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Article

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Head porotaxy and chaetotaxy of order Acerentomata (Protura)

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Abstract

The head porotaxy and chaetotaxy was studied in three families of proturans in the order Acerentomata: Hesperentomidae, Protentomidae and Acerentomidae. The head chaetotaxy of Protentomidae is highly diversified. A system of head setae names was developed and applied for a phyletic analysis of Acerentomata.

Key words: Nomenclature, pores, taxonomy

Introduction

The head chaetotaxy of Protura has not been intensively studied. The taxonomic importance of the presence or absence of some setae in *Eosentomon* and *Acerentomon* was noticed only in the 1980s. Designations for some taxonomically important setae were introduced by Szeptycki (1980, 1984) for *Acerentomon* and *Eosentomon*, and designations for some other setae were introduced by Imadaté (1989) for *Huhentomon* and by Bernard (1990) for *Eosentomon*. The setae of the clypeo-labral region in *Ionescuellum* were differentiated by Rusek and Stumpp (1989). Our studies of seta arrangement in Acerentomidae head led to the finding that there are also small differences in presence or absence of some setae among different genera and higher taxonomic units in the proturan order Acerentomata. We used these differences to better define genera and higher taxonomic and studied their utility for supporting the basic unity of Acerentomata. In addition to setal arrangements head porotaxy may also be useful characters in determination of generic relationships. Acerentomidae have little variability in the head chaetotaxy and porotaxy, unlike the interesting variations among the genera of Hesperentomidae and Protentomidae.

During studies of the *Protentomon – Proturentomon* complex we established that the head chaetotaxy in Protentomidae is quite diverse. For the precise description of such diversification, as well as for the further phyletic analysis of the chaetotaxy characters, a uniform system of seta names was necessary. We introduce here an updated nomenclature for the head setae as well as their use for a phyletic analysis of Acerentomata. We also analyze the chaetotaxy and porotaxy of the clypeo-labral region of the head capsule.

Material and methods

We examined members of the families Hesperentomidae, Protentomidae and Acerentomidae *s.l.* (i.e., Berberentulidae, Acerentomidae, Nipponentomidae and Acerellidae *sensu* Yin 1999). The drawings were based on specimens mounted in permanent mounts in Swan´s or Marc Andre liquids. The other two orders of Protura (Sinentomata, Eosentomata) have quite different head chaetotaxies (François *et al*. 1992, Szeptycki 1985) and are not discussed in this paper.

The following species were studied:

Drawings of Hesperentomidae are based on specimens of different instars of *Ionescuellum condei* (Nosek,

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