Structure of the venom gland — muscular bulb complex in the family Turridae (Gastropoda, Conoidea)

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ABSTRACT. The histological structure of poison gland and muscular bulb in the family Turridae has been examined. The data on anatomy of about 50 species studied form the basis of the work. A correlation was revealed between the structure of poison gland itself, position of its duct, and the inner structure of muscular bulb. Six main types and 3 subtypes were recognized in the structure of poison gland — muscular bulb complex. Taking into account the high variability of the anterior part of digestive system in Turridae, the isolation of the complex of characters, which can unite groups of genera, is of certain interest for the taxonomy of the family.

Material and methods

Published data on the foregut structure in the turrid subfamilies Crassispirinae [Taylor et al., 1993; Kantor et al., 1997], Cochlespirinae [Medinskaya, 1999], and Turrinae [Medinskaya, 2002] were used in the work.

Besides, photographs were taken from serial sections 10 μm thick and stained with Masson’s triple stain.

List of species, which have been sectioned, with details of their collection location.

**Subfamily Turrinae**

1. **Decollidrilia nigra** Habe et Ito, 1965
   R/V “Vityaz”, sta. 7498, 43°37,7’N, 147°00,7’E, 180 m.
2. **Cryptogemma corneus** (Okutani, 1966)
   R/V “Vityaz”, sta. 3578, 38°35’N, 142°53,3’E, 1660m.
3. **Fusiturris similis** (Bivona, 1838)
   R/V “Cryos”, Balgim, sta. CP145, 35°57’N, 03°08’W, 373 m.
4. **Fusiturris undatiruga** (Bivona, 1832)
   R/V “Cryos”, Balgim, sta. DR75, 33°53’N, 08°15’W, 40-60 m.
5. **Gemmula cosmoi** (Sykes, 1930)
   SW Madagascar, campagnie crevettiere 86, sta. 57, 22°26’S, 43°06’E, 460 m.
6. **Gemmula sp. 1**
7. **Gemmula sp. 2**
   R/V “Alis”, BATHUS 3, sta. DW817, 23°42’S, 168°16’E, 405-410 m.
8. **Gemmula thielei** (Finlay, 1930)
   R/V “Alis”, BATHUS 2, sta. CP766, 22°10’S, 166°02’E, 650-724 m.
9. **Gemmuloborsonia jarrigei** Sysoev et Bouchet, 1996
   R/V “Jean Charcot”, BILOCAL, sta. DW44, 22°47’S, 167°14’E, 440-450 m.
10. **Gemmuloborsonia neocaldonica** Sysoev et Bouchet, 1996
    R/V “Alis”, BATHUS 4, sta. CP899, 20°17’S, 163°50’E, 500-600 m.
11. **Iotyrris cerithiformis** Powell, 1964
    NO “Alis”, MUSORSTOM 9, sta. CP1227, 9°44.2’S, 138°52.5’W, 84-85 m.
12. **Lophiotoma acuta** (Perry, 1811)
    Expedition Montrouzier, sta. 1286, 20°38’-20°39’S, 164°16’-164°17’E.
13. **Lucerapex casearia** (Hedley et Petterd, 1906)
    RW “Vauban”, MUSORSTOM 4, sta. DW161, 18°39’S, 163°11’E, 550 m.
14. **Turris crispa** (Lamarck, 1816)
    Expedition Montrouzier, sta. 1278, 20°34’S, 164°16’E.
15. **“Turris” torta** (Dautzenberg, 1912)