

Astatumen, a new genus of the Eutardigrada (Hypsibiidae, Itaquasconinae)

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(With 2 figures)

Abstract

The genus *Itaquascon* de Barros, 1939, is split into two genera: *Itaquascon* and *Astatumen* n. gen. Species ascribed to the genus *Itaquascon* have stylet supports present and their buccal tube is clearly longer than the apophyses for the insertion of the muscles of the stylets; species ascribed to the genus *Astatumen* lack stylet supports and have short a buccal tube (only as long as the apophyses for the insertion of the muscles of the stylets).

Results

The genus *Itaquascon* de Barros, 1939, as clarified by Pilato (1987), was defined as follows: genus of the family Hypsibiidae, subfamily Itaquasconinae; claws of the *Hypsibius*-type; bucco-pharyngeal tube subdivided into an anterior, rigid portion (buccal tube) and a posterior, flexible portion (pharyngeal tube) provided with a spiral thickening. Buccal tube without ventral lamina. Apophyses for the insertion of the muscles of the stylets in the form of a "wide and flat ridge" symmetrical with respect to the frontal plane; caudal processes of those apophyses. (Fig. 2, arrow) very thin and taper at their apices. No cuticular thickening is present between the buccal tube and the pharyngeal tube in the known species. Lunulae are absent in the known species. Eggs are known only for a few species, in which case they are smooth and laid in the exuvium.

The absence of the stylet supports is extremely rare in the class Eutardigrada; it is less rare, but not frequent, among the Heterotardigrada (Kristensen 1987). The stylet supports are very important structures in the configuration of the bucco-pharyngeal apparatus in the eutardigrades. Species provided with stylet supports and species lacking them must either be attributed to the same genus, or else that difference is an index of a marked phyletic divergence. Actually the two groups of species (both ascribed to genus *Itaquascon*) always differ from one another in another very important characteristic: the length of the buccal tube in relation to the length of the apophyses for the insertion of the muscles of the stylets, whose length is very constant.

All the species provided with stylet supports (Fig. 1), as a rule, have the buccal tube clearly longer than their apophyses; whereas the species lacking stylet supports (Fig. 2) have a very short buccal tube, only as long as the apophyses for the insertion of the muscles of the stylets. Since the absence of stylet supports is really exceptional among the eutardigrades, and such a short buccal tube is also exceptional, these two characteristics together determine a very peculiar configuration of the bucco-pharyngeal apparatus, unique among the eutardigrades.

It can be concluded that the two groups of species being compared belong to two divergent phyletic lines, and therefore they must be ascribed to two different, but related, genera: *Itaquascon* de Barros, 1939 (to which species are ascribed that have stylet supports and have a buccal tube longer than the apophyses for the insertion of the muscles of the stylets), and *Astatumen* n. gen. (to which species are ascribed that lack stylet supports and have a buccal tube only as long as the apophyses for the insertion of the muscles of the stylets). The two genera can be defined now as follows:

Itaquascon de Barros, 1939
(Fig. 1)

D i a g n o s i s: Claws of the *Hypsibius*-type; bucco-pharyngeal tube subdivided into an anterior, rigid portion (buccal tube) and a posterior, flexible portion (pharyngeal tube) provided with a spiral thickening. Stylet supports present. Buccal tube, without ventral lamina, clearly longer than the apophyses for the insertion of the muscles of the stylets. Apophyses for the insertion of the muscles of the stylets in form of a "wide and flat ridge" symmetrical with respect to the frontal plane; caudal processes of those apophyses very thin (almost invisible) and pointing laterally. Pharyngeal bulb lacking apophyses and placoids or provided with long, undivided placoid. Peribuccal lamellae and peribuccal papulae absent. Furcae of the stylets small; their branches are short and tapering at their apices. No cuticular thickening between the buccal tube and the pharyngeal tube is present in the known species. Lunulae absent in the known species. Eggs unknown.

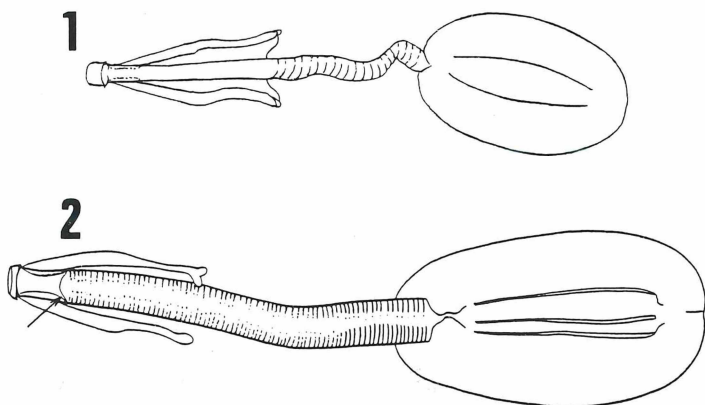
Type species: *Itaquascon umbellinae* de Barros, 1939.

Other species: *Itaquascon pawlowskii* Weglarska, 1959 and *Itaquascon globuliferum* Abe & Ito, 1994.

Ramazzotti and Maucci (1983) attributed, dubitatively, the species *Diphascon simplex* (Mihelcic, 1971) and *Diphascon enckelli* (Mihelcic, 1971-72) to the genus *Itaquascon*. Those species should be attributed to the genus *Itaquascon* as defined above, but in my opinion one cannot exclude that they may be *species dubiae* of the genus *Diphascon*, having probably been described from specimens in the "simplex"-stage.

Astatumen gen. n.
(Fig. 2)

D i a g n o s i s: Claws of the *Hypsibius*-type; bucco-pharyngeal tube subdivided into an



Figs. 1-2. 1 - *Itaquacon*: bucco-pharyngeal apparatus; 2 - *Astatumen* gen. n.: bucco-pharyngeal apparatus.

anterior, rigid portion (buccal tube) and a posterior, flexible portion (pharyngeal tube) provided with a spiral thickening. Stylet supports absent. Buccal tube, without ventral lamina, very short (only as long as the apophyses for the insertion of the muscles of the stylets). Apophyses for the insertion of the muscles of the stylets in form of a "wide and flat ridge" symmetrical with respect to the frontal plane; caudal processes of those apophyses thin and pointing laterally. Pharyngeal bulb lacking apophyses and placoids or provided with a long, undivided placoid. Peribuccal lamellae and peribuccal papulae absent. Furcae of the stylets small; their branches are short and tapering at their apices. No cuticular thickening is present between the buccal tube and the pharyngeal tube in the known species. Lunulae absent in the known species. Eggs known for some species only, in which case they are smooth and laid in the exuvium.

The name of the genus refers to the absence of the stylet supports [*a* = without, *statumen* = support (L.)].

Type species: *Itaquacon trinacriae* Arcidiacono, 1962.

Other species: *Astatumen bartosi* (Weglarska, 1959), *A. placophorum* (Maucci, 1972), *A. tamaensis* (Sudzuki, 1975) (whose validity should be confirmed), and *A. tamurai* (Ito, 1990) (if it is not synonym of *I. trinacriae*).

Acknowledgements

I should like to thank my colleagues B. Weglarska (University of Cracow), H. Dastyh (Zoological Museum Hamburg) and S. Mahunka (Museum of Natural History, Budapest), who kindly sent me some of the examined specimens. I thank Diane Nelson (East Tennessee State University, Johnson City) and Nigel Marley (University of Plymouth) for comments on the genus *Itaquacon*; and I also thank Diane Nelson for her linguistic improvements to the English text.

Research was supported by Ministero dell'Università e della Ricerca Scientifica e Tecnologica (60%).

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Jahr/Year: 1996

Band/Volume: [12](#)

Autor(en)/Author(s): Pilato Giovanni

Artikel/Article: [Astatumen, a new genus of the Eutardigrada \(Hypsibiidae, Itaquasconinae\) 205-208](#)