

leaving the fertilisation chamber the oviduct runs through the nidamental gland. This mass has a complex internal construction and although it is not possible on simple microscopic examination to assign precise functions to the histologically differentiated areas some indication can be given of the general topography of the mass and the sequence in which the different areas are traversed. The gland mass is deeply divided into two main lobes, one lying on the right and the other on the left of the haemocoel. The right lobe into which the oviduct enters after leaving the fertilisation chamber is the smaller. The lumen is very large and strongly ciliated. The lining is exceptionally granular and the cell outlines largely obscured. The whole lobe is clearly secretory and constitutes the "albumen gland". Towards its anterior end it is linked by a transverse isthmus to the much larger left lobe, the mucous gland. This extends backwards to the level of the gonad where it occupies almost the whole ventral half of the body. Histologically the mucous gland is more complex than the albumen gland. Cells of three quite distinct types can be seen (Fig. 5a-b), granular ones similar, though not identical to those found in the albumen gland (stippled); those staining almost black in haemotoxylin (black); and lightly staining cells with large but infrequent nuclei. The latter have a rather vacuolated appearance and invariably lie between the first two types (hatched). After leaving the mucous gland the oviduct unites with the allospermatic duct and enters a short ciliated vagina, opening to the female genital aperture immediately below and on the same level as the male aperture.

DISCUSSION

While many aspects of the anatomy of *P. mortoni* are similar to those of the previously described species of the genus, the reproductive system differs remarkably. Whereas in *P. salamandrops* Marcus Ev. 1953, *P. schulzi* and *P. axi* Marcus Ev. and E. 1955 (species from which the reproductive system has been described), this system is essentially diaulic, that of *P. mortoni* is quite clearly triaulic. The possession, in this species, of a bursa copulatrix and a fully closed allospermatic duct fulfils the essential character of a triaulic system, despite the absence of a separate third genital aperture. The reproductive system of *P. mortoni* corresponds quite closely with that described by Chambers (1934) from *Embletonia fuscata*. In his discussion of the classification of reproductive systems in opisthobranchs Chambers places systems conforming to this pattern in his category IV whose main characteristics lie in "the relationship of the third channel (the allospermatic duct) to the seminal receptacle" . . . "there is but a single receptacle and it is not entered by the third channel. The receptacle is a unit in itself connected to the vagina by a short duct. The third duct passes from the fertilisation chamber to the vagina at a point anterior to the receptacle". In *P. mortoni* there is no indication of the direct passage of sperm from the vas deferens to the exterior via the renal pore as there is in *P. salamandrops*.