

possess two laminæ, but they correspond to the two laminæ of *one* branchial plate in the Pelecypoda,—a direct and a recurrent or reflected lamina. Thus the gill of *Lucina* and that of *Cryptodon moseleyi* correspond to only *one* of the branchial plates of other Pelecypoda,—the inner one, as we shall see later (Pl. IV. fig. 4).

As to the “pallial gills” mentioned by Semper, we have seen above that these are probably only the thickened edges of the mantle.

15. *Cryptodon luzonicus*, Smith. Station 205; 1050 fathoms.

The structure of this species is exactly similar to that of the preceding, especially as regards the foot, the gill, and the mantle, this last having also only one posterior anal aperture (Pl. II. fig. 5).

Smith¹ has expressed his doubts as to the synonymy of the two names *Axinus* and *Cryptodon*,—a synonymy admitted, one may say, by all authors.

Axinus was used in 1821 by J. Sowerby for a fossil, *Lucina angulata*, whose structure is, of course, unknown.

Cryptodon was created in 1822 by Turton for a living Pelecypod, *Lucina flexuosa*, Montagu, which all writers have since placed in the above-named genus *Axinus*, implying the synonymy of the generic names given by Sowerby and Turton.

I have unfortunately been unable to procure a specimen of the animal of “*Axinus flexuosus*,” so that I could not study it for myself. But Jeffreys² has already pointed out that this form possesses “two gills on each side;” and the structure of the genus *Axinus* or *Cryptodon* is particularly well known through the work of Sars,³ who has studied in detail *Axinus sarsi*, Philippi, a species allied to *Axinus flexuosus*.

Sars confirms Jeffreys’ statement, that there exist two gills on each side, similar to those of the typical Pelecypoda.⁴

In *Axinus sarsi*, the visceral glands (hepatic and genital) form a projection outside the pedal muscular wall, and their ramifications extend freely into the visceral cavity on each side of the foot (an arrangement which I have hitherto observed only in *Montacuta ferruginosa*, which I was able to study in great abundance in Prof. Giard’s laboratory at Wimereux). The foot is filiform, very long, and directed backwards. There is only one pallial aperture, with no siphon, and the gills do not become united to the pallial commissure separating the anal from the great branchio-pedal aperture.

These animals (*Axinus flexuosus* and *Axinus sarsi*) differ entirely from our “*Cryptodon*” in regard to the gills, the foot, and the arrangement of the visceral

¹ Zool. Chall. Exp., part xxxv. p. 187.

² British Conchology, vol. ii. p. 245.

³ Malacozoologiske Jagttagelser, i. Om Dyret af *Cryptodon Sarsii* (*Axinus*), Philippi, *Forhandl. Vidensk. Selsk. Christiania*, 1864, pl. iv. fig. 11.

⁴ Sars, *loc. cit.*, pl. iv. fig. 4, h.