

BULLETIN

ZOÖLOGISCH MUSEUM

U N I V E R S I T E I T V A N A M S T E R D A M

Vol. 11 No. 25 1989

Amsterdam Expeditions to the West Indian Islands, no. 56

NOTES ON THE CADDISFLIES (INSECTA, TRICHOPTERA) FROM ISLA MARGARITA (VENEZUELA)

L. Botosaneanu

SUMMARY

Nine species of Trichoptera were collected in small streams in the Cerros de Copey, Isla Margarita - a unique habitat in the Leeward Group (Venezuelan islands + the Netherlands Antilles).

INTRODUCTION

During an expedition to Venezuela and the Venezuelan islands (1982) devoted to study of the aquatic subterranean fauna, I have had the opportunity to spend just a few hours collecting Trichoptera in two of the small water courses arising from the Cerros de Copey, in the eastern part of Isla Margarita. Cerros de Copey, maximum altitude about 900 m a.s.l., are the highest elevations on this island; from their slopes several small streams arise, representing probably the only habitats in the islands off the Venezuelan coasts (excepting, of course, Trinidad and Tobago) where a caddisfly fauna can develop: in other words, interesting and isolated habitats. These water courses were briefly described by Wagenaar Hummelinck (1940: 24-25) and Botosaneanu (1959: 67-68). They are (photos 1-2) small streams with amount of water strongly fluctuating seasonally and from year to year,

with a steep slope, flowing under a canopy of relatively dense vegetation in beds filled with conspicuous boulders; water temperatures: 25-29 C.

On 20th February 1982 I could sample in Rio San Juan (western slopes of the Cerros de Copey) and in Rio del Valle (eastern slopes of these Cerros). Larvae and pupae were hand picked during the day, whereas adults were caught, at night, at the light of a small UV lamp. The material is in the Zoölogisch Museum of the University of Amsterdam (Z.M.A.).

IDENTIFIED TAXA

Neotrichia sp.

One empty larval case of this genus was the only hydroptilid found - a rather odd situation, Hydroptilidae being generally the best represented family in water courses of the Caribbean islands.



Photos 1-2: two views of Rio del Valle, Isla Margarita (photo P. Wagenaar Hummelinck, 1936).

Wormaldia cf. plana Ross & King, 1956.

One ♀ probably belonging to this species was caught. *W. plana* is very widespread, being known from Mexico, Panamá, Colombia, Brazil, Venezuela, Trinidad, and Grenada (Flint, 1981: 10).

Chimarra caribea caribea Flint, 1968.

One ♂ is attributable to the nominate subspecies of *C. caribea*, originally described from Grenada and Trinidad (Flint, 1968: 14-15, figs. 18-20), not to ssp. *surinamensis* Flint, 1974 (Flint, 1974 a: 30, figs. 46-48). The larva of *C. caribea* was unknown; I give here a figure of the characteristically shaped anterior border of the frontoclypeus (fig. 1).

Smicridea (S.) bivittata (Hagen, 1981).

12♂ and 6♀ of this widely distributed species were taken at light; known (Flint, 1974 b: 17) from Mexico, Guatemala, El Salvador, Nicaragua, Costa Rica, and Panamá.

Centromacronema sp. (n. sp. ?)

1♂, 3 larvae, and 1 praepupa proved to belong to *Centromacronema* Ulmer, 1905: in the ♂ the decisive generic character was found, i.e., apex of the fore tibia projecting over the base of the tarsus. Unfortunately, the specimen was preserved in alcohol, not allowing study of the color pattern of the fore wings, but even in this rubbed specimen it was possible to see clearly that the forewings have a large pale spot (anteapical, in the inferior half of the wing). Even more unfortunately, this specimen was lost in the mail when sent for examination to Dr. O.S. Flint. The presence of a large pale spot on the forewings points to *C. oculatum* (Walker, 1852), a species known from Venezuela and Columbia. But comparison of my ♂ genitalia figures 2-5 with those published by Flint (1981: 49, figs. 61-62) for *oculatum*, will show that probably two different species are involved; in that from Margarita the IXth tergite is more strongly developed; the Xth segment is not horizontal but strongly and obliquely protruding dorsad, with a very broad sclerotized distal "frame", and possibly without a dorso-basal hairy wart; there are slight differences also in the phallus outline. When this insect is rediscovered, it will probably prove to be an undescribed species.

Polycentropus (insularis) Banks, 1938 ?).

Two larvae and two empty pupal cases (with larval sclerites) are suggestive of this species, known from Grenada and Dominica.

Marilia sp.

Several pupae were sampled, enabling study of some larval and imaginal sclerites. Figs. 6-7 represent IXth and Xth segments of the ♂, with one of the superior appendages, but unfortunately the gonopods and the phallus have not been found inside the pupal skin, and a description of what seems to be a rather distinct species is impossible at this time.

Phylloicus sp.

1 larva, 1 (♀) pupa.

Helicopsyche margaritensis Botosaneanu, 1959.

This species was described (Botosaneanu, 1959) from ♂ and ♀ genitalia found in "ripe" pupae collected by Dr. Wagenaar Hummelinck in water courses of the Cerros de Copey: an imperfect description, of course. Having caught in 1982, in the terra typica, 2 ♂ and 1 pharate ♀ (besides numerous larvae and pupae), I can give now a very detailed illustration of ♂ (figs. 9 and 12-17) and ♀ (figs. 10-11) genitalia. This species belongs to the difficult and still poorly known "piroa" group, and only careful study of types of all its species will show which of the species are valid, and which are not. Flint (1981: 37; figs. 160-161) states, based on study of specimens from Venezuela, that *H. margaritensis* "is almost assuredly a synonym" of *H. vergelana* Ross, 1956 - one of the species of this group, described from Mexico and subsequently reported from Surinam and Venezuela, suggesting "a wide distribution in the Neotropics". Comparing my figures with those published by Flint (for the ♂ genitalia only a lateral figure, for the ♀ only a ventral one!) I can only say that there is similarity, but certainly not identity, in various parts of the genitalia. Moreover, having studied the ♂ holotype of *H. vergelana*, I am now sure that it is clearly distinct from *margaritensis*. The problem of validity of this last species remains open; the illustration presented here will help to settle the matter when the badly needed revision will be achieved.

ACKNOWLEDGEMENT

The author is grateful to Dr. O.S. Flint, jr. (Washington) for his comments on my drawings. The fieldwork during which the material was collected, was supported by grants from The Netherlands Foundation for the Advancement of Tropical Research (WOTRO, The Hague), the Beijerinck-Popping Fonds (Amsterdam), and the Treub Maatschappij (Utrecht).

REFERENCES

- BOTOSANEANU, L., 1959. *Helicopsyche margaritensis*, Trichoptère nouveau des Petites Antilles. - Stud. Fauna Curaçao, 9: 61-68.
 FLINT, O.S., 1968. The Trichoptera (Caddisflies) of the Lesser Antilles. - Proc. U.S. natn. Mus., 125 (3665): 1-86.
 FLINT, O.S., 1974a. The Trichoptera of Surinam. - Stud. Fauna Curaçao, 14: 1-151.
 FLINT, O.S., 1974b. The genus *Smicridea* from North and Central America (Trichoptera: Hydropsychidae). - Smithsonian Contr. Zool., 167: 1-65.
 FLINT, O.S., 1981. The Trichoptera of the Río Limón Basin, Venezuela. - Smithsonian Contr. Zool., 330: 1-61.
 WAGENAAR HUMMELINCK, P., 1940. Descriptions of the localities. - Stud. Fauna Curaçao, 2: 1-42.

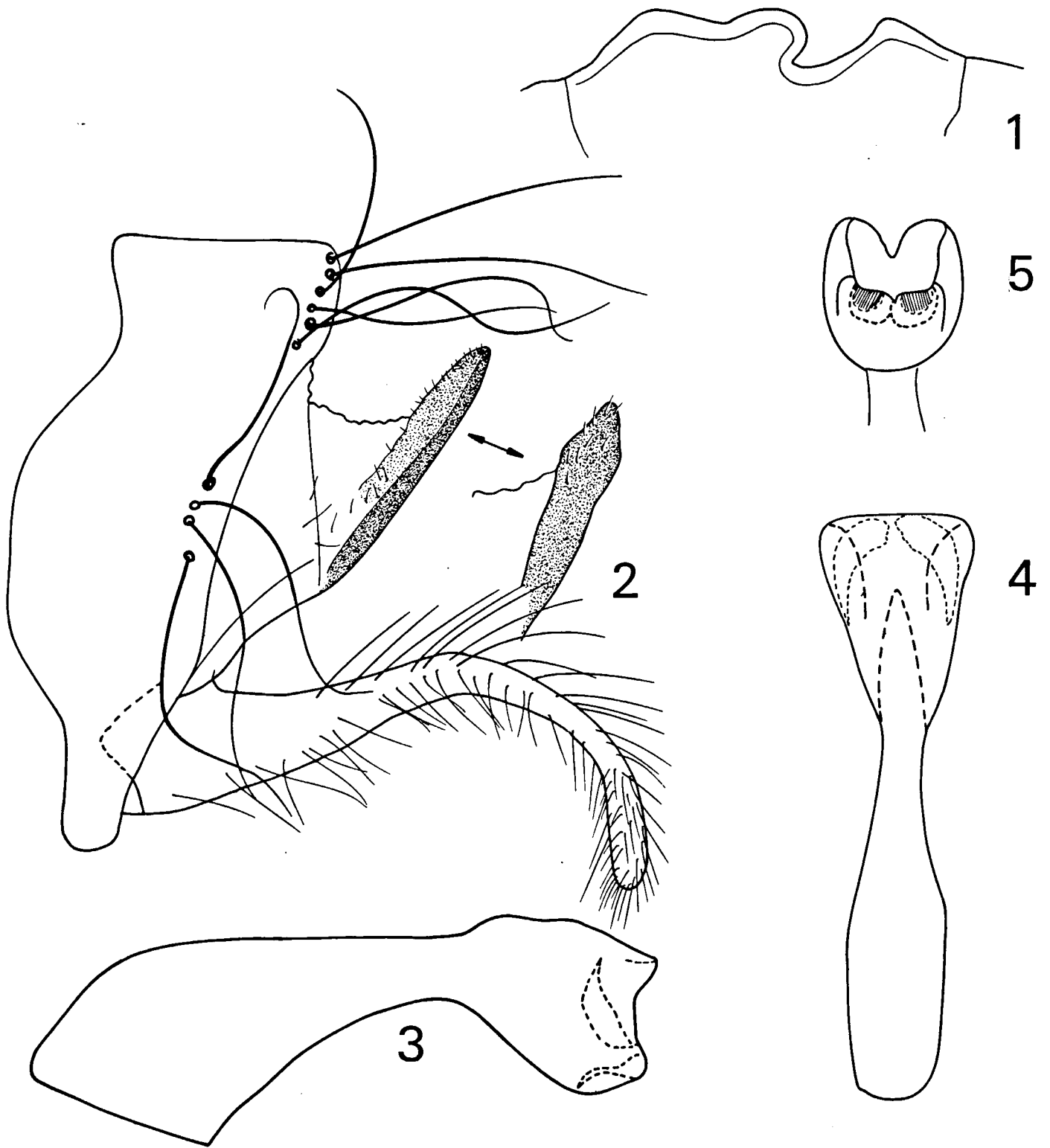
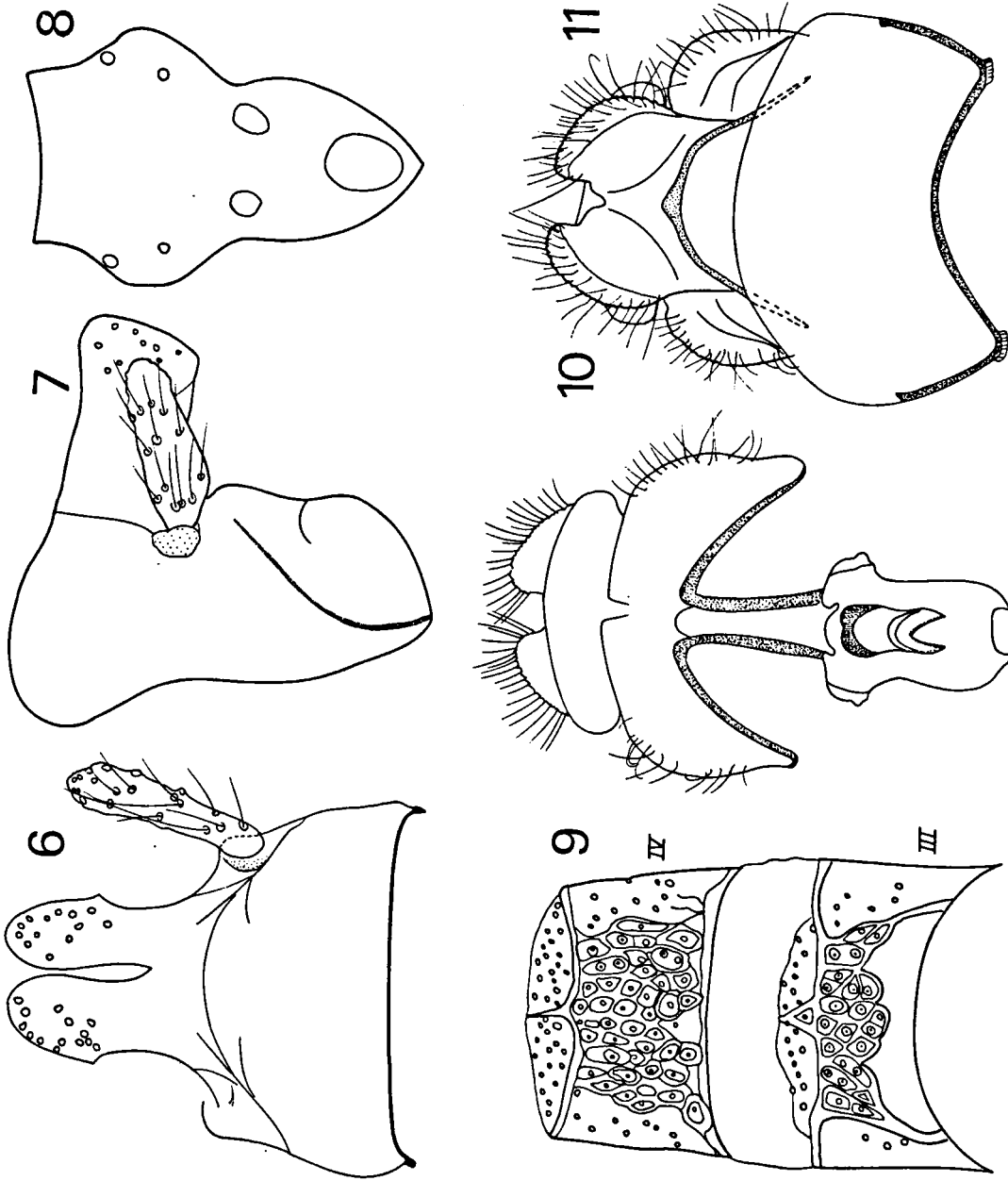
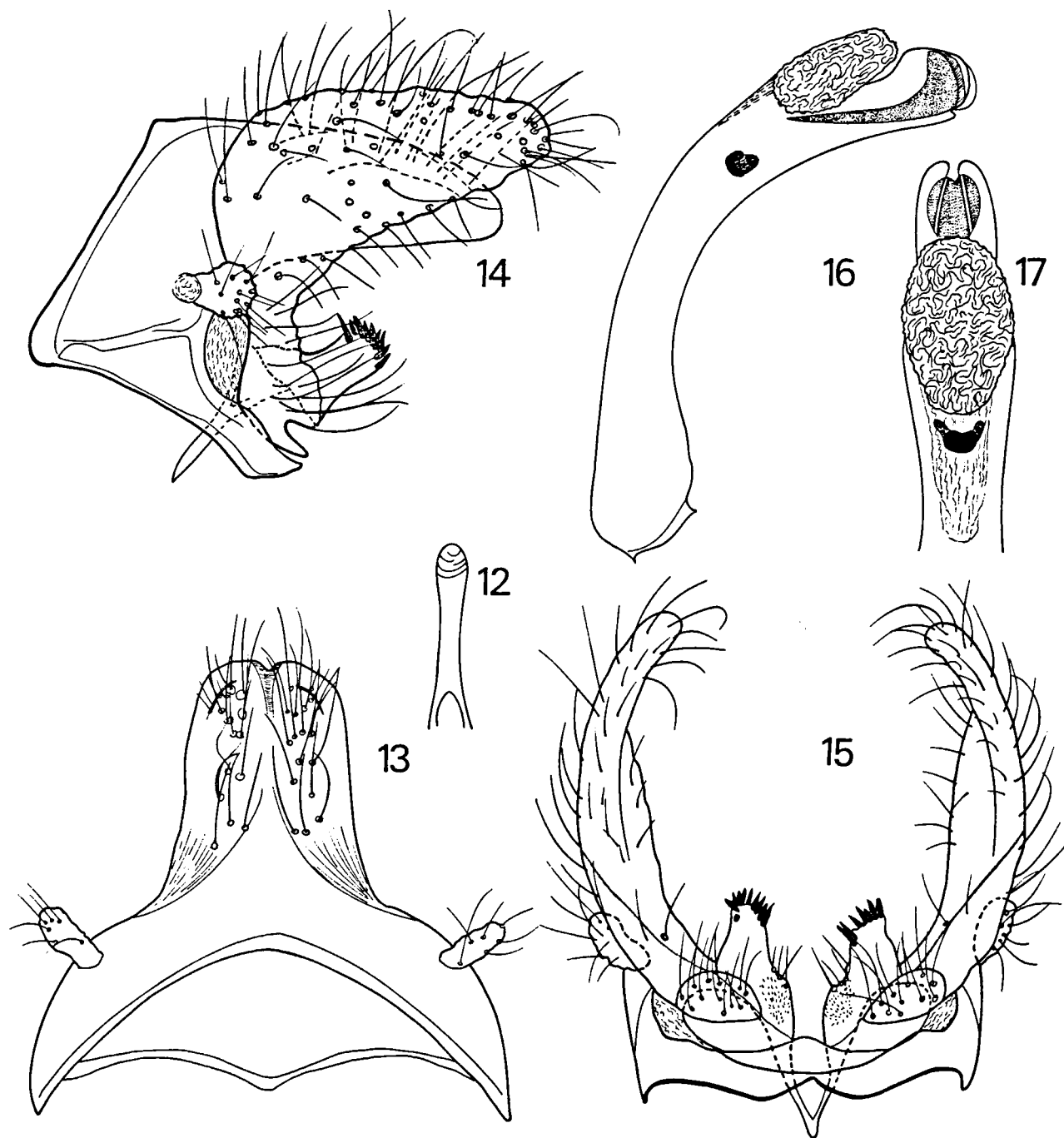


Fig. 1. *Chimarra caribea caribea* Flint, 1968, larva, anterior border of frontoclypeus. 2-5. *Centromacronema* sp., ♂ genitalia (2, lateral view, arrow pointing at another view of Xth segment projection, crushed under cover slide; 3-5, phallus in lateral and ventral view, and tip of phallus in ventro-apical view).



Figs. 6-8. *Marilia* sp. (6-7, ♂ genitalia, ex nymph, dorsal and lateral; 8, larval frontoclypeus).

Figs. 9-11. *Helicopsyche margaritensis* Botosaneanu, 1959 (9, reticulation of abdominal sternites III and IV, ♀; 10-11, ♂ genitalia, ventral and dorsal).



Figs. 12-17. *Helicopsyche margaritensis* Botosaneanu, 1959, ♂ genitalia (12, appendage of VIth sternite; 13-15, dorsal, lateral, ventral views; 16-17, phallus, lateral and dorsal, more strongly magnified than figs. 13-15).

Dr. L. Botosaneanu,
Instituut voor Taxonomische Zoölogie,
(Zoölogisch Museum),
Afd. Entomologie,
Plantage Middenlaan 64,
1018 DH Amsterdam,
The Netherlands.

Received: 17 January 1989
Distributed: 12 - V - 1989