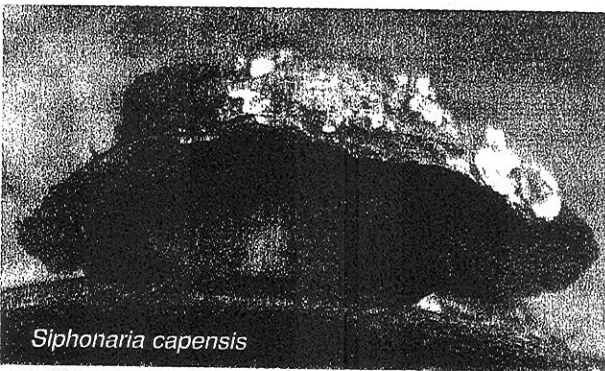


Accessory reproductive gland (=glandular complex) of *Siphonaria capensis* and *S. serrata*: structure and function

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The anatomy, histology and ultrastructure of the glandular complex from the reproductive system of two sympatric species of *Siphonaria* are described and compared. The tubular glandular complex is composed of an albumen gland and a mucous gland although the subdivision is not always discrete. Both glands contain numerous columnar to cuboidal secretory cells and highly ciliated supporting cells. Only one type of secretory cell could be identified in each gland although cells often showed different levels of activity. The secretory cells of both glands stained positively for neutral as well as acidic mucopolysaccharides. Protein was only detected in albumen gland cells. The possible role(s) of the glandular complex in egg mass formation will be discussed. Although the ultrastructure of the glands is similar to that of other Euthyneurans, the simpler arrangement of these glands suggests a more primitive condition.



Siphonaria capensis

Spatial organization of foraging activity in *Siphonaria lessoni* from the SW Atlantic, Argentina

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Siphonaria lessoni is the only gastropod species living in the upper littoral rocky shore in Northern Argentina. *S. lessoni* do not show homing behaviour. Excursions occur during splash of wave action or rain. Movements are shown by a zig-zag of mucus trails on vertical walls. On horizontal surfaces of tidal pools where a thin layer of sand is retained above the rocky substratum, *S. lessoni* moves leaving a zig-zag trail visible because they sweep the sand. In order to answer if this pattern of movement is a response to quartzose rock, rugose surfaces, or an intrinsic limpet behaviour, a series of aquarium observations were performed. Individuals of adult *S. lessoni* were placed in an aquarium after allowing a microalgal film to grow on the walls. The limpets started to move and graze in a zig-zag pattern of increasing am-

the algae film of the aquarium wall. We conclude that the zig-zag pattern of movement and grazing is an intrinsic behaviour which is not related to microenvironmental heterogeneity and allows the limpets to explore and cover a wider surface area. This behaviour would be linked with the lack of homing in the species.



Mineralisation of the teeth of the hydrothermal vent limpet, *Eulepetopsis vitrea*

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Hydrothermal vent fluids are characterised by elevated levels of transition metals, such as iron, zinc and copper, when compared to non-vent seawater. Hydrothermal vent limpets graze bacteria from surfaces such as basalt rock, mussel shells and tubeworms. A variety of techniques were used to investigate the possibility of biomineralisation of the teeth of *Eulepetopsis vitrea*, a patellogastropod. SEM coupled with EDS was used to map the elemental concentrations of metals upon the radulae. Histological sections of the radulae were stained with Perls' Prussian blue and Tirmann Schmelzter's Turnbull's blue to resolve the ferric and ferrous iron. Contamination from vent fluids and feeding surfaces was an important consideration; hence the radulae of two hydrothermal vetigastropods with similar feeding ecologies were examined. One radula of one vetigastropod, *Cyatherium naticoides* did not contain significant amounts of iron, however the teeth of the radula of *Lepetodrilus elevatus* were heavily coated in iron. EDS indicated that the iron within the teeth of *Eulepetopsis vitrea* is associated with silica.

Reproductive ecology of hydrothermal vent limpets of the genus *Lepetodrilus*

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Limpets of the vent-specific genus *Lepetodrilus* are widespread; species have been found at most vents so far described. They are one of the first metazoans to settle at new vents and consequently their reproduction and dispersal mechanisms are of particular interest. Polymodal size-frequency distributions of *Lepetodrilus elevatus* populations from vents on the FPR coupled with increased larval