex of clypellus, frontal arcs, thoracic sterna, apices of fore femora, and entire hind coxae and hind femora; tegmina marked with white spot in outer anteapical cell where it meets costa; apices of tegminal veins orange. Penis shaft broad, lamellate, widest just before tapered base, armed with short, basally hooked apical processes directed caudad, and longer lateral processes before apex of shaft; style apices slender, sharpened, right-angled and then strongly curved mesad.

Holotype ♂ (BISHOP 12,075), FIJI: VANUA LEVU: Savu Savu, Mar. (or Mai?) 1922, H.W. Simmonds.

Remarks. The male genitalia and color of specimens of *N. crepidulans* are similar to those of *dreptias,* from which *crepidulans* may be distinguished by the dark face and lack of yellow bands across the genae and pleura. It is also similar to *tenuis,* n. sp., but the fore femora are banded with black, and the processes on the penis shaft are shorter.

Nesaphrestes exclamans Hamilton, **new species** Fig. 4

♂, 8.1 mm; ♀ unknown. Crown about ⅔ (0.7) as long as median length of pronotum. Yellow, chocolate brown on posterior ½ of pronotum, scutellum, tegmina, tarsi, hind tibiae, and base of middle tibiae; tegmina with white patch on outer anteapical cell where it meets costa; apices of tegminal veins pale yellow (Fig. 4). Penis shaft and styles as in *crepidulans*.

Holotype ♂ (BISHOP 12,076), NEW HEBRIDES: ESPIRITU SANTO: Santo, Segond Channel, VIII.1950, N.L.H. Krauss.

Remarks. The genitalia of males of *N. exclamans* are similar to those of males of *soporifer,* n. sp., *pallidior, tenuis,* n. sp., *crepidulans,* and *varidorsum,* n. sp. Specimens of *exclamans* are easily distinguished from those of *soporifer* by the color of the venter and from those of *pallidior, tenuis, crepidulans* and *varidorsum* by the color of the dorsum.

Nesaphrestes fortior Hamilton, **new species** Fig. 8

♂ unknown; ♀, 10.3–10.7 mm. Crown about ⅔ (0.7) as long as median length of pronotum. Blackish-brown, mottled or transversely banded with tawny on crown and anterior margin of pronotum; upper ½ of frons yellow, boldly marked with black frontal arcs; genae and pleura bearing bold yellow band; hind coxae and femora, and edges of other femora pale yellow (as in Fig. 5); tegmina with white patch on outer anteapical cell where it meets costa; apices of tegminal veins yellow-orange (Fig. 8).

Holotype ♀ (BISHOP 12,077), FIJI: VITI LEVU: Lami, I.1955, N.L.H. Krauss. 2 paratypes: 1♀, same data as holotype; 1♀, same data except III.1951.

Remarks. Adults of *N. fortior* closely resemble those of *dreptias,* but are distinctly larger and broader, with a slightly more angular apex of the crown.

Nesaphrestes longiceps Hamilton, **new species** Fig. 21–22

♂ unknown; ♀, 4.6 mm. Crown 1/5 (1.2) longer than median length of pronotum. Dorsum tawny, with tylus, disc of vertex and anterior margin of pronotum marked with alternating rufous and whitish transverse bands and 2 apical fuscous spots; venter black, with basal segment of beak, hind coxae and adjacent parts of metapleura pale yellow (Fig. 21); tegmina black, whitish along border of scutellum and as a transverse streak across middle not reaching costa; apical tegminal veins orange (Fig. 22).

Holotype ♀ (BISHOP 12,078), FIJI: VANUA LEVU: Nakawanga, 9.X.1955, J.L. Gressitt.

Remarks. Specimens of *N. longiceps* resemble those of *brevior* but are nevertheless distinct in the longer crown and transverse banding of the dorsum.

Nesaphrestes ochraceus Hamilton, **new species**

♂, 5.6--5.8 mm; ♀ unknown. Crown about ⅔ (0.7) as long as median length of pronotum. Ochre, unmarked except for fuscous frontal arcs and black-tipped spines on hind legs. Penis shaft and style as in *crepidulans.*

Holotype ♂ (BISHOP 12,079), NEW HEBRIDES: ESPIRITU SANTO (SW): below Namatasopa, 250 m, 1.IX.1957, J.L. Gressitt. Paratype: 1♂, NEW HEBRIDES: PENTECOST, 14.III.1964, R. Straatman.

Remarks. The genitalia of males of *N. ochraceus* resemble those of *crepidulans, dreptias, exclamans* and *soporifer,* n. sp., all of which have the body heavily patterned with black. The short, blunt crown of specimens of *ochraceus* is similar to that of specimens of *exclamans* and *varidorsum,* n. sp., from which adults of *ochraceus* may be distinguished by their small size.

Nesaphrestes pallidior Hamilton, **new species** Fig. 14

♂, 5.3–5.8 mm; ♀, 6.0–6.8 mm. Crown slightly (0.9) shorter than median length of pronotum. Dorsum ochre, unmarked except for blackish brown V-shaped mark on each tegmen formed by basal ⅔ of costa and slightly oblique crossband directed towards middle of commissure (Fig. 14); venter black (rarely, brown), with basal segment of beak, coxae, trochanters, and hind femora yellow; upper ½ of frons (except black frontal arcs), apices of fore and middle femora, hind tibiae and band through middle of other tibiae ochre (as in Fig. 13). Penis shaft as in *costans*; style as in *crepidulans.*

Holotype ♂ (BISHOP 12,080), FIJI: VITI LEVU: Nandarivatu, V.1951, N. Krauss.

5 paratypes: FIJI: VITI LEVU: 2♂, same data as holotype; 1♀, Nandarivatu, 3700′ [1128 m], 3.IX.1938, beating, E.C. Zimmerman; 1♀, ridge W of Nandarivatu, 2800′ [853 m], 11.IX.1938, beating shrubs, Zimmerman; VANUA LEVU: 1♀, Nakawanga, 9.X.1955, J.L. Gressitt.

Remarks. Specimens of *N. pallidior* closely resemble those of *ptysmatophilus,* from which they may be distinguished by the ochreous apex of the frons and the broad penis shaft; the penis shafts of males of *ptysmatophilus* are slender, nearly tubular, and apically clubbed. The larger size and restricted dark markings of specimens of *pallidior* distinguish them from those of *bicolor,* as do the less parallel margins of the penis shaft.

Nesaphrestes soporifer, Hamilton **new species** Fig. 24

♂, 4.8–4.9 mm; ♀ unknown. Crown slightly (0.9) shorter than median length of pronotum. Black; crown, pronotum and sometimes also base of clavus adjacent to pronotum tawny to light brown; basal segment of beak, hind coxae and adjacent parts of metapleura pale yellow (as in Fig. 21); tegmina marked with white discal spot on corium touching claval suture, and sometimes another adjacent to this on clavus; apices of tegminal veins pale orange (Fig. 24). Penis shaft and style as in *crepidulans.*

Holotype ♂ (BISHOP 12,081), FIJI: VITI LEVU: Navai-Nasonga trail, W slope, 2500–3000′ [762–914 m], 12.IX.1938, beating, E.C. Zimmerman. Paratype: FIJI: VITI LEVU: 1♂, Navai Mill, nr Nandarivatu, 2500′ [762 m], 17.IX.1938, beating, E.C. Zimmerman.

Remarks. Adults of *N. soporifer* resemble those of *brevior* in size, shape, and color, but may be distinguished by the narrower pale markings on the tegmina, by the dark scutellum, and by the shorter apical processes of the penis shaft. The genitalia of males of *soporifer* are similar to those of *crepidulans, exclamans* and *ochraceus,* from which species *soporifer* may be distinguished by the very different color pattern of the adults.

Nesaphrestes tenuis, Hamilton, **new species** Fig. 16

♂, 7.4 mm; ♀ unknown. Crown about $^4/_5$ (0.79) as long as median length of pronotum. Blackish-brown; crown (except 3 transverse black bands), upper part of frons on face (except black frontal arcs), clypellus, basal segment of beak, coxae, apex of hind femur, hind tarsi and a row of spots across fore margin of pronotum ochre (as in Fig. 13); fore and middle legs yellow, except for fuscous band at base of tibiae, and tarsi infuscated; tegmina marked with large, oblique white band across outer anteapical cell where it meets costa, and indefinite paler patch at apex of clavi; apices of tegminal veins pale yellow (Fig. 16). Penis shaft as in *brevior*; styles as in *crepidulans.*

Holotype ♂ (BISHOP 12,082), FIJI: KADAVU (sic): Tiliva, 30.IV.1941, N.L.H. Krauss.

Remarks. Specimens of *N. tenuis* are similar to those of *crepidulans,* from which they may be distinguished by the yellow fore and middle femora, by the ochreous crown, and by the longer apical processes of the penis shaft. The genitalia of males of *tenuis* are similar to those of *pallidior, hebridensis* and *transversis,* n. sp. Adults of *tenuis* may

be distinguished from those of *pallidior* by the color pattern, and from those of the latter 2 species they may be distinguished by the much larger size.

Nesaphrestes transversis Hamilton, **new species** Fig. 9–11

♂, 6.5–6.8 mm; ♀, 8.0 mm. Crown 4/5 (0.8) as long as median length of pronotum. Blackish brown; crown of head tawny, more or less infuscated or maculate with fuscous, if forming transverse bands, these are broken at middle; venter of head and thorax with meson yellow, except for black frontal arcs; fore and middle legs yellow, sometimes with bases of tibiae infuscated; hind legs brown to blackish brown, paler on femora and tarsi; pretarsi black; venter of abdomen orange (♂) or tawny (♀) (Fig. 9); tegmina as in *tenuis,* but with apex (or at least disc of central anteapical cell) indefinitely paler than basal ¾, thus forming a vague transverse paler band across apex of tegmina (Fig. 10, 11). Penis shaft as in *brevior*; styles as in *crepidulans.*

Holotype ♂ (BISHOP 12,083), NEW HEBRIDES: ESPIRITU SANTO (SW): Namatasopa, 300 m, 28.VIII.1957, J.L. Gressitt. 2 paratypes: NEW HEBRIDES: MALEKULA: 1♂,1♀, Lamap, 21.VIII.1967, J. & M. Sedlacek.

Remarks. N. transversis belongs to a group of species (*dreptias, transversis, hebridensis, tenuis*) which are characterized by dark dorsa with paler crowns and similar male genitalia. The species from the New Hebrides (*transversis, hebridensis*) and Kandavu (*tenuis*) are further differentiated by the dark pleura and long apical processes of the penis shaft. Details of the color pattern and the size of the males distinguish among these species (see key).

Nesaphrestes varidorsum Hamilton, **new species** Fig. 3

♂, 7.2 mm; ♀ unknown. Crown about ¾ (0.72) as long as median length of pronotum. Yellow, pretarsi fuscous, pronotum and most of tegmina brown, whitish on costal plaques and as an irregular preapical band at apices of clavi, extending to costa (Fig. 3). Penis shaft as in *crepidulans,* but serrate on upper ½ of posterior margin; styles as in *crepidulans.*

Holotype ♂ (BISHOP 12,084), NEW HEBRIDES: ESPIRITU SANTO (SW): above Namatasopa, 400 m, 30.VIII.1957, J.L. Gressitt.

Remarks. Adults of *N. varidorsum* are similar to those of *exclamans* but may be distinguished by the smaller size, by the variegated dorsum, and by the serrate posterior margin of the penis shaft.

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