

***Ithytrichia lamellaris* EAT. and *clavata* MORT.
in Dalecarlia.**

By

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(With Pl. I och II.)

During the summer of 1928 I captured in Dalecarlia two species of the genus *Ithytrichia* EATON, of which genus only the species *lamellaris* EATON was hitherto recorded from Europe. Not being able to state with certainty which of my specimens should belong to *lamellaris*, of which I have only seen the description and figures given by MAC LACHLAN (2), I sent drawings of the male genitalia of both species to my friend, Mr. K. H. FORSSLUND, Stockholm, who considered the drawings of one of them (from Lima) to represent *lamellaris*, and to Mr. MARTIN E. MOSELY, London, who was of the same opinion. Mr. MOSELY most kindly presented to me a long series of *lamellaris* from the river Test (England) and after having examined the genitalia of some males of them I am quite assured that the species from Lima is conspecific with them.

The other species, captured in Falun, has proved to belong to *I. clavata* MORTON, only known from New York (3). I am greatly indebted to Mr. KENNETH J. MORTON, Edinburgh, for the loan of three preparations of his species. I have not been able to find the slightest difference between them and my specimens from Falun.

The two species are rather closely allied to one another, though very easily separated by the male genitalia. In order to facilitate determinations I give below short descriptions and figures of both species. *I. lamellaris* is a comparatively well-known species, though the genitalia have never, as far as I am aware, been satisfactorily described or figured. It is widely distributed in Europe but imagines have, as far as I know, never been captured before in Sweden. LUNDBLAD (1) has recorded the larva from Uppland, Lurbo, but

his determination may be considered as somewhat doubtful, as now two species have appeared to occur in Sweden.

I. clavata MORT., yet known from New York and Dalecarlia, probably will appear to belong to the group of insects distributed over northern Europe, Siberia and the northern part of North America.

I have not been able to homologize with certainty all parts of the peculiar male genitalia of this genus with those of other Trichoptera and the terms applied are only to be regarded as provisional, made up only in order to facilitate the descriptions.

Ithytrichia clavata MORT. (Plate I.)

MORTON, N. Y. State Mus. Bull. 86, pp. 67—68, Pl. 14, figs. 14, 15, Pl. 15, fig. 35 (1905).

Male genitalia: Dorsal plate (dp) broad, only in its basal part pigmented, at apex very indistinct, forming in the middle a soft, rounded, somewhat dorsally directed lobe (ad). There are no other structures arising from it. The side-pieces (s) are very large and form the dominant parts of the apex of the abdomen, covering laterally almost all other parts of the genitalia, except the dorsal plate, the inferior appendages, and the apex of penis. The apex of the side-piece appears in lateral view rather broad and rounded, almost transverse. On its outer surface there are in the apical part many rather stiff hairs, which, contrary to the other hairs, are directed forwards. These hairs are seen in fig. 3. (In order to get the figures more distinct, only these forwards-directed hairs have been drawn; otherwise the abdominal apex is very hairy, as usual in the Hydroptilidae.) On the inferior surface near the apex the side-piece is furnished with a complicate hook-like structure (ahs), to the forwards-directed apex of which the subgenital plate (sgp) is attached. This plate is almost triangular with its border quite strongly pigmented and list-formed, and ends in a smoothly rounded somewhat dorsally directed apex, which bears two small bristles. The inferior appendages (ia) are rather slender with the apex acute and somewhat dorsally directed. The apex extends equally far backwards as the apex of the side-piece. In ventral aspect the two inferior appendages are seen to be situated rather distant from one another. They bear no black warts. The penis (p) is very long and rather slender. At about two thirds of its length, counted from its base, the titillator (t) arises; its basal part is wound around the main stem of the penis about one and a half times. The apical part of the titillator is rather straight. The apex does not extend

as far as the apex of penis, which broadens and appears transverse in lateral view. In its outmost part the penis is furrowed, and in the middle of the furrow runs a dark shade which extends somewhat before the apex, probably the ejaculatory duct. In front the apex of penis appears crescent with the ejaculatory duct opening in the middle of the inside.

Of the species I have collected three males on the rivulet Rogsån near Falun on the 4th August 1928. They were captured flying over the water at a rapid in the rivulet. Bottom stony. One of the specimens has 24-segmented antennae, the two other 23-segmented (basal segments cf. fig. 8). Length of forewings about 3 mm., of hindwings 2,5 mm., of body about 2 mm.

Ithytrichia lamellaris EAT. (Plate II.)

EATON, Trans. Ent. Soc. London 1873, p. 140 (et auth.).

Male genitalia: Dorsal plate (dp) short and broad with rounded base and transverse hind-margin, from the underside of which two backwards directed strongly pigmented parallel rod-like processes (rd) arise, at the apex of which a less pigmented plate (aph) is situated. Side-pieces similar to those of *clavata*, but somewhat shorter and stouter. Their apex more transverse. Hook-like structures more slender. The subgenital plate (sgp) is excised at the apex and bears on each side of the excision a conspicuous strong bristle. From each side-margin of the plate arises a dorsally directed slender process. Inferior appendages (ia) large, broad and with the apex transverse, extending somewhat more backwards than the apex of the side-piece (viewed laterally). Viewed ventrally they appear to be situated close to one another and at the apex in the outer margin furnished with a black conspicuous wart. Penis somewhat stouter than in *clavata*, at apex thickened and somewhat furrowed, but not so distinctly as in *clavata*. The dark shade is broader at apex, which appears dark and, seen in front, almost round with only a small incision. The titillator similar to that of *clavata* but wound only once round the stem of the penis.

I have captured a single male-specimen of this species on the river Väster-Dalälven in Lima near Limesforsen on the 28th August 1928. River rapid, bottom stony.

Abbreviations:

ad = apical part of dorsal plate.	ia = inferior appendages.
apl = plate at apex of the processes from dorsal plate in <i>lamellaris</i> .	p = penis.
ahs = apical hook-like structure of side-pieces.	rd = rod-like processes from dorsal plate in <i>lamellaris</i> .
bja = basal segment of antenna.	s = side-pieces.
dp = dorsal plate.	sgp = subgenital plate.
	t = titillator.

Literature references:

1. LUNDBLAD, O., *Ithytrichia lamellaris* EATON. — Ent. Tidskr. 39, p. 342. 1918.
2. MAC LACHLAN, R., A Monographic Revision and Synopsis of the Trichoptera of the European Fauna. 1874—1884.
3. MORTON, KENNETH, J., North American Hydroptilidae. — N. Y. State Mus. bulletin 86, 1905.

Explanation of plates.

Pl. I.

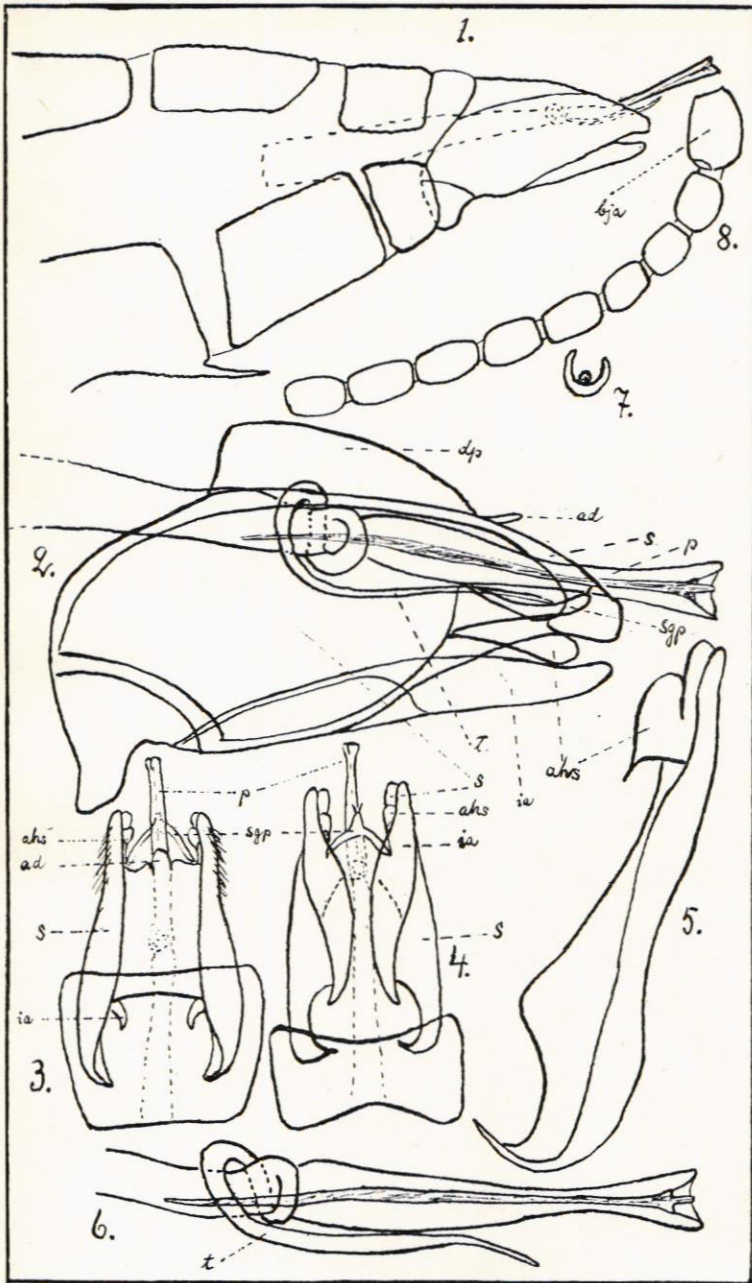
Ithytrichia clavata MORT. ♂.

- Fig. 1. Apical part of abdomen in lateral view.
 » 2. Apex of abdomen in lateral view (more enlarged).
 » 3. » » » » dorsal » .
 » 4. » » » » ventral » .
 » 5. Left side-piece from above and partly from within.
 » 6. Apical part of penis in lateral view.
 » 7. Apex of penis seen in front.
 » 8. Nine basal segments of left antenna (inside).

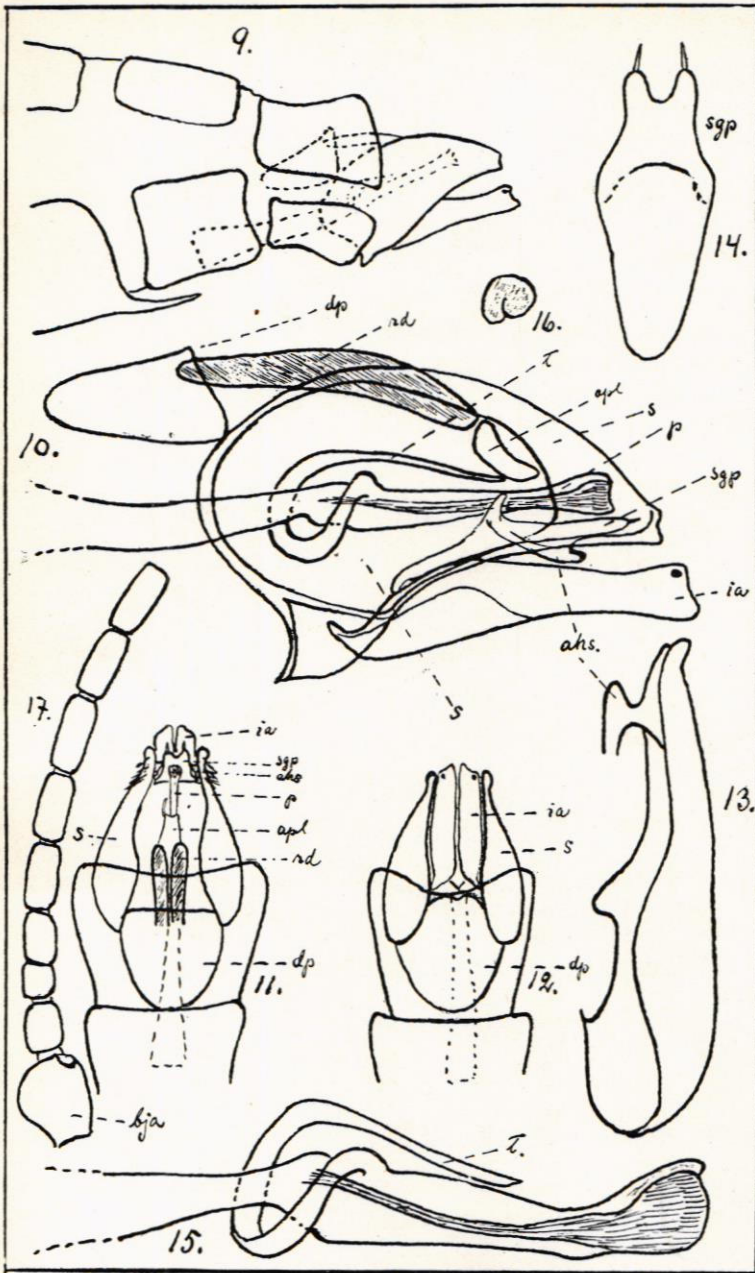
Pl. II.

Ithytrichia lamellaris EAT. ♂.

- Fig. 9. Apical part of abdomen in lateral view.
 » 10. Apex of abdomen in lateral view (more enlarged).
 » 11. » » » » dorsal » .
 » 12. Apex of abdomen in ventral view.
 » 13. Left side-piece from above and partly from within.
 » 14. Subgenital plate in ventral view.
 » 15. Apical part of penis in lateral view.
 » 16. Apex of penis seen in front.
 » 17. Nine basal segments of left antenna (inside).
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Ithytrichia clavata MORT. ♂ (Dalecarlia).



Ithytrichia lamellaris EAT. ♂ (Dalecarlia).