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## Archaic Tergipedidae of the Arctic and Antarctic: *Murmania antiqua* gen. et sp. nov. from the Barents Sea and a revision of the genus *Guyvalvoria* Vayssière with descriptions of two new species

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**ABSTRACT.** The Antarctic genus *Guyvalvoria* Vayssière, 1906 is revised. The type species of the genus, *G. francaisi* Vayssière, 1906 is redescribed based on the study of the type and new material. Two new species of the genus *Guyvalvoria*, *G. gruzovi* sp. nov. and *G. savinkini* sp. nov. are described from the Davis Sea and Subantarctic Kerguelen Island. In addition, a new genus and species, *Murmania antiqua* gen. et sp. nov. is described from off the Murman coast of the Barents Sea (depth 60-300 m). The latter taxon is characterized by a wide body, numerous branched rows of the digestive gland and moderately developed notal rim with an elevated ridge. Radular teeth of *Murmania antiqua* possess unusual clusters of lateral denticles. The Antarctic genus *Guyvalvoria* and Subarctic genus *Murmania* gen. nov. have some similarities in the external appearance, presence of numerous branches of the digestive gland and a tendency to shift of the anus caudally. Morphological peculiarities of the new taxon suggest a new interpretation of the head composition in the family Tergipedidae: the tergipedid head is formed with involving of the postoral lobes of the anterior foot, as distinct from the "typical head", characteristic of most aeolidacean nudibranchs. This conclusion is supported by a number of examples from the family Tergipedidae and other families of the aeolidaceans. Both *Murmania* gen. nov. and *Guyvalvoria* Vayssière, 1906 are considered as one of most basal within the Tergipedidae; transformations of the digestive gland within the family are discussed.

Most species of the family Tergipedidae possess a slender body with simple branches of the digestive gland tending to be reduced up to one papilla per row. Only few taxa, for instance the type species of the genus *Cuthona*, *C. nana* (Alder et Hancock, 1842) have a relatively broad body and a branched digestive gland. In addition, most Tergipedidae, with minor exceptions, always have anus in the acleiproctic position. Up to now, a notal ridge was unknown for tergipedids, while all large aeolidacean families (Flabellinidae, Facelinidae, Aeolidiidae) contain several basal genera having a wide body, numerous rows of branched digestive gland, some-

times distinct notal ridge, and pleuroproctic or cleiproctic anus. The present study reveals two tergipedid genera featuring numerous elaborated branches of the digestive gland, elevated lateral ridge, posterior anus and other unusual for the family Tergipedidae characters.

Currently, two approaches to the taxonomy of the nudibranch family Tergipedidae can be recognized. Miller [1977] for the first time critically revised the large number of accumulated at that time generic names of the Tergipedidae, synonymized *Trinchesia* and *Catriona* with *Cuthona*, but retained *Cuthonella* and some other genera on the basis of pattern of the digestive gland. Williams and Gosliner [1979] revealed the presence of a supplementary gland in the male part of reproductive system in the type species of *Cuthona* and the insertion of this gland into vas deferens in "*Cuthona*" *concinna* (Alder et Hancock, 1843). In the same year, Gosliner [1979] united most of the family diversity into one genus — *Cuthona*. Millen [1986] discovered a *Cuthonella*-like species in shallow water of the Canadian Pacific, and synonymized the genus *Cuthonella* with *Cuthona*. It should be emphasized that Northern and Arctic tergipedids with supplementary gland inserted to the vas deferens form a monophyletic group including at least six species both with numerous branches of the digestive gland (*C. abyssicola* Bergh, 1884) and with lesser number of simple branches (*C. concinna*). This group was suggested to be considered as the genus *Cuthonella* [Martynov, 1992]. Recently the genus *Trinchesia* was restored and delineated from *Cuthona* [Martynov, 2002]. Miller [2004] undertook a new review of the Tergipedidae of New Zealand and also restored the genus *Trinchesia*.

Completing the first review of Nudibranchia of the Barents and White Seas, Herzenstein [1885: 712], noted that he had «two unidentified species of *Aeolis*», one of them «...a species, found in a single specimen on the depth 160 "sagènes" [probably equal to fathoms; ca. 293 m] on muddy ground off Kildin Id.», which «...is can be hardly compared with any species known to me». The mentioned