

On some Trichoptera collected by Mrs. Drs. A. C. Ellis and Dr. W. N. Ellis on Gomera (Canary Islands)

by

L. BOTOSANEANU

Institute of Taxonomic Zoology, University of Amsterdam

ABSTRACT. — 9 caddis-fly species were caught on Gomera, either as imagines or as young instars. Most of them are new for this island or for the Canary Islands as a whole, and the genus *Orthotrichia* is even new to the fauna of the Macaronesian islands. A new species of *Stactobia* is described.

The trichopteran fauna of the Canary Islands could be considered as being moderately well known, the caddis-flies having been collected on these islands since more than a century by several distinguished entomologists, and having been the object of several publications, including those of Nybom (1948, 1954). But the small island of Gomera — in fact little propitious to the development of a rich fauna of aquatic insects — has produced so far, to the best of my knowledge, only *Stactobia storai*. Nybom and *Mesophylax aspersus* Rambur. During a collecting trip they made in January 1981 to this island, Mrs. Drs. A. C. Ellis (Hugo de Vries Laboratorium, Amsterdam) and Dr. W. N. Ellis (Institute of Taxonomic Zoology, Amsterdam) were kind enough to sample for me some imagines and young instars of Trichoptera in a few localities; this enables me to bring some additions to the fauna of Gomera and of the Canary Islands, and to describe a new species of *Stactobia*. I take the opportunity to express my gratitude to the above mentioned colleagues. The whole material is preserved in the Institute of Taxonomic Zoology (Zoölogisch Museum).

Agapetus adejensis Enderlein. — In a brook at El Cedro (600-700 m alt.) many larvae, 3 praepupae, as well as one ♂ pupa with perfectly developed genitalia, were sampled. The examination of the genitalia shows beyond doubt that this is the species already known from Gran Canaria, Teneriffe, and La Palma (good drawings: Nybom, 1948). The larval cases of *A. adejensis* are in all respects typical for the genus.

Oxyethira fischeri Higler. — A good number of larvae, praepupae and pupae of an *Oxyethira* were caught on stalks of rotting *Arundo donax* L. and stones in a sunny rock pool in a small brook at Chejelipes; 2 ♂ pupae were "old" enough to enable me to examine the genitalia, and I made sure that they belong to *Oxyethira fischeri* Higler, described from Madeira (Higler, 1974) and hitherto unknown from the Canary Islands. I take the opportunity to give some drawings here (fig. 1-6). Among the most distinctive characters of this species closely related to *O. falcata* Morton (see for comparison: Kimmins 1958) I consider the apex of the phallus with its asymmetrical lobes crowned with minute spines and with its strange slender mobile appendage, as well as the distinctly tribranched median lobe of the IXth sternite. One more praepupae of *Oxyethira* (species?) was taken at La Carbonera (550-600 m alt.)

Orthotrichia sp. — Much to my surprise I found in the above mentioned sample from Chejelipes 3 larvae and 3 empty larval or pupal cases, undoubtedly belonging to an (unfortunately not determinable) species of *Orthotrichia*. This genus was hitherto unknown from the Macaronesian Islands. Subsequent research will show if it is *O. angustella* Mac Lachlan, known also from the Iberic Peninsula and from N. Africa, or a distinct species.

Stactobia storai Nybom. — 3 ♂ were caught the 27 January on plants hanging above a macicolous habitat, in the Bosque de El Cedro, at 700-800 m alt. It was not very easy to make sure that they belong indeed to this species, comparison with the available descriptions and drawings (Nybom, 1948; Schmid 1959) being not quite easy a task. But I have now no doubts about the determination of this species, which was already known from a nearby locality on Gomera ("Cumbre, Agua Silva"). Some additional remarks on the ♂ genitalia could perhaps

be useful. Anterior extensions of the IXth segment slender and very long; viewed ventrally, the "superior appendages" are larger than figured, they join laterally the superior branch of the gonopods; when completely spread under a cover-slide, the superior branch of the inferior appendages has the shape of a quasi-rectangular plate, and the apex of the inferior branch shows under certain angles a marked hook which is absent under some other angles; the two phallic spines are stouter than figured. Length of the anterior wing of the 3 specimens: 2mm, 2.3 mm, and 2.7 mm (the wings are only dark brown in the two smaller specimens, but black in the third one).

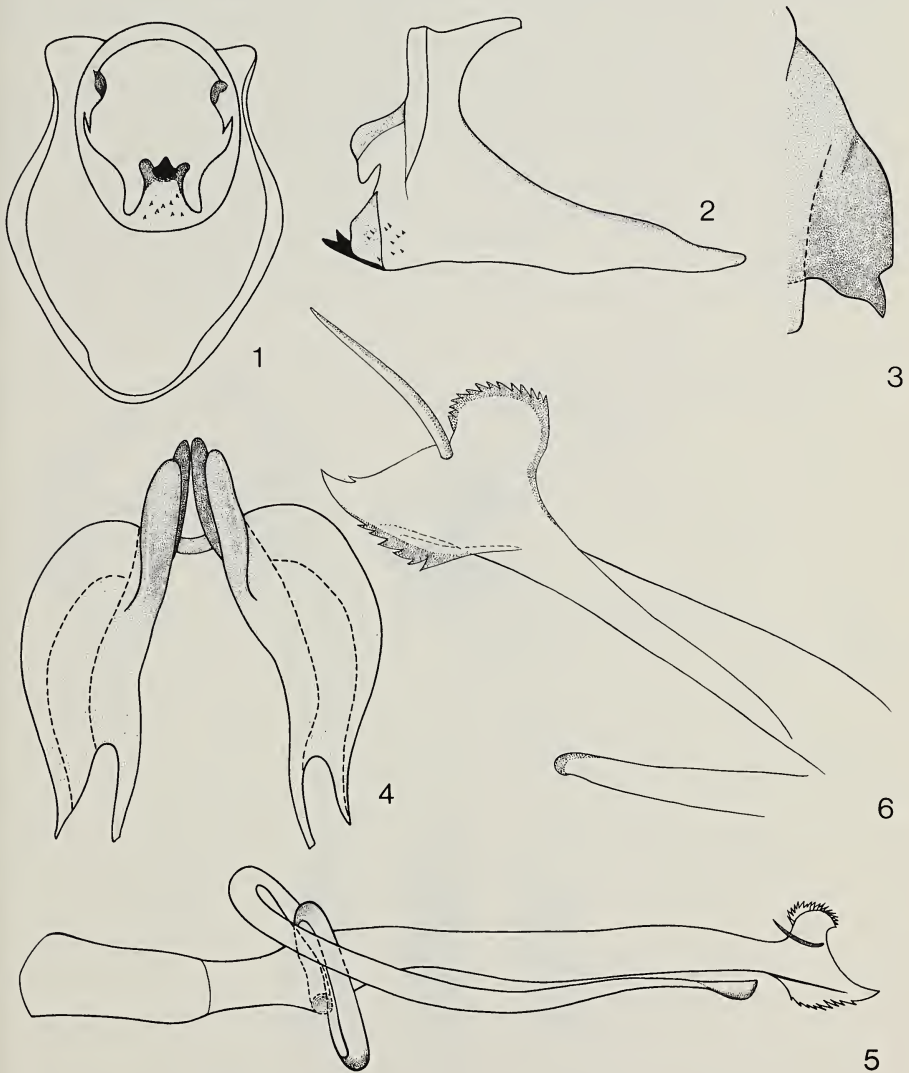


fig. 1-6. *Oxyethira fischeri* Higler, ♂ genitalia. 1-2. IXth segment in apical and lateral view. 3. apical part of the inferior appendages, lateral view, without annex processes. 4. the inferior appendages in ventral view. 5-6. phallic complex, and its apical parts more enlarged.

Stactobia gomerina n. sp. (fig. 7-9)

One specimen (δ holotype: preserved in glycerin, abdomen cleared in Na OH) was caught together with the above mentioned *S. storai* and with a δ of *Tinodes canariensis* Mac Lachlan, on plants hanging above a madicolous habitat in the Bosque de El Cedro, at 700-800 m alt. (27 January 1981). Length of the anterior wing: 2.8 mm. The wings are black, without silvery point. VIIIth tergite with distinctly backward prominent latero-ventral angles (fig. 7); VIIIth sternite (fig. 8) with anterior margin distinctly and regularly excised on either side, with an obtuse extension between the excisions; posterior margin with a shallow but broad excision (not triangular). Process of the VIIIth sternite with funnel-shaped apex. IXth segment: the anterior extensions are extremely short; in lateral view the segment is proximally very high, with edges regularly converging towards a rather pointed apex. Xth segment with sclerites which are sinuous and very hairy (fig. 7). The large and strongly sclerotized "superior appendages" coalescent at their base with the dorsal edge of the IXth segment; they describe a semi-ellipse, their dorsal edges are strongly reinforced, their tips project downward (fig. 7); in fig. 8 these tips are seen as not very prominent teeth, separated from the apical part of the appendages projecting forward and somehow outward — through indentations. Inferior appendages composed of two very differently shaped branches; although distinct, these branches are not widely distant in lateral view, and they are also coalescent in their basal parts (this is especially distinct in ventral view-fig. 8 — where the superior and the inferior branch form the two strong and widely distant points of the black pitchfork representing the inferior appendages). The superior

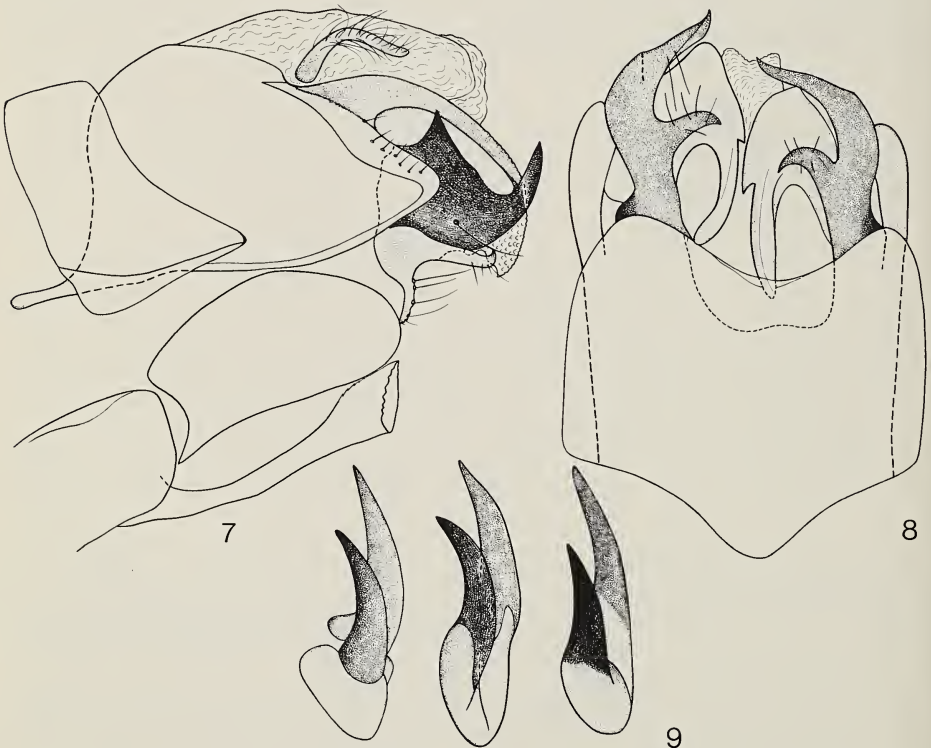


Fig. 7-9. *Stactobia gomerina* n. sp., δ genitalia. 7. lateral view. 8. ventral view. 9. the internal spines of the phallic complex, in three slightly different views.

branch of the inferior appendage (completely black in fig. 7) has its long apical part strongly pointed like a horn directed upward and medially, its tip *not* forked, and there is also a strong triangular "tooth" at the proximo-dorsal part (almost not visible ventrally!) — the whole looking like the head of an African rhinoceros. The inferior branch of the inferior appendages is, in lateral view, a narrow appendage with apex pointing upward. The "root" of the inferior appendages is distinctly vertical (fig. 7). In order to avoid damaging the unique specimen, I refrained from too long submitting the abdomen to the action of Na OH; as a result, the shape of the phallus cannot be described, but it was perfectly possible to obtain a correct idea of its internal spines (fig. 9): these are only two, moderately long and almost of the same length, rather stout but pointed, only slightly curved (none of them is curled); they arose from contiguous bases and are almost parallel.

Stactobia gomerina n. sp. is clearly related to two other Canarian species, *S. storai* Nybom and *S. freyi* Nybom (Nybom 1948, Schmid 1959), and it is certainly the sister-species of the last one. The most important distinctive characters of the new species are: the lateral shape of the IXth segment; the very peculiar aspect of the inferior appendages which, though somehow resembling those of *freyi*, have quite different relations between their two branches (forming, in ventral view, a strong pitchfork), longer apical "horns" of the superior branch whose tips are not bifurcate in ventral view, and vertical "roots"; finally, the internal spines of the phallic complex, which are subequal, no one of them being curled.

Wormaldia sp. (possibly *tagananana* Enderlein, the single *Wormaldia* known from the Canary Islands: Teneriffe). — 1 ♀ pupa was found in a brook at Ermita N.S. de Lourdes, El Cedro, 600-700 m alt. This is a very large *Wormaldia* — the pupa measures 1 cm.

Tinodes canariensis Mac Lachlan. — The single ♂ caught (27 January) near a madicolous habitat in the Bosque El Cedro, 700-800 m alt., corresponds well to the good description and drawings in Nybom (1948). This is also an addition to the fauna of Gomera.

Segm.	D.	L.	V.
II	0 - 1	-	1 - 2
	..... 3	..... 1 - 2	..... 3
III	2 - 3	1 - 2	2
	..... 2 - 3	..... 1 - 2	..... 3
IV	1 - 2	-	2
	..... 1 - 2	..... -	..... 1 - 2
V	1	-	1
	..... 0 - 1	..... -	..... 1 - 2
VI	0 - 1	-	1
	..... -	..... -	..... 1 - 2

Table 1. Distribution of the gills of the last instar larva of *Mesophylax aspersus* from Gomera.

Hydropsyche sp. — 2 larval and 2 (young) pupae were caught together with *Wormaldia* sp. (vide!).

Mesophylax aspersus Rambur. — A good number of larvae were sampled in a brook at Ermita N.S. de Lourdes (El Cedro, 600-700 m alt.). One young larva and one empty case were sampled at two other localities. Adults of this species were already sampled on Gomera (Nybom 1954) and the larval morphology unmistakably shows that we are concerned with this species (*Mesophylax aspersus* is certainly a good species, and the presence on some abdominal segments of the larva of bunches of 2-4 gills, instead of the single gills of all other Stenophylacini, is one of its distinctive characters). The larvae from Gomera show some peculiarities; it would have been advisable to compare them with larvae from S. France (the type locality of the species being Montpellier) and, as a matter of fact, a description of the larva from S. France was published (Jacquemart 1962), but it is, unfortunately, of little help for a comparison. I shall therefore compare with the larvae from some wadis in the Sinai Peninsula — at the opposite end of the species distribution area (Botosaneanu 1974). I shall here give emphasis only to the observed differences. The larvae presumably in the last instar are rather small, the cases of the largest specimens being 1.5-1.8 cm long. The frontoclypeus has its anterior half uniformly much darker than its posterior half and it is almost impossible to detect a well delineated "mushroom". The coxa and trochanter of the three legs are scarcely or not at all darker than the following segments, all of them being yellowish-brown. The (yellowish) spines and (black) seta on the posterior edge of the femur of the forelegs, are exactly like in the Sinai larvae, but on the posterior edge of the femur of the middle- and hindlegs I found a number of (yellow or yellowish) moderately long or short spines, which is decidedly higher than in the Sinai larvae: 3-5 on the middle legs, 2-5 on the hind legs — this being a good distinctive character. The gill formula in the largest 3 examined larvae, is here summarized in a table. Thus, the tendency towards bunches of 2-3 ill filaments still manifests itself, but the number of the filaments is generally much lower, there are never 4 filaments in a bunch, and never gills on segments VII-VIII.

Mac Lachlan (1883) considered the very small size of the adults from Gran Canaria as sign of the existence of "an insular race" which he named var. *canariensis*. The above mentioned peculiarities of the larvae show that he was possibly not wrong.

REFERENCES

- Botosaneanu, L., 1974. Notes descriptives, faunistiques, écologiques, sur quelques trichoptères du "trio subtroglophile" (Insecta: Trichoptera). — *Trav. Inst. Spéol. "Emile Racovitza"* 13: 61-75.
- Higler, L. W. G., 1974. *Oxyethira fischeri* n. sp. A new Oxyethira species from Madeira (Trichoptera: Hydroptilidae). — *Ent. Ber., Amst.* 34: 62-63.
- Jacquemart, S., 1962. Redescription de *Mesophylax aspersus* Rambur (Trichoptera, Limnophilidae). — *Bull. Inst. r. Sci. nat. Belg.* 38(10): 1-26.
- Kimmins, D. E., 1958. The British species of the genus *Oxyethira* (Trichoptera, Hydroptilidae). — *Entomologist's Gaz.* 9: 7-17.
- Mac Lachlan, R., 1883. The Neuroptera of Madeira and the Canary Islands. — *J. Linn. Soc. (Zool.)* 16: 149-162.
- Nybom, O., 1948. The Trichoptera of the Atlantic Islands. — *Commentat. biol.* 8(14): 1-19.
- Nybom, O., 1954. Some additions to the trichopterous fauna of the Canary Islands. — *Commentat. biol.* 14(9): 1-3.
- Schmid, F., 1959. Le genre *Stactobia* Mcl. — *Miscelánea zool.* 1(2): 1-56.