A new Antarctic species of the genus *Marseniopsis* (Mollusca: Gastropoda: Lamellariidae)

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A description of *Marseniopsis hexalateratus* sp. n. from Bransfield Strait is given.

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Introduction

Seven species of the genus *Marseniopsis* Bergh, 1886 and two unidentified ones (Hain, 1990; Numanami, 1996) are known from Antarctic waters. They have internal naticoid shell, which is enveloped by the mantle of varied configuration, texture and coloration. All species of this genus are bisexual. The mollusc collected in the Bransfield Strait (West Antarctica) has prominent individual characteristic features and cannot be identified as anyone *Marseniopsis* species known from the Southern Ocean. The majority of researchers (Powell, 1960; Egorova, 1982; Dell, 1990; Hain, 1990; Numanami, 1996; etc.) accept the family Lamellariidae Orbigny, 1841 for the Antarctic species belonging to three genera: *Marseniopsis, Lamellaria* Montagu, 1815, and *Lamellariopsis* Vayssière, 1906.

Marseniopsis hexalateratus sp. n.
(Figs 1-5)

Holotype. ♀, Bransfield Strait, King George Island (off Antarctic Peninsula), 63º04.70´S, 57º31.60´W, depth 94 m, RV "Polarstern", AGT–1 (Agassiz trawl with small drag), some small admixture of fine silty sand and pebbles among biological objects, 26.IV.2000, coll. B.I. Sirenko and I.S. Smirnov; Zoological Institute, St. Petersburg.

Description (holotype). The mantle of the single small mollusc has unusual configuration and outlines *in vivo*, which closely resemble the shape of hexagonal bolt.

Dorsal side of mantle somewhat inflated and almost parallel to ventral one. Its contour clearly hexagonal, generated by low and narrow bolsters or ridges, which are unequal in length, white, discrete under magnification, offering see clearer the closely spaced, variously shaped and sized microscopic swellings or small knots.

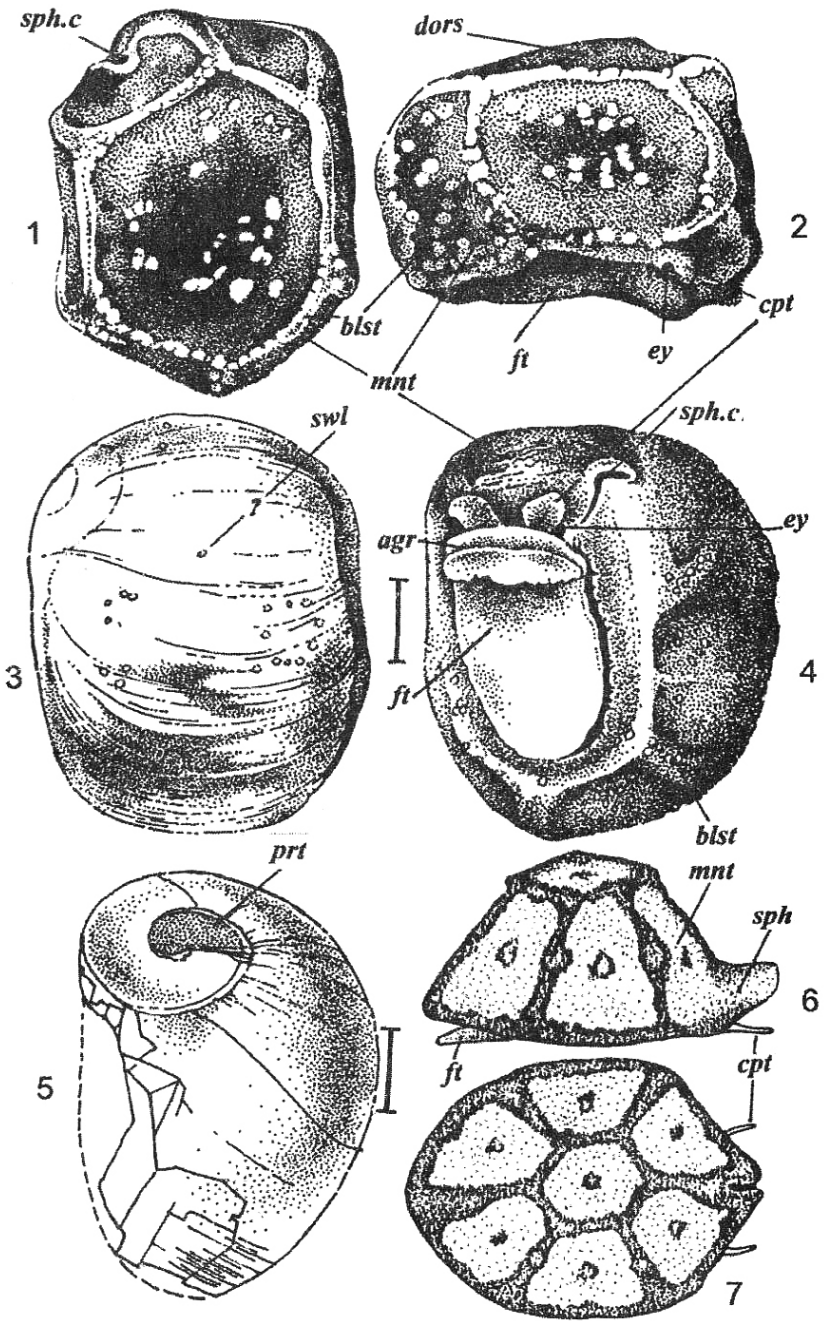
Six scarcely convex lateral areas irregular quadrangular, with unclear angularity in their outlines. Whitish, small-sized nodules or swellings, irregularly and rather chaotically disposed on mantle surface of lateral and dorsal areas, few in number and most common in central parts of each area. Mantle border around foot thick, swollen, not very broad.

Foot almost oval, tongue-like, slightly narrower towards posterior end, with a length comprising 61% of total length; its surface without visible structural peculiarities. Anterior edge of foot somewhat arch-shaped, slightly expanded and thickened. A pair of short (about 0.1 mm in length) and stout cephalic tentacles bearing small black eyes on basal outside. Siphonal projection absent in anterior part of mantle. There is a short, slit-like siphonal canal somewhat bent upwards.

Mantle *in vivo* yellowish with reddish spots of uncertain outlines and dissimilar sizes located near the center of dorsal hexagon and within each side.

Interior shell small, naticoid, white, with thin calcareous layer, semitransparent, fragile along outer lip of aperture; whorls a little more than two, with impressed suture between them, convex, rounded on periphery, rapidly growing in diameter; protoconch formed by half of whorl, large, denser than teleoconch shell and finely porous. Upper turn conspicuously small in contrast to the body one, which is very large, with numerous finest growth lines, interrupted by two rougher lines. Aperture large, widely oval, with thin, round, smooth outer lip and somewhat concave inner one. Umbilicus absent.

Measurements. L × B = 4.9 × 4.2 mm (shell with mantle), B/L = 0.86; $L_f \times B_{ff} = 3.0 \times 1.7$ mm, $B_{ff}/L_f = 0.57$, $L_f/L_{mnt} = 0.61$, where *f* – foot, *ff* – foot in front, *mnt* – mantle.



Figs 1-7. **1-5**, *Marseniopsis hexalateratus* sp. n., holotype: **1**, **2**, external appearance of mollusc *in vivo*, from photos (1, dorsal view; 2, lateral view); **3**, **4**, external appearance of mollusc preserved in alcohol (3, dorsal view with translucent mantle and with shell partly visible through mantle; 4, ventral view); **5**, internal shell without mantle. **6**, **7**, *M. sharonae* (after Behrens, 1980): **6**, external appearance, lateral view; **7**, mollusc, dorsal view. *agr*, anterior groove; *blst*, bolsters; *cpt*, cephalic tentacles; *dors*, dorsal side; *ey*, eye; *ft*, foot; *mnt*, mantle; *prt*, protoconch; *sph*, siphon; *sph.c*, siphonal canal; *swl*, swellings. Scale bar: 1 mm.

Comparison. Such specific geometrical outlines of soft mantle are common to the Californian species *M. sharonae* (Willett, 1939) (Figs 6-7). Its mantle (L = B = 13 mm) is light reddish with dark spots or dark red with light spots. It has the shape of a truncated pyramid with six sloping lateral trapeziform areas. These areas are outlined by low ridges starting from hexagonal dorsal part. As it was noted in the description (Behrens, 1980), the shape of the mantle is retained unchanged in the preserved condition. *M. sharonae* has a small siphonal process.

On the other hand, *M. hexalateratus* is very similar in some features to *M. pacifica* Bergh, 1886, which is in its preserved state 18 mm long and 13.5 mm broad. The mantle of *M. pacifica* is reddish yellow with several purple-red spots and scattered white nodules. The mantle surface may be also decorated by red dots (Branch et al., 1991). The foot is strongly developed ($L_f \times B_{ff}$ = 13 × 8 mm, $L_f/L_{mnt} = 0.72$). Although both species show some resemblance in the mantle coloration, they exhibit several distinctions in other structures. The presence of coarse tubercles (Bergh, 1886) on the dorsal mantle side of *M. pacifica* can be named as important character; such tubercles are absent in the new Antarctic species. The figure of live mollusc *M. pacifica* collected near Marion and Prince Edward Islands (Branch et al., 1991) points to the presence of a distinct siphonal process, which is not found in *M. hexalateratus*. The unique bolt-like shape of *M. hexalateratus* was not noted for *M. pacifica.*

The interior shell of the new Antarctic species has all characteristics of the genus *Marseniopsis*. The shell is entirely covered by the mantle. *M. hexalateratus* is separable from other species of this genus by its unusual shape *in vivo*. But this specific shape and coloration are lost after preservation in alcohol. Under this condition, the mollusc attains the hemispherical configuration and its mantle on the dorsal side becomes thin and translucent, while surrounding the foot mantle margin is thick and swollen. Weak traces of ridges between lateral areas are slightly visible only near the ventral margin.

Ecology. According to field notes of B.I. Sirenko (unpublished), this species was found among a great number of sedentary invertebrates with dominant species of Ascidia, Bryozoa and Spongia. It is probable that this small mollusc lived on one of these bottom animals. In most cases, the colour of invertebrates at that station is yellowish or orange. The coloration of the new species is not an exception in this observation.

It has long been known that species of the family Lamellariidae live on different ascidians and sponges upon which they "graze" and find food (Ghiselin, 1964; Powell, 1979; Behrens, 1980; etc.). The texture and colour of their mantles are camouflage in respect to surrounding surface of the prey body.

Etymology. The specific mantle shape of the living mollusc motivated the name for this new species.

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