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## Ultra-structural changes in the otocysts, hepatocytes and variations in the expression of yolk protein vitellogenin with the maturation of gonads in the *Epinephelus diacanthus* (Valenciennes)

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Ultra-structural changes in the oocytes and hepatocytes in the female *Epinephelus diacanthus* were studied with the progress of maturation. Transmission electron microscopic (TEM) observations revealed cytological changes associated with ovarian development. Nucleolus number increased in the peri nucleolus stage, which is an indirect indication of increase in protein synthesis with the onset of oogenesis. Zonation of yolk sphere and presence of microvilli in the Zona radiata were observed in mature oocytes. In comparison to the immature phase, mature/ripe stage hepatocytes showed greater development of both endoplasmic reticulum and increased density of mitochondria in the cytoplasm which is an evidence of progress in vitellogenin synthesis. Yolk protein vitellogenin was partially characterized employing polyacrylamide gel electrophoresis (PAGE). Vitellogenin level of expression was increased with the maturation of gonads.

### Biography

A Chandrasekhara Rao has completed his PhD from Central Institute of Fisheries Education, ICAR in India. He has extensively worked in the marine fisheries research. He has gained experience in teaching, research and extension. He has guided two PhD students as minor guide and six Post Graduate students as Chairmen of the advisory committee. He has published more than 15 papers in reputed journals, one book and is the Editorial Board Member of repute.

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