

## A BRIEF ANALYSIS OF MORPHOLOGY AND TERMINOLOGY FOR THE GENUS *ABLABESMYIA* (TANYPODINAE)

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The genus *Ablabesmyia* is well represented in both the north and south Americas, though the latter region is inadequately studied. A few months ago, the authors of this note made contact to exchange type material and literature on the known species of *Ablabesmyia* from South America. Almost immediately, we faced the problem that we were referring to the same structures by different names, so we decided to sort and organize the different terminologies used along with the most important bibliography of this genus. Furthermore, we wanted to share the misunderstandings we faced with others who want to study *Ablabesmyia* so they can learn from our mistakes.

### Megaseta of the adult male gonostylus

When describing the male hypopygium of *Ablabesmyia*, Johannsen (1946: 271) wrote the following: “styles of the hypopygium about as those of a typical *monilis* except that the articulated pre-apical stylet is straight and acute at apex”. Roback some years later (1959: 116) separated the main subgenera, *Ablabesmyia s. str.* and *Karelia*, by the characteristic “preapical stylet pointed (P) or expanded (E)”, however, the same

author used different names for the same structure later in the same paper: “preapical spine of the distyle” and “preapical spur of the distyle has retained the simple apex” (p. 117). Roback (1971: 356, 357 and 365) employed the name “preapical spur”, and in 1982 (p. 106) “spur of dististyle”. In 1983, the same author used “gonostylus spur expanded or sharp” (Roback 1983: 237, table 1).

Later, Roback (1985) introduced the term “megaseta”, in his subgeneric adult diagnosis of the subgenera *Karelia* (p. 169) and *Ablabesmyia* (p. 178), probably adopting the nomenclature of Sæther & Sublette (1983) for the homologous structure in Orthocladinae. Unfortunately, Murray & Fittkau (1989), in their Tanypodinae diagnosis for the Holarctic genera, erroneously used the term “megaseta” to refer to the apex of the gonostylus: “gonostylus simple...distally with megaseta, mostly without but occasionally with simple or apically expanded subterminal seta (*Ablabesmyia*)...” (p. 38); followed by “gonostylus as long as or slightly longer than gonocoxite, slender and tapering; megaseta cochleariform with distally expanded or pointed subterminal seta” (p.42). This misunderstanding confused us and generated doubts on which structure actually is the megaseta.

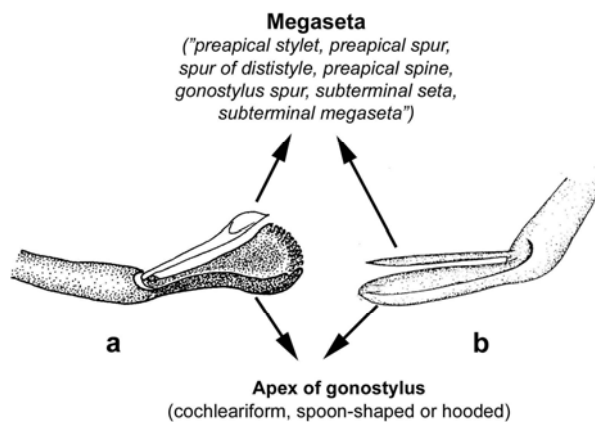


Figure 1. Distal portion of gonostylus. a) extracted from Paggi & Añón Suarez 2000. b) extracted from Paggi 1987

In order to clarify and unify the use of terms describing the subterminal seta on the gonostylus of Tanypodinae, we suggest that the name “megaseta” (Roback 1985) should be used. The megaseta lies parallel to the “hooded or cochleariform” apex of gonostylus (Fig. 1). In descriptions of *Ablabesmyia hypopygia*, it is very important to consider the shape of the megaseta (expanded or sharpened) to differentiate the subgenera and to avoid the wrong interpretation. Furthermore, it is very important to place the structures in their correct position during slide mounting, keeping the apex of the gonostylus and megaseta a little separated from another. The gonostylus should preferably be mounted in lateral view to avoid possible misinterpretations (Fig. 1).

### The Aedeagal complex

With regard to the aedeagal complex we also recorded different morphology terminology for the same structures. Roback (1959, 1971) described this complex as being formed of four pairs of structures (aedeagal blades, dorsal lobes, lateral filaments and lateral lobes). Later, Sæther (1980) named these structures volsellas (superior, median and inferior volsellas), but he did not mention the “lateral lobes” described by Roback.

It is possible that they were hidden by the other structures or absent in the examined specimens. Roback (1983) did not agree with Sæther (1980) on the homology of the lobes with the volsellas of the other subfamilies. He introduced the term basidorsal lobe of the gonocoxite and suggested that it might be the true inferior volsella of the other subfamilies. We therefore think it is appropriate to describe the aedeagal complex, to accurately name the different structures, and choose one set of terminology to avoid confusion. This has been attempted in Fig. 2.

### Maxillary palps in adults and larvae

Older works on chironomids, describe four palpomeres in the maxillary palp of the adult male. Recent papers describe the palps to consist of 5 segments, following the works by Sæther (1971, 1980). The new interpretation acknowledges the first palpomere as a small, basal, weakly sclerotized segment that is deprived of setae. This means that what was previously considered to be the third palpomere, now is the fourth, and that the fourth palpomere (not the third) is shorter than the third (not the second as described by Fittkau 1962: 416 and Roback 1971: 354).

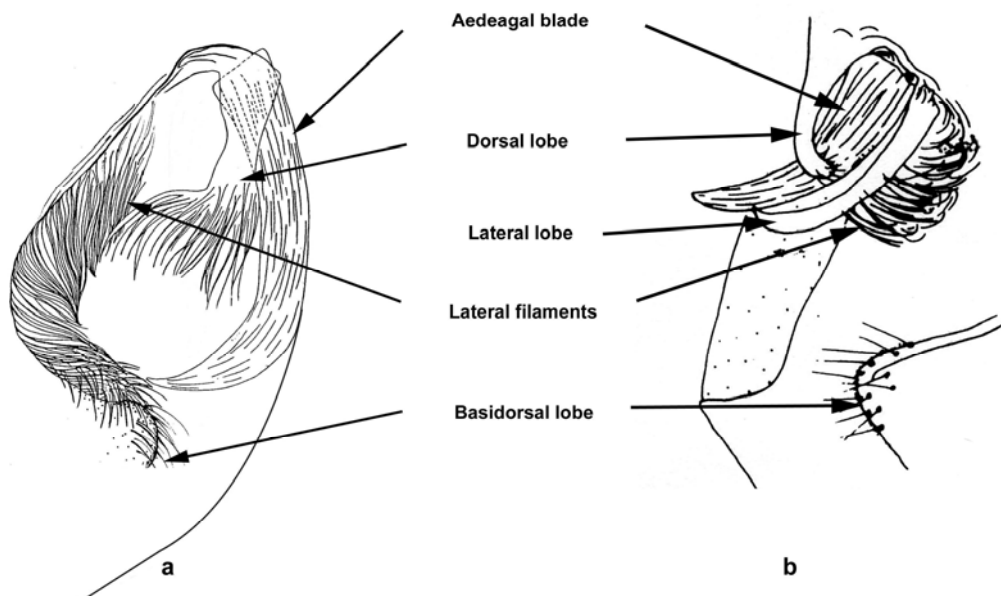


Figure 2. Aedeagal complex. a) *Ablabesmyia bianulata*, modified from Paggi 1987. b) *Ablabesmyia simpsonii*, modified from Roback 1985

Numbering of the larval palpal segments has likewise been done differently by authors and thus caused inconsistency in the calculation of the length ratio between the first and second palpal segments. Roback (1985, fig. 42) started the numbering from the apical palpomere while Epler (2001: 4.20) named the most basal palpomere segment 1. Since the number of palpomeres in *Ablabesmyia* larvae increase by the addition of segments basal to the ring organ, we suggest following Roback's (1985) numbering for the future. Thus the palpomere distal to the ring organ should be named P1.

Different use of morphology terminology can easily result in erroneous interpretation of identification keys, both at the subgenus and species level in *Ablabesmyia*. We hope that the above clarification of names for structures observed in this genus will aid in future nomenclature consistency.

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