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**Morphology of the ovarian germinal epithelium in bony fishes:  
Centropomidae *Centropomus undecimalis*, Goodeidae *Xenotoca eiseni* and Chlorophthalmidae *Chlorophthalmus agassizi*.**

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**Abstract:**

The female germinal epithelium was examined in three species of distantly related teleosts. In *C. undecimalis*, *X. eiseni* and *C. agassizi*, the germinal epithelium lines the ovarian lumen and is composed of epithelial cells within which are scattered, and widely separated oogonia and cell nests. The process of folliculogenesis is precisely the same in all three species. The germinal epithelium is supported by a basement membrane that separates it from stroma. In similar fashion, during folliculogenesis, the germinal epithelium basement membrane is extended to surround individual follicles, separating them from stroma from which the theca forms. Therefore, the theca is not part of the follicle. Rather, the follicle and its encompassing theca, represent cells derived from two different tissue compartments that comprise a follicle complex. An ovarian follicle is simply the oocyte and its encompassing follicular cells. In all three species, epithelial cells from the germinal epithelium become prefollicle cells during folliculogenesis and then follicle cells when the forming follicle is completely surrounded by a basement membrane, marking the completion of folliculogenesis. After ovulation, a postovulatory follicle (POF) remains within the ovarian lamellae and is composed of just the former follicle cells. The postovulatory follicle is encompassed by a basement membrane and a postovulatory theca (POT). Together, POF and POT compose a postovulatory follicle complex (POC).