

express an actual state or condition, but which are positively misleading.

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FORMER AND PRESENT TERMS USED IN DESCRIBING  
FRESH-WATER MUSSELS

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Having occasion to translate Brugière's descriptions of two fresh-water mussels from French Guiana, viz.: The genus *Anodontites*<sup>1</sup> and the species *Anodontites crispata*<sup>1</sup> and "*Unio granosa*"<sup>2</sup> (*Diplodon granosus*), I became interested in the terms he applied to various features. Some of his terms are exactly the opposite to what they should be and others are inaccurate. These remarks are not to be taken as a criticism of Brugière's work, which was excellent for its day, but rather as indicating the difficulties attending the early steps in the study of mollusks, due to lack of even the most elementary knowledge concerning them.

<sup>1</sup> Journ. Hist. Nat. Paris, I. p. 131, 1792.

<sup>2</sup> Loc. cit. p. 107.

English equivalents for terms used by Brugière in his descriptions.	Terms for the same now in use and substituted in the translation.
Length	=height.
Breadth	=length.
Transverse striae	=concentric striae.
Longitudinal striae	=radiating striae.
Anterior	=posterior.
Posterior	=anterior.
Summit	=beak or umbo.
Muscular attachment	=muscle scar.

The early use of "anterior" for what we know to be posterior end, and of "posterior" for what we know to be anterior, was probably founded upon supposition instead of upon anatomical knowledge. It may have been supposed that in going into the sand or mud the animal would back



in so as to have its "head" end above the soil. The procedure is just the reverse of this. It goes in "head" first so as to have the "tail" end above the bottom in order that the incurrent and excurrent apertures, which are at the rear end, may admit water, carrying air and food, and allow discharge of the vitiated water and fecal matter.

In that day they had no inkling of the delicate, yet efficient means of conveying food by ciliary action to the mouth, nor of the way in which the intestinal tract and gill action keep fecal matter and vitiated water from mixing within the shell with the fresh, life-sustaining water taken in from stream or lake. They knew nothing of glochidia, nor of other embryonic mollusks, very little about the nacre, prismatic structure or periostracum. To the internal anatomy of mollusks they gave scarcely a thought.

We, of this day are not exactly satisfied with the progress that has been made in the study of mollusks, but it is comforting to feel that if Bruguière and the other old-timers could return to the scene of their labors they would be astounded by the strides that have been made—and the promising outlook of the future. They could easily understand why the term conchology is gradually becoming obsolete and the term malacology is looked upon with favor as more truthfully describing a science which is no longer a mere amusement, but which has a dignity and importance equal to those of any other branch of natural science.

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A NEW LAND SHELL FROM SAN BENITO COUNTY,  
CALIFORNIA

BY HERBERT N. LOWE

On a visit to the Pinnacles National Monument in the summer of 1917 the writer collected a single living specimen of a form of *Helminthoglypta* which appeared to be new. In July 1929 a special trip was made to search for further specimens, which resulted in seven living adults and several dead ones in good condition.



Marshall, W B. 1930. "Former and present terms used in describing fresh-water mussels." *The Nautilus* 44, 41–42.

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