

PTEROPODA.

§ 110. Three genera and nine species, with numerous specimens, give this class a prominent position in most localities of the Middle Cambrian strata, although in several instances but few specimens are met with. This is noticeable at Georgia, Vermont, and in the Highland Range of Nevada. Specimens occur abundantly in the silico-argillaceous shales of the Wasatch Cambrian, in the clear limestone of the Ely Mountains of Nevada, in the conglomerate limestones of Troy and Bic Harbor, and in the silicious magnesian limestones ("Red Sandrock") of Vermont.

The extended range of the species *Hyolithes Billingsi* and *H. princeps* from Labrador to Nevada is in accord with the free habits of the young, if not of the older, individuals. The presence of transverse diaphragms in the tubes of *H. communis* and *H. impar* allies the species to the types, in the St. John series, that have been so well described by Matthew under the genera *Diplothecca* and *Camarothecca*. A noticeable feature of the presence of the diaphragms is their almost total absence in the species of the Upper Cambrian, Silurian, and Devonian.

The slender tube of *Hyolithellus* recalls the *Dentalidæ*; and its operculum, which is one of the prettiest fossils of the Troy Cambrian rocks, might belong to a shell allied to *Dentalium* and also to *Hyolithes*.

Although it is stated, under the description of the genus *Salterella*, that I agree with M. Barrande that the relations of the genus are with *Tentaculites* and *Hyolithes*, there is an element of doubt so strong that, until more evidence is brought forward, the genus is left in a doubtful position in relation to its affinities to other genera of the Pteropoda.

CRUSTACEA.

§ 111. The strongly-marked *Leperditia Troyensis* is not unexpected at this horizon, as the genus is present in the Lower Cambrian of Wales. In *L. Argenta* one of the largest species of the genus is found, if the shell referred to *Leperditia* truly belongs to it and is not one side of the carapace of a phyllopod crustacean allied to *Hymenocaris* or *Protocaris*. The latter is possible, but, from a careful study of the specimen, does not appear probable. *Protocaris Marshi* is one of the earliest, if not the earliest, phyllopod crustacean now known, and is closely allied to the Upper Cambrian *Hymenocaris vermicauda*.

PŒCILOPODA.

§ 112. I prefer to use Pœcilopoda, as the class name includes the Trilobita, for reasons given in 1881 (Bull. Mus. Comp. Zoölogy, vol. viii, pp. 208-211). The class is represented by the Trilobita in the Cambrian, with the exception of the limuloid-like *Aglaspis* of the Wisconsin Potsdam sandstone. The Eurypterida presents its earliest form, as at present known, in *Echinognathus Clevelandi* of the Middle Lower