



A review of the taxa of solitary entoprocts (Loxosomatidae)

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Abstract

All taxa of solitary entoprocts (Loxosomatidae) are listed, along with information concerning the original description and also the type material for species where the depositories are mentioned in the descriptions or where type material has been found in various museums. The species belonging to *Loxosoma* (with 25 described species) are illustrated. It is recommended that the genus *Loxosomella* (with 118 described species) should be used in its wide sense to include *Loxocorone*, *Loxomitra* and *Loxomespilon* as subgenera. This move will make it possible to refer species to the correct genus even when the diagnostic details of the attachment organ are undescribed.

Key words: Entoprocta, Loxosomatidae, *Loxosoma*, *Loxosomella*, *Loxocorone*, *Loxomitra*, *Loxomespilon*, types

Introduction

Entoprocta is a very well-defined phylum, possibly related to the ectoproct bryozoans (Nielsen 1971; Nielsen 2001; Hausdorf *et al.* 2008; Hejnol *et al.* 2009), and the family Loxosomatidae comprises all the solitary species. Species of the colonial families Pedicellinidae and Barentsiidae have a very characteristic star-cell complex at the transition between body and stalk, and the zooids sprout from creeping stolons. Species of the colonial *Loxokalypus* (Loxokalypodidae) lack the star-cell complex, and new zooids sprout from a basal plate.

The microscopic anatomy of entoprocts, especially that of *Loxosomella elegans*, is described in detail in Nielsen & Jespersen (1997), and new information about the neuromuscular system can be found in Fuchs *et al.* (2006).

The French and the British-Danish entoproct faunas were reviewed by Prenant & Bobin (1956) and Nielsen (1989), respectively, but most of the information about entoproct species must be searched for in individual papers describing new species. A number of the older descriptions are based on expedition material fixed with their host animal without narcotization, and many of these species are more or less unrecognizable.

The first described genus, *Loxosoma* (Keferstein 1862), was divided by Mortensen (1911) into three genera, *Loxosoma* s.str. with the stalk ending in a sucking disc; *Loxocalyx*, in which the stalk in the buds and in the adult ends in a complicated foot-like attachment structure with a foot gland and a foot groove; and *Loxosomella*, which has the same type of foot in the buds as in *Loxocalyx*, but it degenerates after having cemented the adult to the substratum. Nielsen (1964b) documented that *Loxosomella* and *Loxocalyx* cannot be kept separate, because some species, e.g. *L. elegans* and *L. similis*, show adults of both types; none of the genera can be characterized as monophyletic, and *Loxocalyx* was therefore merged with *Loxosomella*. Nielsen (1964b) also erected two subgenera: one in *Loxosoma*, viz. *Loxomorpha* (now *Loxosomina*, see below) for species with the bud attached to the mother zooid by the periphery of the foot, as opposed to the central attachment in *Loxosoma* s.str.; and one in *Loxosomella*, viz. *Loxomitra*, for species in which the buds are attached to the mother zooid by the posterior part of the body, as opposed to attachment by the tip of the foot in *Loxosomella* s.str. The reason for treating these groups of species as subgenera instead of genera was that the budding of many of the previously described species is unknown, so that they cannot be placed correctly