Foregut anatomy of the Turrinae (Gastropoda, Conoidea, Turridae)

Alexandra I. MEDINSKAYA

A.N. Severtzov Institute of Problems of Evolution, Leninsky Prospect 33, Moscow 117071, Russia

ABSTRACT. The foregut anatomy of 22 species of the subfamily Turrinae, belonging to 12 genera, is described. A cladistic analysis made based on the characters of anatomy of the digestive system and morphology of radular teeth. The main result of the analysis was the separation of the subfamily into two rather large groups, one of which is in turn subdivided into two subgroups. Fusiturris similis, F. undatiruga, Cryptogemma corneus, “Turris” torta and Polystira formosissima belong to the first group. In the second group the main subgroup include all species of genus Gemmula and Gemmuloborsonia. Besides anatomical differences, species belonging to different groups have a differing geographical distribution. The new data obtained as a result of last works allow to define the anatomical characteristics of other turrids subfamilies.

Introduction

The family Turridae, one of the most diverse and species-rich in the Conoidea, becomes presently probably the best studied anatomically not only in the Conoidea but among all Neogastropoda [Kantor, 1990; Kantor et al., 1997; Kantor, Sysoev, 1991a; Leviten, 1970; Medinskaya, 1999; Simone, 1999; Sysoev, Kantor, 1987, 1988; Taylor, 1985, 1994; Taylor et al., 1993; etc.]. The interest of anatomy of the group is due to very high morphological diversity of many structures, primarily the foregut, whose evolution mainly determined the radiation of the group. However, despite numerous studies, the relationships of taxa within the family are often still unclear and require additional investigation.

At the moment, the anatomy of about 100 species of the family Turridae has been studied. The family includes 5 subfamilies with about 80 genera [Taylor et al., 1993; Kantor et al., 1997; Sysoev, Bouchet 1996].

A detailed study of foregut anatomy of the subfamily Crassispirinae [Kantor et al., 1997] allowed to obtain many new data which seemed to delimit clearly the subfamilies. However, the following work, on the subfamily Cochlespirinae [Medinskaya, 1999], revealed data which, on the one hand, permitted to clarify some details, but, on the other hand, have set new problems.