

and protrudes freely into the lumen of the pedicel. This stage corresponds with Arnold's Zone V.

After ovulation the cavity occupied by the oocyte is partially filled by the corpus luteum (Fig. 1) which in fresh specimens is olive-yellow in colour and would appear to be derived from the degenerated follicle.

The Pedicel

The pedicel (Fig. 5) is thin-walled, consisting of a lining of cubical epithelium resting on a sharply defined basement membrane, outside which is a thin connective tissue which includes a few muscle fibres. The internal epithelium is thrown up into a few low ridges.

The Lateral Oviduct

There is considerable difference in structure between the anterior and posterior portions of each lateral oviduct. In front, where the duct is of mesodermal origin, it resembles a pedicel, but the hinder portion (Fig. 6), which is of ectodermal origin, is similar to the median oviduct. Anteriorly the cubical lining epithelium, which rests on a readily discernible basement membrane, is thrown into a few low longitudinal ridges; the outer connective tissue contains a few muscle fibres which become more numerous further back along the duct. Posteriorly the cubical epithelial cells are invested by a smooth, cuticular intima which at first is discontinuous but gradually becomes entire. The epithelium rests on a fairly thick basement membrane and is thrown into numerous, tall ridges (Fig. 6). Many muscle fibres are irregularly arranged in the wide outer connective tissue matrix, some running into the folds of the epithelium. The whole is invested by a membranous sheath.

The Median Oviduct

The short median oviduct is much wider posteriorly than anteriorly (Fig. 1) and it is difficult to determine the exact position of the gonopore externally because the oviduct merges gradually into the genital chamber. A slight ridge, however, in front of the spermathecal opening would probably delimit the two regions. Marked changes in the histology of the wall also occur at the same place. The spermatheca opens dorsally into the genital chamber.

The lining epithelium rests on a pronounced basement membrane and consists of tall, granular cells, probably secretory in function (Fig. 7). Anteriorly the intima is fairly thin, but posteriorly it is much thicker and the surface is irregular. The muscle sheath consists of a wide inner zone of longitudinal fibres with a few circular ones outside. The whole is ensheathed in a delicate, apparently structureless membrane. Just in front of the spermathecal opening, the wall of the median oviduct undergoes a sudden change. The epithelial cells become flattened, the intima is thick and spinose, and the muscle sheath is virtually lost. This change occurs in the region of the ridge mentioned above and seems to demarcate the genital chamber.

The large pale cream spermatheca is like a rectangular cushion, with long axis running fore and aft, and lies close to the dorsal wall of the posterior portion of the median oviduct (Fig. 1). It extends forward almost to the lateral oviducts and backward over part of the genital chamber.

The spermatheca is comprised of a single, very long, coiled, cuticular tube ensheathed by a secretory epithelium, within a matrix of connective tissue and a few muscle fibres (Fig. 9). It is invested with fat body and is well supplied with tracheae. The duct opens into a slight depression in the mid-dorsal wall of the genital chamber through a fairly wide aperture. Here the tube itself is very thick, the inner surface bearing numerous blunt conical processes (Fig. 8); the