shown in my former work, but still it is clear, from the peculiar direction in which they have in general developed, that they cannot, since a very remote period, have had any connection with the other Holothurids, at least not with the Apoda, Rhopalodinidæ, and Dendrochirotæ. It is possible that the case is different with regard to the Aspidochirotæ. In this family the genus *Stichopus*, but above all the new genus *Pælopatides*, brought home by the Challenger Expedition, presents in its whole organisation such a bewildering resemblance to some Elasipoda belonging to the family Psychropotidæ, that it is almost impossible to find any other difference than the presence or absence of respiratory trees. Thus it does not seem improbable, though it cannot by any means be taken for granted, that the Aspidochirotæ and the Elasipoda have sprung from a common branch, and have afterwards diverged from each other, the former losing the connection of the stone-canal with the exterior, &c., the latter losing the water-lungs, which must then be supposed to have existed in their common progenitor.

## Bathymetrical Distribution.

With regard to the bathymetrical distribution of Apoda and Pedata, our present knowledge does not enable us to speak of any results of very general value. However, the Challenger Expedition has been successful even in these respects, several important discoveries having been made, proving that the present shallow-water fauna has far more outposts in the great depths of the ocean than at first supposed. Before the Challenger Expedition set out, only a very few forms belonging to the Apoda and Pedata were known from depths exceeding 100 fathoms, and scarcely one below 200 fathoms. The following list presents a view of the species met with in the deep sea at depths from 500 fathoms and under (see p. 8).

This list induces me to believe the following remarks to be true, or, at least, to have some probability.

1. Descendants of the recent shallow-water Holothurioidea have escaped to the greatest depths at which any living Holothurid has been obtained, viz., 2900 fathoms, but they are by no means so prevalent as the Elasipoda, nor do they form such a characteristic feature in the abyssal fauna.

2. Most of the forms met with in the deep sea below 500 fathoms are distinct from the shallow-water species, though they belong to the same genera.

3. Several species have a vast bathymetrical distribution, some individuals of them still living near the shore, others having descended without any obvious change in their organisation into the considerable depth of 500 to 700 fathoms, or, exceptionally, even deeper.

4. A wider distribution seawards of a species seems to take place preferably in the northern and southern oceans, where the different belts proceeding from the vicinity of