

Results of a trichopterological (Insecta : Trichoptera) travel to the Lesser Antilles in 1989

by Lazare BOTOSANEANU

Summary

Trichoptera (mainly adults) were sampled by the author in 1989 on three Lesser Antilles : Saint Vincent, Martinique and Barbados. 23 species were caught, several of them new for one or another of these islands; the descriptions of several species are amended or completed, and new synonymies are proposed. Two species are described as new : one of *Austrotinodes* from Martinique (genus new for the Lesser Antilles), one of *Chimarra* from Saint Vincent. In an appendix, a new subspecies of *Chimarra caribea* is described from Tobago.

Key-words : Trichoptera, Lesser Antilles.

Résumé

En 1989, les trichoptères (surtout adultes) ont été collectés par l'auteur sur trois des Petites Antilles : Saint Vincent, Martinique et Barbados. 23 espèces ont été capturées, certaines étant nouvelles pour l'une ou l'autre de ces îles; les descriptions de plusieurs espèces sont améliorées ou complétées, et de nouvelles synonymies sont proposées. Deux nouvelles espèces sont décrites : une d'*Austrotinodes* de Martinique (genre nouveau pour les Petites Antilles), une de *Chimarra* de Saint Vincent. Dans un appendix, une nouvelle sous-espèce de *Chimarra caribea* est décrite de Tobago.

Mots-clés : Trichoptera, Petites Antilles.

Introduction

In February and March 1989 I went to Curaçao, Saint Vincent, Martinique and Barbados within the framework of my studies on the caddisfly fauna of the Caribbean islands. After making sure that Curaçao supports no Trichoptera even in the (very rare) more promising habitats, I spent 10 days collecting in Saint Vincent. This beautiful and very promising island has plenty of smaller or larger streams, sometimes very swift and with water temperature even lower than 20° C, and I could see a certain number of them (especially in the SE zone known as Mesopotamia, or in the northern part of the Leeward side of the island, where some magnificent rainforest subsists), but probably never at more than 300 m. a.s.l. I have to say that I was disappointed in rather many cases, promising pristine (or apparently pristine) streams supporting only a — qualitatively or quantitatively — strongly impoverished caddisfly fauna, or no trichopteran fauna at all, and it seems that the fauna of St. Vincent is less varied than that of Martini-

que, and much poorer than that of Dominica. Nevertheless, several species could be added to the extremely short list of species already named from this island, one *Chimarra* being new. Presently 10 species are known, but 5 or 6 others are, for the time being, determined only at the generic level. That careful searching in good localities, maybe higher in the mountains, could lead to discovery of other species, is illustrated by the fact that I described (BOTOSANEANU, 1990) a new species of *Amphoropsycha* (Leptoceridae) from specimens caught in Saint Vincent one century ago, without being able to re-discover this species in 1989. In Martinique I spent about one week collecting mostly in good localities, already sampled, or not, during my 1986 travel; most of them are around one of the localities richest in beautiful streams : Morne Vert, at the foot of the second highest mountains of the island : Pitons du Carbet. Three species are now added to the list of Martinique caddisflies, one of them being a new *Austrotinodes* — genus for the first time discovered in the Lesser Antilles. I had the hope to find good habitats higher on the slopes of Montagne Pelée, but this was an illusion : there are no permanent water courses on these slopes. About 20-22 species are presently known from the island, and I do not believe that many additional species will be found from Martinique in the future.

It was generally believed that Barbados — a flat island extremely poor in water courses — cannot support a caddisfly fauna. During a stay of several days I managed, nevertheless, to find here several sluggish streams, and I caught along them not only one of the most widespread species of the Caribbean, but — most to my surprise — also a species of *Neotrichia* previously known only from Cuba.

The material here mentioned was collected mainly by myself, either during the day (by hand or with a net) or — mostly — during the night, with a *small*, portable UV-lamp. The material is in alcohol, most of it (including the types of the 2 new species) kept in the Zoological Museum of the University of Amsterdam. The type of *Chimarra caribea tobaga* n. ssp. is in the B.M.(N.H.). Several specimens are in the U.S.N.M. Specimens of several species were deposited in the Institut royal des Sciences Naturelles (Bruxelles).

Our knowledge of the Trichoptera of the Caribbean Islands is in permanent progress, the most unsatisfactorily known islands presently being Hispaniola, Guadeloupe, Trinidad and Tobago.

Systematic part

ECNOMIDAE ? PSYCHOMYIIDAE ?

Austrotinodes madininae n. sp. (Figs. 1-3)

Material :

MARTINIQUE : small forest streamlets tributaries of Rivière Morose (Morne Vert, quartier Bernadette, at the foot of Pitons du Carbet), 4.03.1989 : ♀ holotype; Rivière Blanche, about 150 m. upstream Pont de l'Alma, 6.03.1989 : 2 ♀♀ paratypes.

Description of ♀ :

Wings (Fig. 1) typical for the genus; length of forewing : 4.6 - 5.3 mm. The most conspicuous details of the thoracic segments are represented in Fig. 2. Genitalia (Fig. 3) : sternite VIII of characteristic shape, not divided medially, conical but with sinuous lateral margins, strong and sharply pointed apical part. Segment IX ventro-basally with two strong, rounded lobes, almost contiguous medially. Segment X terminally with 3 pairs of papillae, one of them much larger than the remaining two.

Derivatio nominis :

The specific name was derived from Madinina, an ancient Indian name of Martinique («L'île aux fleurs»).

Discussion :

The discovery of this first representative of genus *Austrotinodes* SCHMID, 1949 (and of the family Ecnomidae to which it is tentatively assigned) in the Lesser Antilles, is interesting. This genus comprises a small number of species (SCHMID, 1949, 1955, 1958; FLINT, 1973 *) either from Chile, or from Central America and Mexico, but a first Antillean species was described, from Cuba, by KUMANSKI (1987), whereas — according to this author — a ♀ from the Dominican Republic remains as yet undescribed. Despite the fact that only females are available from Martinique, the species we describe is almost beyond doubt new. It is difficult to speculate about relationships of this species, because only relatively few ♀♀ of *Austrotinodes* were described; anyway, an undivided sternite VIII is found also in *A. sedmani* FLINT, 1973, from Guatemala and Honduras (its apex being blunt in this species), in *A. panamensis* FLINT, 1973 (whose ♀ genitalia are, according

to FLINT, 1973 apparently identical to those of *sedmani*), and in *A. cubanus* KUMANSKI, 1987 (where this sternite is an ogival shield). All this points to affinities with the Central- American group of species, not with the Chilene one.

HYDROPSYCHIDAE

Smicridea simmonsii FLINT, 1968

(Figs. 4-11)

S. therezieni MALICKY, 1987 (nov. syn.)

S. aurimacula FLINT & DENNING, 1989 (nov. syn.)

Material sampled during my 1989 travel :

MARTINIQUE : Ravine l'Abbé (Morne Vert), 3.03.1989 : 5 ♂♂, 1 ♀; Rivière Morose (Morne Vert), 2.03.1989 : 21 ♂♂, 8 ♀♀; small streamlets tributaries of Rivière Morose (Morne Vert, quartier Bernadette), 4.03.1989 : 9 ♂♂, 2 ♀♀; Rivière Coco (Morne Vert), 4.03.1989 : 10 ♂♂, 6 ♀♀; small right tributary of Rivière St. Jacques, between Fond St. Jacques and Pain de Sucre, 28.02.1989 : 2 ♂♂, 2 ♀♀; Rivière Blanche, about 150 m. upstream Pont de l'Alma, 6.03.1989 : 2 ♂♂, 5 ♀♀.

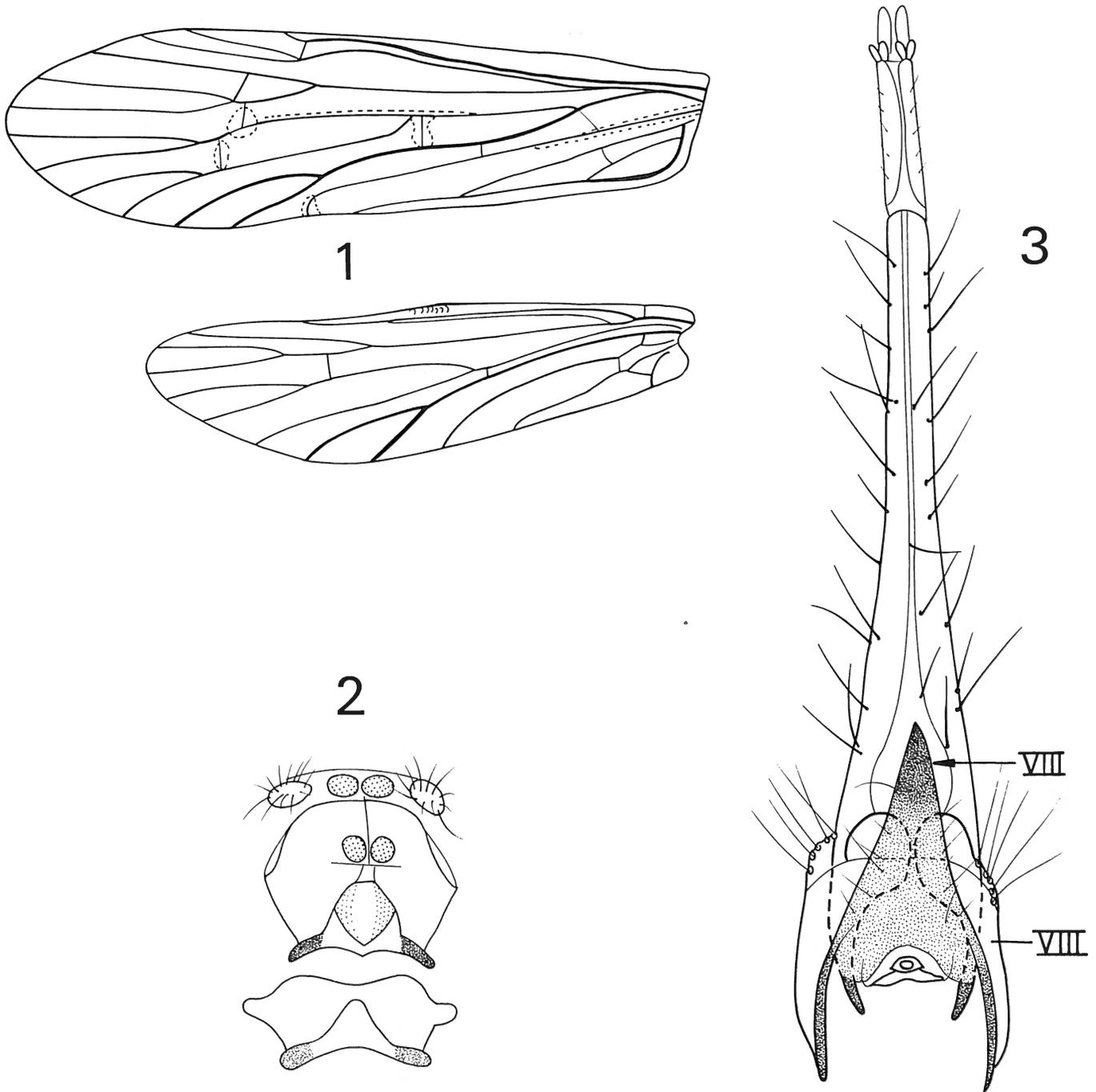
SAINT VINCENT : forest stream at Montreal (Mariaqua Valley, Mesopotamia) : 2 ♂♂, 1 ♀, 1 pupa with larval exuvium.

Examination or re-examination, by me and/or by Dr. O.S. FLINT, Jr., of all my and his ♂ specimens of *Smicridea* from St. Lucia (described as *S. simmonsii* FLINT), from Martinique (described, or re-described, as *S. therezieni* MALICKY), or from Saint Vincent (described as *S. aurimacula* FLINT & DENNING; also 2 ♂♂ sampled in 1895 from St. Vincent and belonging to the B.M.N.H. were studied; labelled "St. Vincent W.I., H.H. SMITH" — one of them also "1500 feet") has lead us to the conclusion that only one species is here involved, the ♂ genitalia being identical — although subject to minor variation or to production of artefacts (see below). From St. Lucia and Martinique only specimens in alcohol are presently known, their forewing marks being unknown, but there is practically no doubt that these markings will prove to be identical with those known from pinned St. Vincent specimens. A few remarks on the ♂ and ♀ genitalia of this species will follow.

When re-describing *S. therezieni* (BOTOSANEANU, 1988) I did not mention the lateral plates of the endotheca, on which the minute spines are placed : in fact, these plates are always present, even if they are sometimes extremely pale and indistinct; second, I did not illustrate a short, sclerotized medio-dorsal projection of the phallobase above the dorso-proximal part of the endotheca; finally, I did not mention the fact that the "collerette plissée" ("crenulate crescentic hood") of the endotheca can be more strongly developed than that figured by me.

An important observation is that when the endotheca is in complete extension, the aspect of its different parts can drastically change (Figs. 6-9, prepared from the two St. Vincent specimens collected by me in 1989 — but the

* In a recent publication (FLINT, O.S. & DENNING, D.G., 1989. Studies of Neotropical Caddisflies, XLI : New species and records of *Austrotinodes* (Trichoptera : Psychomyiidae). *Pan-Pacific Entomologist*, 65 (2) : 108-122) numerous new species are described (only males), but none from the Caribbean islands.

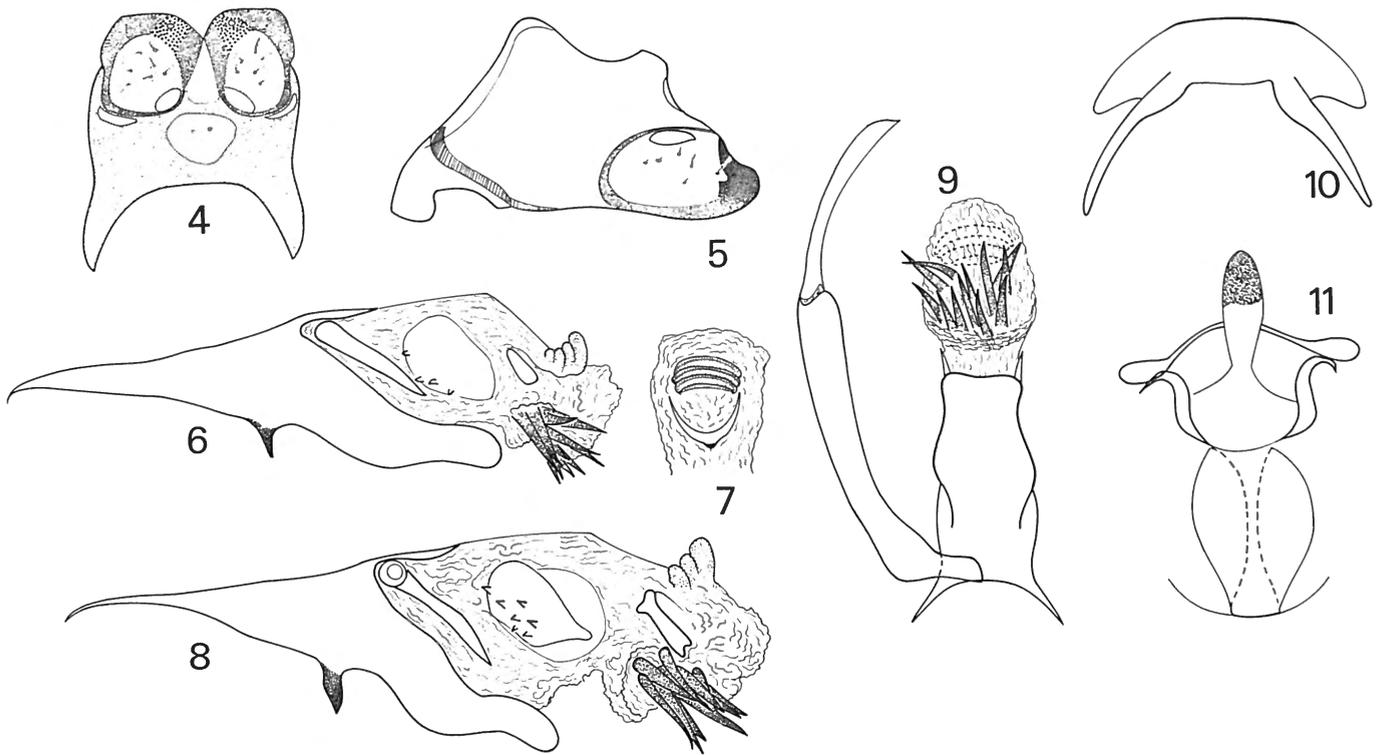


Figs. 1-3 – *Austrotinodes madinina* n. sp., ♀ holotype (1 : wings; 2 : thoracic segments; 3 : abdominal segments VIII, IX and X, ventral).

same was observed in various specimens from Martinique) : the feebly sclerotized, digitiform “appendice dorsal” (BOTOSANEANU, 1988 : Fig. 4) completely disappears; its lower margin becomes part of the dorsal limit of endotheca, and this part forms a distinctly obtuse angle with the proximal part of this limit; the “collerette plissée” is expelled from the root of the “appendice dorsal” almost to the apex of the endotheca, where it takes a dorsal position; the brush of long spines becomes downwards directed; the U-shaped sclerite becomes much more distinct.

I take this opportunity to give figures (Figs. 10-11) of the

internal structures of the ♀ genitalia called by FLINT (1968) in *Smicridea* “internal plate” and, respectively, “bursa copulatrix” (in BOTOSANEANU, 1988, these structures were either not illustrated, or illustrated only in a rough manner). NOTE. There is presently some evidence that a second species of *Smicridea* lives on St. Vincent : 2 pinned ♀ specimens from the B.M.N.H. (“St. Vincent W.I. Windward side, H.H. SMITH”) were found by Dr. O.S. FLINT, Jr., to be distinct in combination of forewing pattern and genitalia from all presently described Lesser Antillean species of the genus.



Figs. 4-11. — *Smicridea simmonsii* FLINT, from Saint Vincent (4-5 : segments IX + X of ♂, dorsal and lateral; 6-7, and 9 : phallic apparatus, lateral, dorsal — only apical part —, and ventral — with gonopod; 8 : phallic apparatus, lateral, in another specimen; 10-11 : “internal plate” and bursa copulatrix of ♀, ventral).

Leptonema archboldi FLINT, 1968. MARTINIQUE : Rivière Morose (Morne Vert), 2.03.1989 : 2 ♀♀; small streamlets tributaries of Rivière Morose (Morne Vert, quartier Bernadette), 4.03.1989 : 1 ♀.

Leptonema albovirens (WALKER, 1852). SAINT VINCENT : upper course of Cumberland River, 20.02.1989 : 3 ♂♂, 5 ♀♀, 1 pupa, several larvae; River Dalaway at Vermont, and mountain tributary of this river, 15.02.1989 : 1 ♂, 5 ♀♀; forest stream at Montreal (Mariaqua Valley, Mesopotamia), 16.02.1989 : 3 ♂♂, 6 ♀♀, many larvae, 1 praepupa; permanent stream flowing from Soufrière volcano, N. from Georgetown, 21.02.1989 : 1 ♂, 4 ♀♀, 1 pupa, several larvae.

POLYCENTROPODIDAE

Polyplectropus bredini FLINT, 1968. MARTINIQUE : Rivière Morose (Morne Vert), 2.03.1989 : 1 ♀.

XIPHOCENTRONIDAE

Xiphocentron (Antillotrichia) parentum BOTOSANEANU, 1988. MARTINIQUE : Rivière Coco (Morne Vert), 4.03.1989 : 2 ♂♂, 1 ♀; Rivière Morose (Morne Vert), 2.03.1989 : 1 ♂; Rivière Blanche, about 150 m. upstream Pont de l’Alma. 6.03.1989 : 1 ♂.

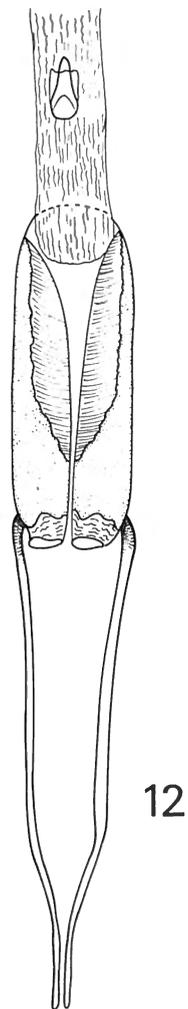
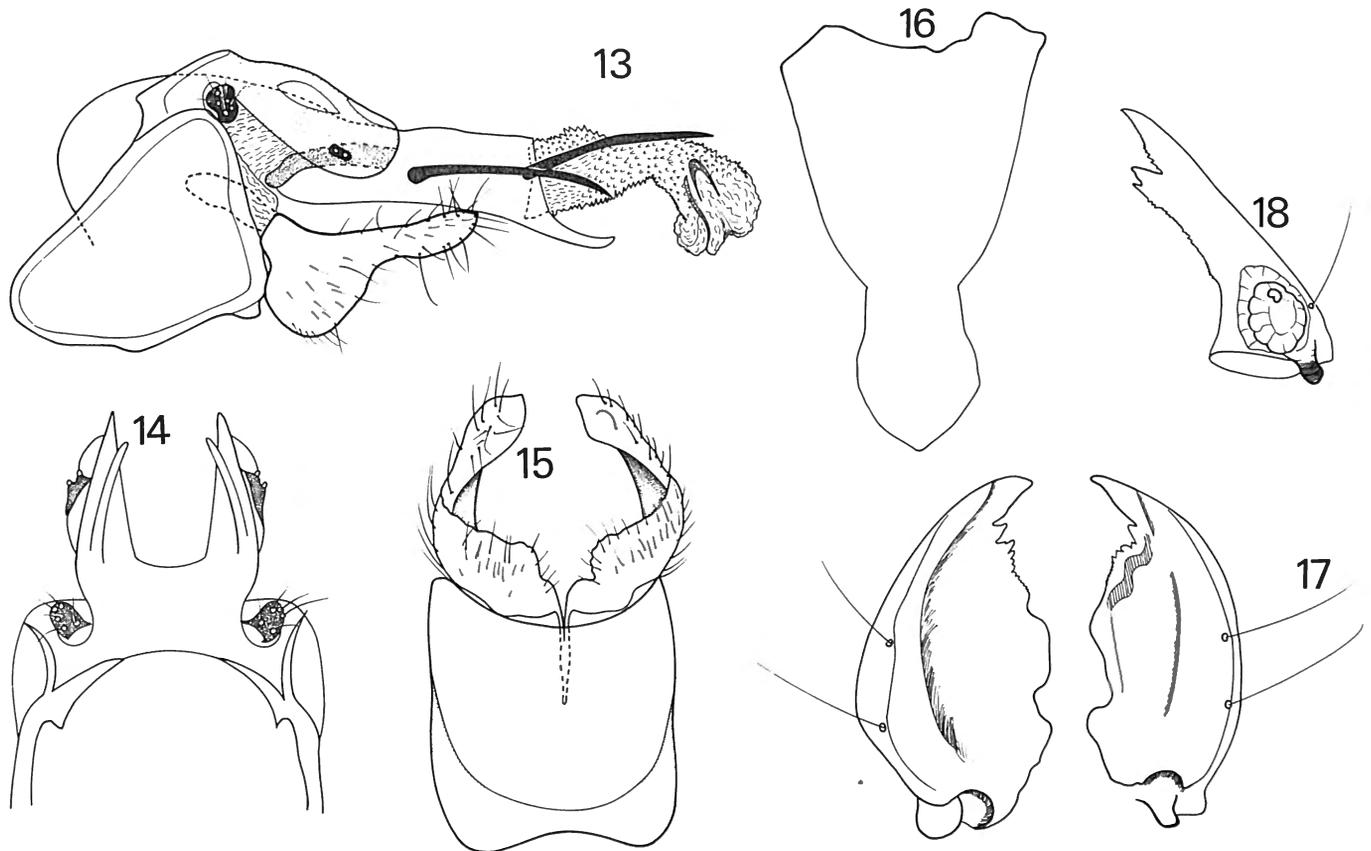


Fig. 12 — *Xiphocentron parentum* BOTOSANEANU, ♀ (segment VIII and part of intersegmental membrane VIII-IX with vaginal apparatus, dorsal).



Figs. 13-18 – *Chimarra (C.) hairouna* n. sp. (13-15 : genitalia of ♂ holotype, lateral, dorsal — only segments IX and X —, ventral — only segment IX and gonopods; 16-17 : larval frontoclypeus and mandibulae; 18 : pupal mandibula).

The ♀ of *X. parentum* not being described, I give here a figure (Fig. 12) of its genitalia, more exactly of segment VIII with its complex and interesting structure (it is surprising that this was never illustrated in detail in this genus — see, for instance : SCHMID, 1982 —, although it may offer good species - specific characters). Segment IX is as long as the intersegmental membrane VIII-IX, with very long apodemes; segment X very short, with 2 papillae. NOTE. Unidentifiable specimens of *Xiphocentron* (larvae, pupae, pupal exuviae) were sampled from several localities in Saint Vincent.

PHILOPOTAMIDAE

Wormaldia planae ROSS & KING, 1956. SAINT VINCENT : upper course of Cumberland River, 20.02.1989 : 1 ♂. This species was as yet not mentioned from St. Vincent.

Chimarra (C.) dominicana FLINT, 1968. MARTINIQUE : Rivière Morose (Morne Vert), 2.03.1989 : 4 ♂♂, 2 ♀♀; small streamlets tributaries of Rivière Morose (Morne Vert, quartier Bernadette) 4.03.1989 : 11 ♂♂, 8 ♀♀.

Chimarra (C.) antilliana FLINT, 1968. MARTINIQUE : Ravine l'Abbé (Morne Vert), 3.03.1989 : 1 ♂; Rivière

Morose (Morne Vert), 2.03.1989 : 5 ♂♂, 5 ♀♀; small right tributary of Rivière St. Jacques, between Fond St. Jacques and Pain de Sucre, 28.02.1989 : 1 ♂, 5 ♀♀; Rivière Blanche, about 150 m. upstream Pont de l'Alma, 6.03.1989 : 1 ♂, 21 ♀♀.

***Chimarra (C.) hairouna* n. sp.** (Figs. 13-18)

Material :

SAINT VINCENT : forest stream at Montreal (Mariaqua Valley, Mesopotamia), 16.02.1989 : paratype ♂ holotype (as well as 2 larvae and 2 pupae with larval exuviae); permanent stream flowing from Soufrière volcano, N. from Georgetown, 21.02.1982, 3 larvae. Two pupal exuviae possibly belonging to this species were sampled (20.02.1989) on a stone in the upper course of Cumberland River. The stream having produced the holotype specimen is one of many in the zone, near a drinking water reservoir for the nearby Montreal village; it is a pristine, swiftly running stream (Metarhithral), with gravel and cobble in its bed. *

* I have seen another ♂ (paratype; alcohol; U.S.N.M.), also from St. Vincent (Hermitage, 14 Nov. 1975, C.L. de Freitas), kindly sent to me for examination by Dr. O.S. FLINT, Jr.

Description of ♂ :

Forewing (alcohol) uniformly brown, 4.1 mm long. Segment VIII narrowly annular, tergum not modified. Tergite IX reduced to a pair of small dorsolateral rudiments, each with short anterior point; sternite, in lateral view, obtusely rounded anteriorly, almost vertical posteriorly, only with very short medio-distal prong (Fig. 13). Cerci knob-like, without peculiarities. Segment X medio-dorsally deeply and broadly split : thus no median lobe, but two strongly developed lateral lobes, in lateral view with very obtuse apex and — starting on the median side from this apex and directed proximad — a strong, elongated thickening; in dorsal view apices pointed, and on internal face of each lobe a slender, almost hyaline appendage, whereas on its external face there is a knob with two sensillae. Gonopods (lateral view) with proximal part strongly broadened, in contrast with the relatively slender and straight, simple distal part; seen ventrally, the strongly twisted gonopods converge in their distal halves; their apical parts are simply lancet-like. Phallic apparatus proximally with long sclerotized tube (phallosome) protruding medio-ventrally at its posterior end like a rather long lip; in the endothenca — which is mostly covered by short spinules — two long, practically identical eversible spines; apical part of endothenca, not spiny, with two internal thickenings, one of them like an U.

Larva and pupa :

The larval mandibulae are illustrated in Fig. 17. The anterior border of the frontoclypeus (Fig. 16) will be easily distinguished from that of the other Lesser Antillean species of *Chimarra* (FLINT, 1968 : Figs. 16 and 22; BOTOSANEANU, 1989b : Fig. 1). The pupal mandible (Fig. 18) has inside its basal part a large, perfectly distinct gland.

Derivatio nominis :

The specific name is derived from Hairoun, an ancient Indian name of Saint Vincent island.

Discussion :

C. (C.) hairouna n. sp. is clearly distinct from the three other known Lesser Antillean species of the genus, although related to them and also to *C. duckworthi* from Costa Rica (FLINT, 1967). Characters of larval morphology (mandibulae, anterior border of frontoclypeus) and of pupal morphology (mandibulae) show that the species may be more closely related to *antilliana* FLINT, 1968.

HYDROPTILIDAE

Alisotrichia dominicensis FLINT, 1968. MARTINIQUE : Ravine l'Abbé (Morne Vert), 3.03.1989 : 1 ♂.

Alisotrichia orophila FLINT, 1968. MARTINIQUE : Rivière Coco (Morne Vert), 4.03.1989 : 1 ♂.

NOTE : 3 ♀♀ belonging to two different species of *Alisotrichia* were caught on Rivière Morose (Martinique, Morne Vert).

Alisotrichia timouchela BOTOSANEANU, 1989 (Figs. 19-22). This species was described from two ♂ specimens from Martinique (BOTOSANEANU, 1989a). On 12th and 18th February 1989 I collected a large number of specimens (75 ♂♂, 51 ♀♀) near a madicolous habitat on SAINT VINCENT : near Kingstown ("Liberty Lodge"), at the foot of St. Andrew mountain, one of the numerous streams ("Bow Wood" ?) forms a waterfall and, before flowing to the town, provides the water for a madicolous habitat on the concrete of a drinking water reservoir. All the adults were caught with a net or by hand, during the day, but always in the shadow. An interesting observation could be made on the behaviour of the insects : they approach, by flying, the water-film on the concrete surfaces, penetrate this film with their legs which perform extremely rapid hopping movements in the water (the insects remaining for some time in one place), whereas the wings are always kept dry, above the waterfilm.

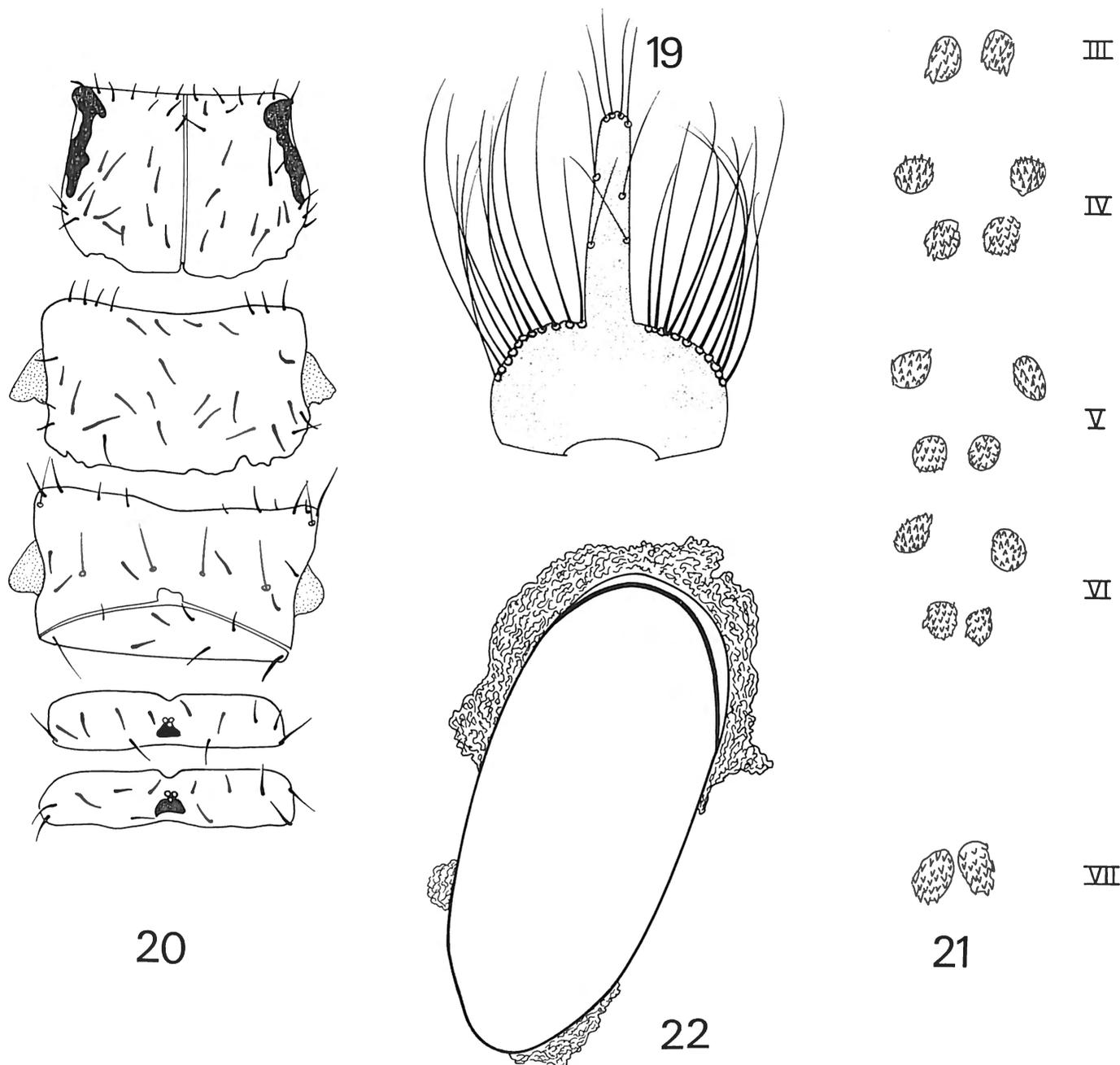
Study of this rich material enables me to correct an error in my 1989a paper : the ♀ there described as "*Bredinia* sp." based only on two specimens not in very good condition, is nothing else than that of *Alisotrichia timouchela*. Extremely characteristic is the hemielliptical sclerotized plate with very long setae and with a long and narrow medio-distal extension, parallel-sided and with blunt apex (Fig. 19), of the abdominal tergite (not sternite !) VII. The ♀♀ of *A. timouchela* and of its sister-species *A. lobata* FLINT, 1968, are readily distinguished by their tergite VII structure (compare with fig. 98 in FLINT, 1968).

A few larvae and pupae were collected in the above mentioned habitat. The structure of the larval thoracic and abdominal segments (Fig. 20) shows some similarity with that of "*Alisotrichia* sp. 1" (FLINT, 1968), which is possibly that of *lobata* : on the abdominal tergites the 3 pores are placed *in front of* the dark mark. But, unlike in "*Alisotrichia* sp. 1", the two parts of the metanotum are separated only by a quite narrow suture. The pupae of *Alisotrichia* have never been illustrated, and the only — very succinct — description is probably that in FLINT (1964) for *A. hirudopsis*. The spiny plates on the pupal abdominal dorsa are illustrated in Fig. 21 : postsegmental plates on segments III-VII, presegmental plates on IV-VI. I can also give a figure (Fig. 22) of the pupal construction.

Dr. O.S. FLINT, Jr., informs me that there are specimens of *A. timouchela* from St. Vincent in the U.S.N.M. (Hermitage, 14. Nov. 1975, C.L. de Freitas, 2 ♂♂, 1 ♀; Bellisle, 12. Nov. 1975, E.L. Todd, 2 ♂♂).

Bredinia dominicensis FLINT, 1968. MARTINIQUE : Ravine l'Abbé (Morne Vert), 3.03.1989 : 1 ♂, 1 ♀. This species was known only from Dominica, but Mr. Steven C. HARRIS informs me that he has seen it also from Panama and Ecuador.

Zumatrichia antilliensis FLINT, 1968. MARTINIQUE : Rivière Morose (Morne Vert), 2.03.1989 : 47 ♂♂ + ♀♀; small streamlets tributaries of Rivière Morose (Morne Vert, quartier Bernadette), 4.03.1989 : 1 ♂, 1 ♀; Ravine l'Abbé (Morne Vert), 3.03.1989 : 134 ♂♂ + ♀♀; Rivière



Figs. 19-22 – *Alisotrichia timouchela* BOTOSANEANU, from Saint Vincent (19 : characteristic sclerotized parts of abdominal tergite VII of ♀; 20 : thorax and first two abdominal segments of larva; 21 : spinose plates of pupal abdominal dorsa; 22 : pupal case).

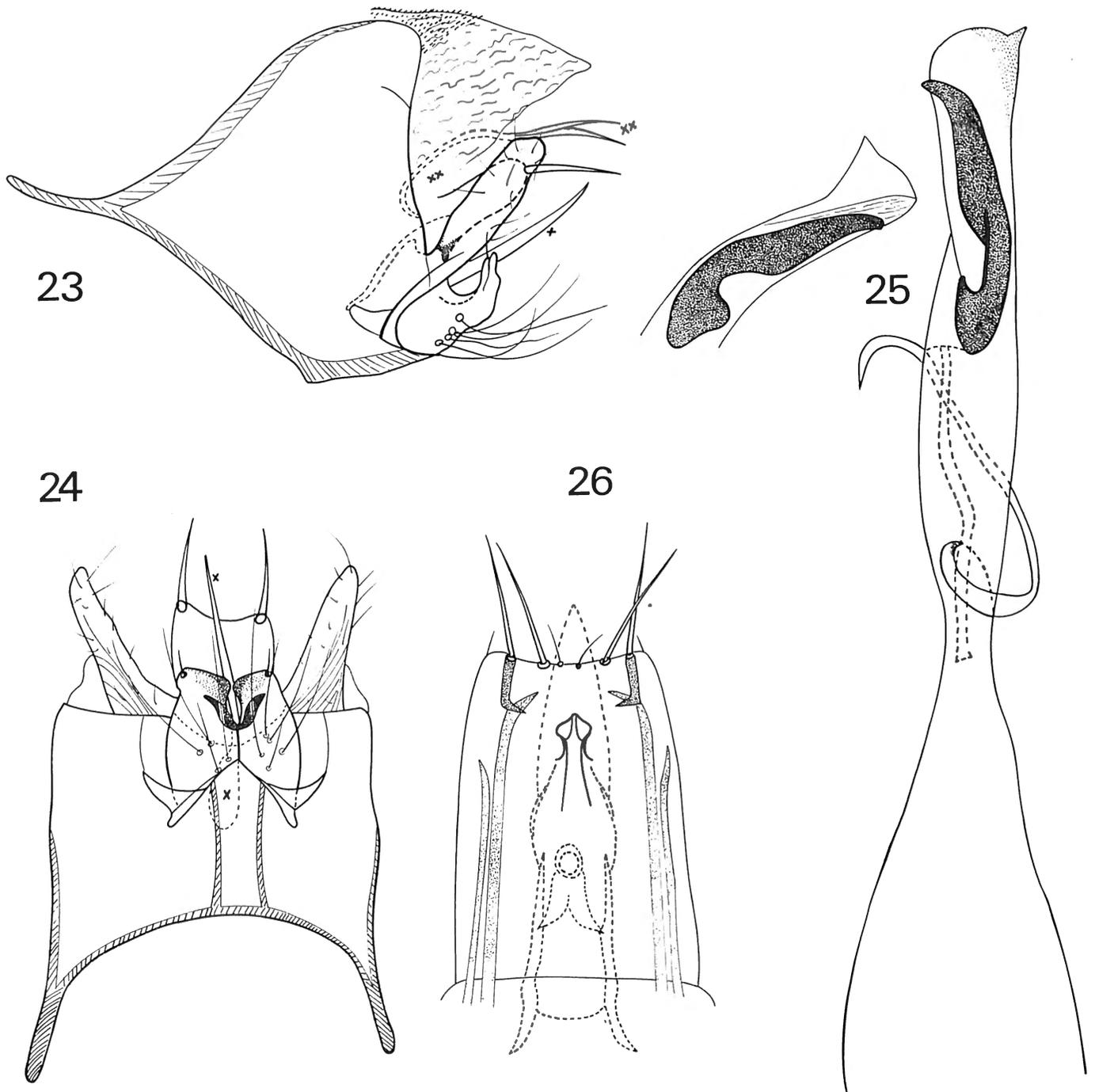
Coco (Morne Vert), 4.03.1989 : 2 ♂♂, 3 ♀♀; Rivière Blanche, about 150 m. upstream Pont de l'Alma, 6.03.1989 : hundreds of ♂♂ + ♀♀.

SAINT VINCENT : upper course of Cumberland River, 20.02.1989 : 14 ♂♂, 32 ♀♀; River Dalaway at Vermont, and mountain tributary of this river, 15.02.1989 : 9 ♂♂, 5 ♀♀; forest stream at Montreal (Mariaqua Valley, Mesopotamia), 16.02.1989 : 1 ♀; permanent stream flowing from Soufrière volcano, 21.02.1989 : 10 ♂♂, 37 ♀♀.

Zumatrichia anomalopectera FLINT, 1968. SAINT VINCENT : Yambou River at 1 mi from mouth, 18.02.1989 : hundreds of ♂♂ + ♀♀; Dumbarton River, tributary of Yambou River (Mesopotamia), 18.02.1989 : 11 ♂, 11 ♀.

NOTES. - *Z. antillensis* was not yet mentioned from Saint Vincent. In 1986 *Z. anomalopectera* was caught in large numbers in Martinique, whereas in 1989 no specimens could be taken. On St. Vincent there seems to be some spatial separation between the two species : I never have caught them together.

Ochrotrichia (O.) ponta FLINT, 1968. MARTINIQUE : Ravine l'Abbé (Morne Vert), 3.03.1989 : 5 ♂♂; small forest streamlets tributaries of Rivière Morose (Morne Vert, quartier Bernadette), 4.03.1989 : 1 ♂. This species was known only from Dominica. Dr. O.S. FLINT, Jr., informs me that this species was found also on St. Vincent (Hermitage, 14 Nov. 1975, C.L. de Freitas, 1 ♂, U.S.N.M.).



Figs. 23-26 – *Neotrichia pequenita* BOTOSANEANU, from Barbados (23-24 : ♂ genitalia, lateral and ventral; 25 : phallic apparatus, ventral — with a lateral view of its distal part; 26 : abdominal segment VIII of ♀, ventral, with “bursa copulatrix”).

***Neotrichia tauricornis* MALICKY, 1980. MARTINIQUE :**
 Rivière Morose (Morne Vert), 2.03.1989 : 7 ♂♂, 3 ♀♀;
 Ravine l'Abbé (Morne Vert), 3.03.1989 : 2 ♂♂, 1 ♀;
 Rivière Coco (Morne Vert), 4.03.1989 : 1 ♂; small right
 tributary of Rivière St. Jacques, between Fond St. Jacques
 and Pain de Sucre, 28.02.1989 : 2 ♂♂, 4 ♀♀; Rivière
 Blanche, about 150 m. upstream Pont de l'Alma,
 6.03.1989 : 4 ♂♂, 5 ♀♀.

***Neotrichia iridescens* FLINT, 1964. MARTINIQUE :**
 Rivière Morose (Morne Vert), 2.03.1989 : 1 ♂, 8 ♀♀;
 Ravine l'Abbé (Morne Vert), 3.03.1989 : 4 ♂♂, 29 ♀♀;

small right tributary of Rivière St. Jacques, between Fond
 St. Jacques and Pain de Sucre, 28.02.1989 : 9 ♂♂,
 21 ♀♀; Rivière Blanche, about 150 m. upstream Pont de
 l'Alma, 6.03.1989 : 2 ♂♂, 5 ♀♀.

NOTE. - It is rather strange that I did not find at least
 one of these *Neotrichia* species in Saint Vincent.

***Neotrichia pequenita* BOTOSANEANU, 1977. BARBA-
 DOS :** Joe's River (St. Joseph Parish), 25.02.1989 : 31
 ♂♂, 54 ♀♀; Bawden stream, between Bawden and Rock
 Hole, 24.02.1989 : 5 ♀♀.

This species was described from the provinces Oriente and

Las Villas of Cuba (BOTOSANEANU, 1977), and was later discovered also in its province Pinar del Rio (KUMANSKI, 1987). I was very surprised to catch numerous specimens of *N. pequenita* on two sluggish streams of Barbados. Comparison of the ♂ genitalia drawings in my 1977 paper (not really satisfactory, and badly reproduced) with Barbadian specimens, may lead to the conclusion that there are small differences, but I compared directly specimens from Cuba and Barbados and found almost complete identity. Based on Barbadian specimens I give here a redescription of the ♂ genitalia of *N. pequenita* (Figs. 23-25). Segment IX much shorter on medio-dorsal than on medio-ventral line; proximally with moderately long "horns" slightly upwards directed; well developed, elongated, narrow, parallel sided "bracteolae", latero-ventrally with very fine wrinkles. Segment X entirely membranous, deeply cleft medio-apically. Below segment X the following appendages — possibly all belonging to segment IX? — can be seen, from dorsal to ventral: a pair of appendages (XX in Fig. 23) which I am unable to interpret correctly, apically each with 2 long, similar setae; the subgenital plate (placed, of course, below the phallic apparatus), in lateral view broadly digitiform, distally emarginated (dorso-ventral view), with one strong seta inserted in each posterior angle; another appendage (X in Fig. 23-24) which I cannot correctly interpret: an unpaired chitinous bulb on which is inserted a very long, strong seta; the gonopods. In lateral view, the gonopods are sinuous, with a broader proximal and a much narrower distal part; in ventral view they are the most distinctive part of the ♂ genitalia: fused in the proximal half of their median line but separated in its distal half, they form a plate roughly having the shape of a butterfly with expanded wings, with deep and broad proximal indentation, proximal angles produced into laterally directed "winglets", lateral borders convex, the two distal parts slightly capitate, with oblique apical margins and a short seta in each latero-apical angle. The comparatively enormous phallic apparatus shows a sub-apical point, a very large and strong, characteristically twisted, internal spur in the distal part, and a relatively short "titillator" with basal loop at the level of the short phallus' "neck". The ♀ genitalia of this species were not yet illustrated. Segment VIII is represented, in ventral view, in Fig. 26; it has a relatively short medio-longitudinal sclerotized, darker formation, which is characteristically capitate (or spatulate). "Bursa copulatrix" seems to be characteristic if compared with those illustrated in (very few) other *Neotrichia* species.

This species, well represented in Cuba and Barbados, was not discovered on well sampled intermediate islands like Jamaica, Puerto Rico, Dominica, or Martinique; but I have caught it, in numbers, in Haiti.

Hydroptila antillarum FLINT, 1968. MARTINIQUE: Ravine l'Abbé (Morne Vert), 3.03.1989: 1 ♀; Rivière Morose (Morne Vert), 2.03.1989: 1 ♂, 3 ♀♀; Rivière Blanche, about 150 m. upstream Pont de l'Alma, 6.03.1989: 18 ♀♀.

Oxyethira (Loxotrichia) janella DENNING, 1948. MARTINIQUE: Rivière Morose (Morne Vert), 2.03.1989: 1 ♂. BARBADOS: stream at "Farmer's Hillaby", 23.02.1989: 1 ♂, 17 ♀♀; Joe's River (St. Joseph Parish), 25.02.1989: 5 ♂♂, 35 ♀♀; Bawden Stream, between Bawden and Rock Hole, 24.02.1989: 1 ♂, 2 ♀♀. The species was not yet found from Barbados.

NOTE. - Females of *Oxyethira* not accompanied by males were caught in several other localities from Martinique and from St. Vincent, and were left unidentified (*O. janella* was already mentioned from St. Vincent).

HELICOPSYCHIDAE

Helicopsyche guadeloupensis MALICKY, 1980. MARTINIQUE: Rivière Blanche, about 150 m. upstream Pont de l'Alma, 6.03.1989: 1 ♂. *Helicopsyche* is almost certainly absent from St. Vincent.

APPENDIX:

A new subspecies of *Chimarra (C.) caribea*
FLINT, 1968, from Tobago.

C. caribea was described (FLINT, 1968) based on specimens from Grenada and Trinidad; the nominate subspecies was later mentioned from Margarita (BOTOSANEANU, 1989b). A new subspecies, *C. caribea surinamensis*, was described by FLINT (1974) from northern Suriname. I have also seen a ♀ of *C. caribea* (subspecies unknown) from Mustique. Moreover, I have seen — also from the B.M.(H.N.) collections — a ♂ specimen from Tobago which clearly represents a non-described geographic race.

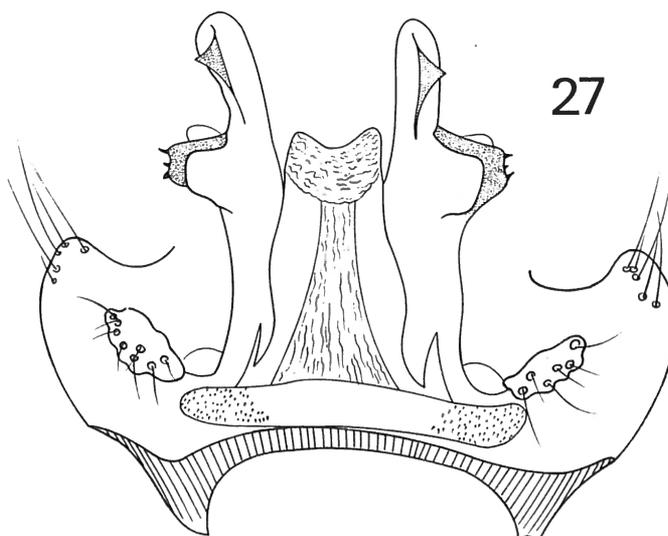


Fig. 27 — *Chimarra (C.) caribea tobaga n. ssp.*, genitalia of ♂ holotype, dorsal.

Chimarra (C.) caribea tobaga n. ssp.
(Fig. 27)

Material :

TOBAGO : Scarborough, 19.06.1914, W.E. BROADWAY coll. (B.M.N.H.) 1920-487 : ♂ holotype (pinned).

Description of ♂ :

Apicomeral process of sternite IX much shorter than in the already described subspecies. The main differences from *C. caribea caribea* and *C. c. surinamensis* are those in the structure of segment (tergum) X; like in *C. c. surinamensis* there is no strongly protruding dorsomesal "flaplike" (or "bladellike") lobe; the lateral lobes are strongly developed (thus more or less like in *C. c. caribea*), each of them with 3 lateral knobs placed in three different levels approximately at mid-length of the lateral lobe (the knob in the middle with 3 apical sensillae); subapically, each lateral lobe has a distinct, sclerotized, triangular point directed laterad. No distinctive characters could be found in the gonopod, whereas the phallic apparatus looks like that described for *C. caribea caribea*.

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