

NOTES ON SOME AMERICAN VELIIDAE (HEMIPTERA),  
WITH THE DESCRIPTION OF TWO NEW MICROVELIAS  
FROM JAMAICA

CARL J. DRAKE<sup>1</sup> and ROLAND F. HUSSEY<sup>2</sup>

Several veliid species of the American tropics occupy an ecological niche which is very different from the ones where the great majority of their congeners are found. Instead of living, like their fellows, on the surfaces of ponds or streams, they dwell in the small pockets, filled with rain water, at the bases of the leaves of certain bromeliaceous plants. The bromeliads in question are sometimes epiphytes, growing on forest or other trees, sometimes ground plants growing directly on the rocks or soil. Three such veliid species have been known before: these are treated below, and a fourth one is described herewith.<sup>3</sup> All of these are very pretty forms, and are strikingly marked with white.

The present paper also contains the description of another *Microvelia* which lives near shore on running water, together with comparative notes on a related species; and one name is reduced to a synonym. For comparative purposes, the same magnification was used for all measurements in the following descriptions, with 80 units equal to one millimeter.

*Velia recens* Drake and Harris

*Velia recens* Drake and Harris, 1935, Proc. Biol. Soc. Wash. 48: 192.

When this species was described from Panama the authors knew nothing of its habits. Recently Drake and Maldonado Capriles (1952, Great Basin Nat. 12 (3-4): 47-48) reported the finding of *V. recens* in the water pockets of bromeliads in the Amazonas region of Venezuela; and to this it was added that no specimens were found on nearby pools. The British Museum has many specimens of this species taken from bromeliads on mangrove in the Bartica Triangle, October, 1948, to March, 1949, by D. J. Atkinson. In May, 1950, Dr. José C. M. Carvalho took six specimens of *V. recens* from water pockets of a brome-

<sup>1</sup> Iowa State College, Ames.

<sup>2</sup> University of Florida, Gainesville.

<sup>3</sup> *Microvelia ancona* Drake and Chapman, a fifth species with similar habits, is described elsewhere in this issue of THE FLORIDA ENTOMOLOGIST.

liad about 10 meters above the ground, at Eirunepe, Rio Juruá, Amazonas, Brazil.

***Microvelia distanti* Lundblad**

*Microvelia insignis* [n. preocc.] Distant, 1912, Ann. Mag. Nat. Hist. (8) 10: 437, Pl. X, figs. 4, 5.

*Microvelia distanti* [new name] Lundblad, 1933, Arch. Hydrobiol., Stuttgart, Suppl. 12: 286.

This species was described from specimens collected in bromeliads on the summit of El Tucuché, elevation 3,100 feet, in the northern part of Trinidad, and Distant reported one additional specimen from Dominica, B. W. I. The following descriptive notes are based on three apterous topotypes from El Tucuché, elevation 3,000 feet, collected February 25, 1940, by Dr. E. MacC. Callan.

Deep velvety black; first three segments of connexiva testaceous to orange-testaceous; first two visible tergites of abdomen quite bluish. Lengths of antennal segments: I, 20; II, 14; III, 20; IV, 30. Pronotum large, wider than long (55:35), broadly rounded behind, not covering all of mesonotum at sides or narrow posterior margin of metanotum; surface smooth above, not scabrous, without median carina. Wing pads not present.

***Microvelia laesslei*, n. sp.**

Slightly longer than *M. distanti* Lundblad, very differently colored, and with different proportions of the antennal segments.

**MICROPTEROUS FORM.** Small, rather slender, nearly parallel. Dark fuscous; head and much of pronotum brown or faintly reddish-brown; wing pads small but very conspicuous, snowy white, reaching only to base of second abdominal tergite; beneath dark fuscous, sometimes brownish on middle of venter, usually with considerable bluish tinge; dorsal surface with numerous very small bluish spots; head and pronotum with minute, sparse, scale-like, golden hairs; pronotum variable in amount of infuscation, sometimes nearly two-thirds darkened. Legs pale testaceous, tips of femora and tips of tarsi slightly infuscated. Antennae testaceous, third segment and basal part of fourth sometimes slightly embrowned.

**MICROPTEROUS MALE.** Length 2.28 mm., width 0.80 mm. Head almost one-third shorter than its width across eyes, very strongly convex above, with distinct median furrow. Antennae moderately long, clothed with very short, pale hairs, and with some longer erect hairs on each segment; first segment moderately stout, slightly curved; second segment slender at base, increasingly thick toward its apex where it is but little thinner than first segment; third and fourth segments very slender, subequal to one another in length and in thickness; lengths of segments: I, 20; II, 13; III, 26; IV, 26. Legs moderately long and moderately stout, hind femora stoutest, fore femora not much thinner, middle femora somewhat more slender; all

trochanters, femora, and tibiae unarmed; fore tibiae with a short, dark comb projecting slightly beyond apex; all tibiae with somewhat longer hairs on under side; hind tibiae usually lightly but distinctly curved on basal third, the apical two-thirds thicker, straight, cylindrical, and often rather thickly clothed below with hairs which are about as long as thickness of tibia; middle tibiae less evidently curved near base, and with less dense pilosity on distal two-thirds below. Measurements of fore legs: femur, 52; tibia, 40. Middle legs: femur, 58; tibia, 52; tarsus I+II, 12+16. Hind legs: femur, 65; tibia, 52; tarsus I+II, 10+14.

Pronotum large, wider than long (65:42), as long as head, broadly rounded behind, but entirely covering rest of thorax; sides nearly parallel before the lightly prominent humeral angles, then convexly rounded and converging in front; surface scabrous, coarsely and deeply punctate on basal two-thirds, impunctate in front except for a row of pits behind front margin; median carina fairly distinct, with only one or two punctures. Abdominal tergites very gradually narrowed posteriorly; last tergite a little longer than the preceding one, about three-fourths as wide as the first entirely visible tergite, its hind margin sharply truncate. Connexiva moderately wide, obliquely reflexed; outer margins very gently rounded, almost straight. Venter without spine or tubercle. Genital segments small, usually retracted and largely concealed (specimens mounted from alcohol).

**MICROPTEROUS FEMALE.** Usually slightly shorter and very slightly more robust than micropterous male. Connexiva scarcely wider than in male, reflexed as in male, not turned in over the tergites. Antennae, wing pads, and general aspect very similar to the male; hind tibiae straight, cylindrical, hairs on their lower side not more conspicuous than elsewhere on the tibia.

**MACROPTEROUS FORM.** Length 2.30 mm., width 0.85 mm. Very slightly larger than micropterous form, the snowy-white basal part of hemelytra very strongly contrasting with the general dark coloration. Pronotum large, wider than long (70:60), nearly  $1\frac{3}{4}$  times as long as head, slightly convex between humeral angles, posterior part triangular, with narrowly rounded apex; lateral margins straight, obliquely converging anteriorly, humeral angles a little less prominent than in micropterous form; surface coarsely punctate, median carina quite distinct. Hemelytra nearly or quite reaching apex of abdomen, dark fuscous, the basal one-third to two-fifths snowy white, rarely with a short, subobsolete, median pale streak at apex; costal margin shortly ciliated, veins of corium with a few short, erect hairs. Other characters as in micropterous form.

*Holotype* (micropterous male) and *allotype* (micropterous female): Christiana, Jamaica, B. W. I., elevation 3,000 feet, August 1952, collected from bromeliads by Dr. Albert M. Laessle, of the University of Florida, in whose honor the species is named. *Paratypes*: 7 micropterous and 21 macropterous specimens, taken from bromeliads in August and early September, 1952, at Christiana, Juan de Bolas (elevation 2,500 feet), and Mocho (elevation 2,000 feet), Jamaica. These specimens, together with numerous nymphs of all ages, were collected by Dr. Laessle in an investigation of the fauna of the rain-water pockets of

Jamaican bromeliads. Holotype and allotype are in the collection of C. J. Drake, paratypes in the collections of both authors and of the University of Florida (Florida State Museum).

Dr. Laessle investigated numerous species of bromeliads in various parts of Jamaica. This *Microvelia* was found principally in *Aechmea paniculigera* Griseb., and in species of *Hohenbergia* and of *Vriesia*. These are large bromeliads, sometimes holding as much as two liters of water; the *Aechmea* has relatively few leaves, and some of its individual axils may contain nearly one-third liter. The water in all these plants abounded with small arthropods of various kinds, among which were entomostracans, and larvae of helodid beetles, mosquitoes, and Chironomidae. These afforded a plentiful supply of food for the *Microvelia*.

The *Aechmea* and the *Hohenbergia* species are widely distributed in Jamaica, occurring often as epiphytes, but also growing directly upon rocks in exposed situations. The *Microvelia*, however, was found in them only in the central and west-central parts of the island, and only at elevations of 2,000 feet or more. *Microvelia laesslei* is not restricted to any one area in the plant, but occurs in the water pockets from the outermost to the innermost whorl of leaves.

Even the youngest nymphs are strikingly banded with white across the basal segments of the abdomen, simulating the broad white marks on the hemelytra of the fully winged form, or the white wing pads of the micropterous form. No truly apterous individuals have been seen.

#### *Microvelia oaxacana* Drake

*Microvelia oaxacana* Drake, 1951, Great Basin Nat. 11 (1-2): 37-38.

MACROPTEROUS FORM. Moderately large; brownish, the hemelytra marked with pearly white. Pronotum moderately convex, dark reddish fuscous, the anterior border tinged with orange; without median carina or stripe; wider across humeri than median length (82:65), humeri very little elevated; pubescence short, golden. Hemelytra dark fuscous, with the following pearly white marks: a long stripe in outer basal cell, one or two shorter stripes in inner basal cell, one or two short marks near inner margin, one or two spots in discal cell, a larger spot on outer cell adjacent to discal cell, and a large apical spot in apical cell extending onto outer margin of membrane; membrane with apex and apical part of sides densely fringed with short brownish hairs. Other characters as in apterous form.

This species was originally described from apterous specimens, taken from bromeliaceous plants from Oaxaca, Mexico,

and from Ciudad Victoria, that were intercepted by federal plant inspectors at New York, N. Y., and Laredo, Texas. Many other specimens, of both apterous and macropterous forms, were found in bromeliaceae from Mexico City, D. F., by federal plant quarantine inspectors at Laredo, Texas, May 9, 1951.

*Microvelia cinchonana*, n. sp.

Belongs to the *americana* group, with pronotum (apterous form) not produced backward. Male and alate forms unknown.

**APTEROUS FEMALE.** Length 2.55 mm., width 1.12 mm. Head, dorsal surface of thorax (except short, transverse, submarginal, orange band on pronotum) and abdominal tergites velvety black, faintly tinged with brownish; body beneath blackish fuscous, with scattered silvery hairs, rather uniformly tinged with bluish. Connexiva entirely yellowish-brown above and below. Head beneath, and all acetabula, coxae, and trochanters, pale testaceous. Rostrum testaceous, its last segment and a median streak on the preceding one dark ferruginous. Leg testaceous, slightly darker above.

Head with the usual impressed dark median line. Antennae long, very slender, sparsely clothed with short, pale pubescence, brownish, basal segment pale; lengths of segments: I, 30; II, 25; III, 29; IV, 38. Width across eyes .70 mm. Lengths of middle legs: femur, 70; tibia, 62; tarsus I+II, 18+22. Hind legs: femur, 80; tibia, 104; tarsus I+II, 18+22. Last abdominal tergite without long hairs on hind margin; last ventrite less than twice as long as the preceding one.

*Holotype* (female): Cinchona, Jamaica, Feb. 4, 1911, in collection of C. J. Drake.

This species can be distinguished from other members of the *americana* group by the velvety black color, the wholly yellowish brown connexiva, and the long, slender antennae.

*Microvelia paludicola* Champion

*Microvelia paludicola* Champion, 1898, Biol. C. Amer., Het. 2: 127, Pl. 8, fig. 13.

*Microvelia alachuana* Hussey and Herring, 1950, Florida Ent. 33(3): 117. NEW SYNONYMY.

*Microvelia paludicola* also occurs in Jamaica. Its antennal structure differs from that of *M. cinchonana*, n. sp., and the female has a dense row of moderately long hairs on the hind margin of the last abdominal tergite.

This row of hairs also occurs on the female of *M. alachuana*, and the male genital segments of this form are like those of *paludicola*. *M. alachuana*, described from northern Florida, seems at most to be a local race of *paludicola*, with pale-banded

antennae whose fourth segment is relatively longer than in Champion's types from Guatemala. Dr. R. J. Izzard has very kindly compared paratypes of *alachuana* with the types of *paludicola* in the British Museum; and while he feels that they may be distinct species because of the difference in antennal structure, it seems that this character is subject to some variation.

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#### NOTES

FORCIPOMYIA SPLENDIDA WIRTH IN FLORIDA.—A specimen of *Forcipomyia splendida* Wirth was among a group of insects attracted to a lighted window the evening of February 17, 1954. It was collected with an aspirator by the writer at a country dwelling about nine miles northeast of Gainesville, Florida. The specimen has been identified by Dr. W. W. Wirth of the United States National Museum. He writes that it is a new record for Florida, and the first south of Tennessee.

FRANK W. MEAD,  
*State Plant Board of Florida*