

glands, &c. And as the name *Cryptodon* was created specially for *Lucina flexuosa*, our species cannot remain in this genus, and a new name must be invented for them.

After what I have said above, there can be no such doubts as Fischer has expressed<sup>1</sup> regarding the systematic position of the genus *Axinus* (= *Cryptodon*, properly so called). Since it has two branchial plates on each side, this genus ought to be placed in the family Ungulinidæ; and it has, besides (according to Sars), only one siphonal aperture.

The characteristic of a single siphonal aperture, which Fischer emphasises for the Ungulinidæ, will not hold good (if this family is adhered to), because the *Diplodonta* have two posterior apertures. I must add that *Axinus flexuosus* should be studied in detail, for Forbes and Hanley<sup>2</sup> say that it has two apertures, and no tube; while according to the brothers Adams,<sup>3</sup> *Axinus* has a single tubular, siphonal aperture, and Woodward<sup>4</sup> attributes to it a long anal tube.

The new genus established for our "*Cryptodon*" should be placed, then, in the "family" Lucinidæ, though it has only one siphonal aperture like *Ungulina*.

The comparative study of these two "families," Lucinidæ and Ungulinidæ, shows that the Pelecypoda cannot be classified according to the number of their branchial plates. A classification based on this characteristic would be quite artificial, since it would separate all those animals in which the rest of the structure, and even the structure of the gills, is very similar, and which, taken together, would form such a natural group, *Lucina*, "*Cryptodon*," *Diplodonta*, *Axinus*, *Ungulina*.

We shall see later that this classification, based on the number of branchial plates, has no real basis.

#### TELLINACEA.

##### *Semele* (= *Syndesmya*, Recluz).

16. *Semele profundorum*, Smith. Station 244; 2900 fathoms.

I have figured (Pl. II. fig. 6) a specimen of this species to show the relative proportions of the labial palps and the gills. In the littoral species of this genus the palps are never so large as the gills. Here, on the other hand, we see the gill (*e* and *e'*) greatly reduced and much smaller than the palps (*b*), which have preserved their normal size.

17. *Semele longicallus*, Scacchi. Station 75; 450 fathoms.

In this species the arrangement is exactly the same as in *Semele profundorum*.

<sup>1</sup> Manuel de Conchyliologie, p. 1098.

<sup>2</sup> History of the British Mollusca and their Shells, vol. ii. p. 469.

<sup>3</sup> The Genera of Recent Mollusca, t. ii. p. 56.

<sup>4</sup> A Manual of the Mollusca (1856), p. 298.