

PLATE VI.

- Fig. 1. Longitudinal section of the tip of the pedicle of an adult *Cephalodiscus*, showing the attachment of a young bud just above the terminal surface (which is somewhat sucker-like); *lm*, strands of longitudinal muscles; *hps*, modified hypoderm forming the terminal surface of the pedicle; *gm*, section of a young bud, showing the central chamber (*ch*) continuous with the axis of the pedicle of the adult; $\times 350$.
- Fig. 2. Transverse section of an adult *Cephalodiscus* through the region of the mouth (*m*) and ovaries, one pigment-mass (*od*), however, only having been cut. The buccal shield (*bs*) on the right is seen folding over dorsally (*bsp*), so as to run into the tissues at the bases of the plumes (*br*); *g*, grooves at the bases of the lophophoral arms. The notochordal region lies between this letter and *m*, though the notochord is not seen in this section. The mouth is observed at (*m*) and the pharyngeal region with its numerous folds and a gill slit (*gs*), while on the left is a section of the post-oral lamella (*pl*) with its central cavity or chamber; *r*, greatly distended rectum; *od*, pigment of oviduct; *ov*, large, and *ov'*, small ova, with nuclei and nucleoli; $\times 90$.
- Fig. 3. Transverse section of the shield and dorsal region in the long axis of the central region of the nervous system (*nc*). The thick coating of hypoderm (*hp*) bounds the latter externally, while internally it rests on the basement-tissue (*bt.*); *bp*, sections apparently of the shield-pores in their progress inwards; *bsm*, radial muscles of the buccal disk or shield; *hs*, hypoderm of shield; *od*, position of the pigment of the oviducts; $\times 210$.
- Fig. 4. Transverse section of the same bud as in Pl. V. fig. 4, in the anterior region, so as to strike the commencement of the nerve-centre (*nc*), with the central cavity (*c*). The young plumes are irregularly cut from their variable position, and the sides of the disk fold over into the basal region of the plumes. The large size of the terminal process of the plumes is well seen in the larger organ; $\times 210$.
- Fig. 5. Section a little behind the foregoing, giving the nerve-centre (*nc*) in full development, under the thick hypodermic coat (*hp*), while the tip of the anus (*an*) has also been included; *cva*, collar space going to plumes; *bsm*, radial muscles of buccal disk; *c*, region of the notochordal. The plumes are more widely separated in this region, and the young filaments have the form of hypodermic papillæ; $\times 210$.
- Fig. 6. A somewhat oblique section through the buccal shield (*bs*) and the post-oral lamella (*pl*) with its central cavity, to which the dotted line goes. Beneath is a collar pore (*cp*), which is, however, indifferently shown in this section. The nerve-centre (*nc*) and a pore (*bp*) leading into the cavity of the shield are also cut, the two body-cavities of the region lying above the former (*nc*) in this view, that is ventrally in nature. The other parts are an ovary (*ov*) and a portion of the pigment-mass of an oviduct (*od*); $\times 90$.