

Among Crustaceans, modifications occur in the two directions mentioned above in respect to pelagic animals in general, that is, towards atrophy and towards hypertrophy. An example of the latter is furnished by *Cystisoma neptuni*, Guérin; and such modifications are probably useful for the perception of luminous rays which would be imperceptible to normal eyes, either on account of their feeble intensity, or because of their special chemical character. Examples of such modification are not, however, numerous, and there is no instance of a Gastropod from the great depths in which the visual organs have undergone such a change.

In all Gastropods from that habitat the eyes have been markedly atrophied (as in *Guivillea*), or have totally disappeared, as in the other species discussed after *Guivillea* (*Pleurotoma leptota*, *Pleurotoma brychia*, *Fossarus* (?) *cereus*, *Puncturella brychia*). Some other instances of the latter condition are already known in species from various depths, and I am convinced that further researches will greatly increase the list.

A. *Pleurotoma nivale*, Lovén,¹ of which G. O. Sars has made a special genus, under the title *Typhlomangilia*,² lives at about 170 fathoms.

B. *Fusus abyssorum*, Fischer,³ collected from between 1300 and 2800 fathoms.

C. *Eulima stenostoma*, Jeffreys,⁴ lives at about 90 fathoms.

D. *Tectura fulva*, O. F. Müller, sp.

E. *Lepeta s. str.*

F. *Propilidium*.

The markedly rudimentary character of the eyes of the subterranean or abyssal Molluscs is produced in an entirely different fashion from that which we have noticed in certain Gastropods (burrowers, some Nudibranchs, &c.), where the organs are concealed under the skin, and undergo diminution in size. In the present instances the eyes remain on the surface and do not become reduced in size, but lose successively certain of their constituent portions, or altogether disappear.

Among the Gastropods from great depths, as among the subterranean forms, there are several (*Trochus infundibulum*, *Trochus rhina*, *Turbo transenna*, &c.) which still retain well-pigmented eyes, like those of littoral species. Like some of the cave forms above referred to, they are instances of more recent and still incomplete adaptation. It is certain none the less that abyssal Gastropods, as well as the subterranean forms, have a general tendency to become rudimentary and to lose their eyes.

¹ Jeffreys, *British Conchology*, vol. iv. p. 389.

² *Mollusca regionis arcticæ Norvegiæ*, p. 241.

³ Fischer, *Sur les espèces de Mollusques arctiques trouvées dans les grandes profondeurs de l'Océan Atlantique intertropical*, *Comptes rendus*, xvii. p. 1498.

⁴ Jeffreys, *British Conchology*, vol. iv. pp. 207, 208.