

2. Existence of an unpaired body-cavity in the proboscis, and of paired cavities in the collar and in the trunk.
3. Proboscis-pores (paired in *Balanoglossus kupfferi*), opening into the body-cavity of the præ-oral lobe.
4. Collar-pores in similar relation to the collar-cavity, their external apertures being overhung by an operculum developed from the collar.
5. Gill-slits (one pair for a considerable period in the embryonic history of *Balanoglossus*); their relation (in *Balanoglossus*, the relation of the first pair) to the operculum and to the external apertures of the collar-pores.
6. Existence of a notochord as a diverticulum of the alimentary canal, growing forwards into the proboscis-stalk.
7. Dorsal central nervous system, most richly developed in the collar, but extending on to the proboscis; the fact that the nervous tissue lies in the epidermis.

Before leaving this subject, it will be well to refer briefly to the highly interesting pelagic larva of *Balanoglossus*, discovered by Weldon in the Bahamas.<sup>1</sup> A noteworthy feature of this larva is the development of a series of tentacles arranged in six grooves passing, equidistant from one another, in a longitudinal direction along the surface of the præ-oral lobe. Although the tentacles are not in the same position as those of *Cephalodiscus*, it is a suggestive fact that this larva affords another case of the development of tentacles in the anterior part of the body in *Balanoglossus* or its allies, and it is at least possible that their appearance in the *Tornaria* may be due to a process of reversion or atavism.

It appears to me that whatever may be thought of any single similarity between the two genera given in the above list, the cumulative evidence of the whole sequence of resemblances points irresistibly to the conclusion that *Cephalodiscus* and *Balanoglossus* are near allies, and I would propose to remove *Cephalodiscus* from its previous position amongst the Polyzoa, and to place it definitely as a second genus in Bateson's group of the Hemichordata. The character of the Vertebrate features of *Cephalodiscus* (notochord, gill-slits, nervous system) appears to justify an approximation of this genus to *Balanoglossus* in particular rather than to any other group of the Chordata.

The most important difference between *Cephalodiscus* and *Balanoglossus* appears to me to consist in the relations of the dorsal and ventral surfaces in the two genera. The difference is, however, a non-essential one. Whilst in *Balanoglossus* the elongation of the embryo takes place in the line of its long axis, the ventral elongation of a similar embryo in a line at right angles to its primitive long axis would give rise to the condition found in *Cephalodiscus*. We may suppose that the stalk has originated in this

<sup>1</sup> *Vide Proc. Roy. Soc.*, vol. xlii, p. 146, 1887.