

STUDIES ON THE FAUNA OF CURAÇAO AND OTHER
CARIBBEAN ISLANDS: No. 51.

THE HETEROPTERA OF THE NETHERLANDS
ANTILLES - II

HEBRIDAE

by

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The present paper is based upon a small collection of water striders of the family Hebridae, collected by the junior author while conducting a field survey of the Hemiptera of Curaçao and the other Netherlands Antillean islands in the Caribbean Sea. It is striking that the hebrids mentioned here were found only on the three islands of the Leeward Group, off the coast of Venezuela, i.e. Aruba, Curaçao and Bonaire. On the very small islands of St. Martin, St. Eustatius and Saba, situated about 900 km farther to the northeast, not a single hebrid has been met with, in spite of the fact that suitable habitats were examined very carefully for their occurrence.

The collection comprises four species of hebrids, divided between two genera:

Merragata hebroides, from Aruba, Curaçao, and Bonaire;

Hebrus concinnus, from Curaçao;

Hebrus consolidus, from Curaçao;

Hebrus elimatus, nov., from Aruba, Curaçao, and Bonaire.

The last species is new; the other three are the only ones to have previously been recorded from the West Indian islands.

Figure 19 is drawn by Mr. M. P. VAN DER SCHELDE; figure 20 by Mr. B. L. ROZEN; figure 22 by Mrs. E. H. FROESCHNER, and 21 by the junior author.

Merragata hebroides Buchanan-White, 1877

(Fig. 19, 20d, 21d)

- Merragata hebroides* BUCHANAN-WHITE 1877, Ann. Mag. Nat. Hist. (4) 20, p. 114. (Orig. desc.; type locality, Hawaiian Islands.)
- Merragata hebroides*, CHAMPION 1898, Biol. Centr. Amer. Rhynch. 2, p. 122. (Desc., fig.; Mexico, Hawaiian Islands.)
- Merragata foveata* DRAKE 1917, Ohio J. Sci. 17, 4, p. 103. (Orig. desc., fig., biol., notes; Ohio, Colo.)
- Merragata hebroides*, HUNGERFORD 1920, Sci. Bull. Univ. Kansas 21, 17, p. 82-91. (Desc., key, notes, distrib.)
- Merragata hebroides*, BLATCHLEY 1926, Heter. East. N. Amer., p. 605-612. (Desc., key, figs., notes.)
- Merragata hebroides*, DRAKE & HARRIS 1943, Not. Mus. La Plata 8, 64, p. 43 (Redesc., notes.)
- Merragata lindbergi* POISSON 1954, Soc. Sci. Fenn. Com. Biol. 14, 4, p. 2. (Orig. desc., figs.; type locality, Canaries). (New synonymy.)
- Merragata lindbergi*, POISSON 1954, Ann. Mus. Congo Belg. 1, p. 507. (Desc., figs.; Canaries.)

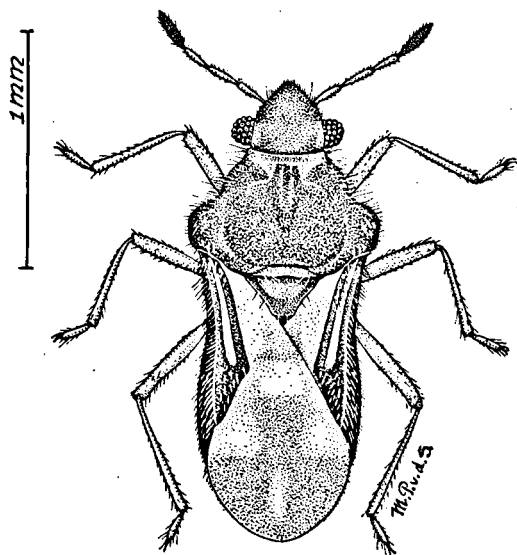


Fig. 19. *Merragata hebroides* Buchanan-White, from Aruba, Rooi Tamboe.

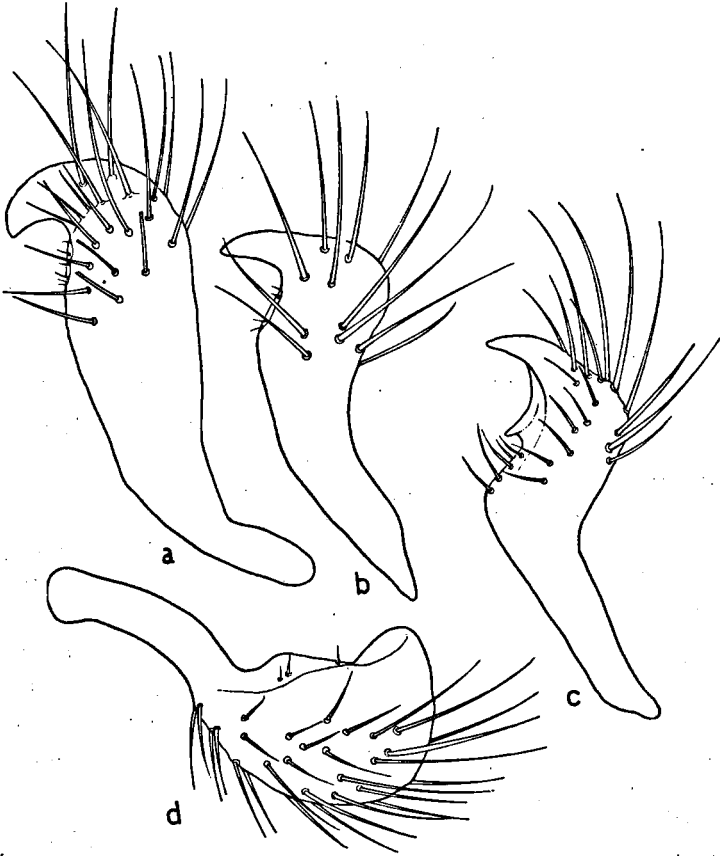


Fig. 20. Male paramere of: *a*, *Hebrus concinnus*, from Curaçao; *b*, *Hebrus consolidus*, from Curaçao; *c*, *Hebrus elimatus* from Curaçao; *d*, *Merragata hebroides*, from Aruba.

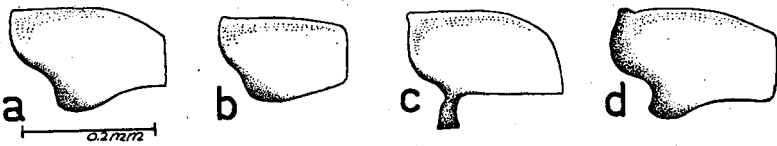


Fig. 21. Prae-genital segment of: *a*, *Hebrus concinnus*, from Curaçao; *b*, *Hebrus consolidus*, from Curaçao; *c*, *Hebrus elimatus*, from Curaçao; *d*, *Merragata hebroides*, from Aruba.

Distributed throughout the Americas, except in Chile: across southern Canada, United States, Mexico, Central America, West Indies, Colombia, Venezuela, Guianas, Brazil, Peru, Ecuador, Bolivia, Paraguay, Uruguay and deep into Argentina. Hawaiian Islands (introduced); Canary Islands (probably introduced).

ARUBA: Rooi Tamboe, 9.IV.1957. Picaron, 28.IV.1957.

CURAÇAO: Pos Cajoeda, Hofje Santa Barbara, 13.I.1957. Plantage Noordkant, 26.VI.1957.

BONAIRE: Pos Bronswinkel, Sta. 44a, 31.V.1930 (leg. P. Wagenaar Hummelinck).

In all these localities on the Netherlands Antilles, *Merragata* occurred in large numbers together with *Mesovelgia mulsanti* and *Microvelia pulchella*, on stagnant fresh or brackish water containing algal growths. This species habitually resembles *Hebrus*, but can be readily distinguished by its antennae, which have only four segments, the last of which is thickened. *Merragata* dwells close to the water's edge in protected and secluded coves of lakes, ponds and swamps. The slow-moving and sluggish parts of streams, both large and small, also provide favourable living and breeding haunts for it. Salt-water pools and swamps are inhabited to a much lesser extent. Individuals are sometimes also found resting on emergent plants, and upon logs and other floating debris in ponds and swamps. Occasionally, they have been taken on wet, muddy ground near the water. In the sluggish parts of streams, they seek the protective cover of plants extending above the surface of the water, and especially the shelter formed by the canopy of overhanging grasses and other vegetation that tends to create a narrow canal or channel just adjacent to the shore line. As its progression is slow and steady, the insect is easily netted. So far, all forms collected in the West Indies or, for that matter, throughout the entire Neotropical Region, have been macropterous. In examining several thousands of specimens of *hebroides* from the Americas, only one brachypterous specimen was found, and that had been taken in Canada.

Careful study of the holotype, allotype and several paratypes (including parameres of a male paratype) has shown that the

specific names of *Merragata lindbergi* Poisson and *M. hebroides* apply to the same species. As the latter has priority by many years, it therefore becomes the valid name for the species.

Hebrus concinnus Uhler, 1894

(Fig. 20a, 21a)

- Hebrus concinnus* UHLER 1894, Proc. Zool. Soc. London, p. 221. (Orig. desc.; type locality, Grenada, B.W.I.)
- Hebrus concinnus*, KIRKALDY & BUENO 1908, Proc. Ent. Soc. Wash. 10, p. 214. (Cat.; Quebec, N.Y., N.J., Pa., Md., Ill., Colo., Wash., Calif., Guatemala, Panama, Grenada.)
- Hebrus concinnus*, CHAMPION 1898, Biol. Centr. Amer. Rhynch. 2, p. 121. (Desc.; N. Amer., Guatemala, Panama, Antilles.)
- Hebrus concinnus*, VAN DUZEE 1917, Cat. Hem. Amer. N. Mex., p. 273. (Cat.; U.S. (many states), Canada (Que., Ont.), Neotropical.)
- Hebrus concinnus*, HUNGERFORD 1920, Sci. Bull. Univ. Kansas 21, 17, p. 87. (Desc.; Can., U.S.)
- Naeogeus concinnus*, BLATCHLEY 1926, Heter. East. N. Amer., p. 607. (Desc., notes, distr.)
- Hebrus concinnus*, DRAKE & HARRIS 1943, Inst. Mus. La Plata Zool. 8, 64, p. 49. (Notes, distr.)

Canada, United States (especially east of the Rocky Mountains), Mexico, Central America, West Indies.

CURAÇAO: Piscadera, inner bay, N., 8.XI.1956 (1 ♂, macropterous); the same habitat as for *H. elimatus* n. sp.

Hebrus concinnus and *H. consolidus* were both originally described by UHLER from macropterous specimens collected in the island of Grenada, Antilles. Macropterous and brachypterous specimens of both species are known from eastern and Gulf States, U.S.

Both *concinnus* and *consolidus* are occasionally taken near the water's edge, on the wet, muddy shores of the wide expanses of the sluggish parts of streams and of the standing waters of ponds, marshes and lakes. Nevertheless, their preferred habitats by far are the low, wet, grassy meadows round streams and fresh-water ponds, swamps and lakes. In these habitats they are a little difficult to find and collect, as it is necessary to pick them up as individuals by means of the fingers or sucking tube.

Hebrus consolidus Uhler, 1894

(Fig. 20b, 21b)

- Hebrus consolidus* UHLER 1894, Proc. Zool. Soc. London, p. 222. (Orig. desc.; Grenada, Antilles.)
Hebrus consolidus, CHAMPION 1898, Biol. Centr. Amer. Rhynch. 2, p. 119. (Notes, fig., distr.)
Hebrus consolidus, HUNGERFORD 1920, Sci. Bull. Univ. Kansas 21, 17, p. 86. (Desc., key, notes.)
Naeogeus consolidus, BLATCHLEY 1926, Heter. East. N. Amer., p. 608 (Key, desc., distr.)
Hebrus consolidus, DRAKE & HARRIS 1943, Inst. Mus. La Plata Zool. 8, 64, p. 48. (Notes, distr.)

United States (east of the Rocky Mountains), Mexico, Central America, West Indies.

CURAÇAO: Piscadera, inner bay, N., 14.XI.1956 (1 ♂, macropterous); the same habitat as for *H. elimatus* n. sp.

Although fairly common, apparently not quite as generally and widely dispersed as *concinuus*. These two species, however, appear to be more widely distributed in the Americas than other members of the genus. More than thirty species of the genus *Hebrus* Curtis have been described from the Americas.

Hebrus elimatus, sp. nov.

(Fig. 20c, 21c, 22)

Hitherto only known from Aruba, Curaçao and Bonaire; probably of South American origin.

ARUBA: Rooi Tamboe, brackish, on algal layer together with *Merragata*, *Microvelia pulchella* and *Mesovelia mulsanti*, 9.IV.1957. Palmbeach – Hadikoerari, among Sesuvium, 14.IV.1957. Spaans Lagoen, among Batis, 15.IV.1957. Andicouri, between Sporobolus, 19.IV.1957. Boca Druif, among Sesuvium, 20.IV.1957. Pos di Noord, 20.IV.1957.

CURAÇAO: St. Jorisbaai, 19.X.1956. Savonet, salinja, 29.X.1956. Santa Cruz, salty and sandy coast, under Heliotropium curassavicum, 7.XI.1956. Piscadera, inner bay, northern border of salinja, between salt plants on mud flats, 8–14. XI.1956. Marchena, Otrabanda, salty mud flat, under Sesuvium and Atriplex cristata, 10.XI.1956. Malpais, XI.1956. Rio Canario, rivulet near golf links, in

debris, 17.XI.1956. Pos Cajuda, Hofje Santa Barbara, fresh-water pond, between grasses, 13.I.1957. Spaanse Water and Jan Thiel, 13.I.1957. Klein St. Martha, brackish, between *Sporobolus*, 1.III.1957. Bullenbaai, III.1957.

BONAIRE: Lagoen, salty mud flat under *Sesuvium*, 7.V.1957. Goto, inter alia under stones along the unovergrown salt water line of the salinja, 19 and 30.V.1957. Lac, among leaf-decay of *Avicennia*, 23.V.1957. Slagbaai, 30.V.1957. Salinja Mathijs, 31.V.1957. Put Bronswinkel, fresh water, 31.V.1957.

Head 0.40 mm wide across eyes, with rather wide median, longitudinal furrow divided by a narrow, median ridge on disc of vertex, reddish brown with a wide stripe on each side of vertex and clypeus blackish-fuscous, sometimes median furrow in vertex also blackish; eyes reddish-fuscous. Antenna slender, dusky to blackish-stramineous with basal half of first and narrow basal part of second segments stramineous, shortly pubescent, with pubescent hairs slightly longer on last two segments; measurements: I, 15; II, 12; III, 16; IV, 10; V, 15. Labium long, stramineous, extending a little beyond metasternum.

Pronotum 0.75 mm wide across humeri, median length 0.42 mm; blackish, with disc and sometimes part of anterior lobe reddish-brown, sparsely provided with very short, pale, pubescent hairs, rather coarsely punctate, sharply convexly narrowed on lateral sides in front of humeri, widely depressed on median longitudinal line (shallowly furcate), moderately convex across humeral angles, with humeri marked off within, on each side, by longitudinal furrow; anterior lobe much narrower than hind lobe, rather coarsely punctate between lobes; collar narrow, set off by an encircling row of small punctures. Scutellum blackish, punctate, bluntly rounded and weakly bifid at apex. Legs stramineous with apex of femora, tibiae and tarsi dusky.

Abdomen 0.90 mm long, largely concealed by hemelytra. Hemelytra dark fumose with veins prominent and blackish, furnished with short, pale pubescence, veins and basal half of membranous part dark fuscous, with basal half of closed cell and a large spot on each side opposite scutellum white, apical half of membrane with three whitish spots. Male paramere as in Fig. 24c, pre-genital segment as in Fig. 25c.

Total length 1.75 mm; total width 0.75 mm.

Holotype (♂) and *allotype* (♀), both macropterous, CURAÇAO, Piscadera inner bay, 8.XI.1956, leg. R. H. Cobben, in Drake Collection (U.S. National Museum). Many paratypes in Drake Collection and at present in the collection of the Laboratory of Entomology, Wageningen, Netherlands.

Mean length of 15 ♂♂ : 1.71 mm (max. 1.75; min. 1.66)

– – – 15 ♀♀ : 1.92 mm (max. 2.02; min. 1.81)

Mean width of 15 ♂♂ : 0.76 mm (max. 0.80; min. 0.71)

– – – 15 ♀♀ : 0.83 mm (max. 0.90; min. 0.78)

The type (♂; Fig. 22) and the paramere and pre-genital segment of a male paratype (Fig. 20c, 21c) are illustrated.

The illustrations and description of *Hebrus elimatus*, n. sp., separate it at once from the other two species of the genus (*consolidus* Uhler and *concinus* Uhler) known to occur in the West Indies.

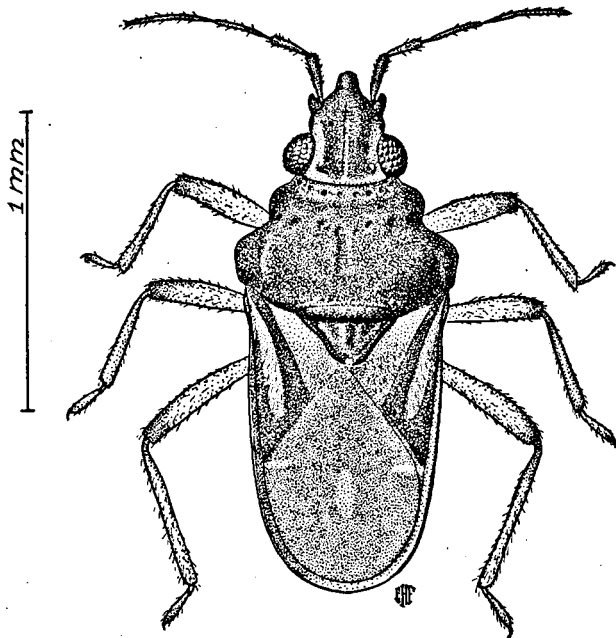


Fig. 22. *Hebrus elimatus* sp. n., male (type), from Curaçao.

This new *Hebrus* is widespread on the three most southern islands of the Netherlands Antilles and occasionally occurs in large numbers on permanent and semi-permanent salty mud flats at the foot of halophilous plants such as *Batis maritima*, *Sesuvium portulacastrum*,

Stemodia maritima, *Heliotropium curassavicum* and *Sporobolus virginicus*. It has only been found a few times in a fresh-water habitat (Rio Canario, Pos Bronswinkel), and there its territory bordered that of *Microvelia pulchella*, *Merragata* and *Mesovelia*. The species is apparently absent on Klein Curaçao – a very small limestone island 11 km. ESE of Curaçao – in the southern part of which an ideal *Sesuvium* vegetation occurs, which has been thoroughly investigated.