

## **STUDIES ON FISH THYMUS IN RELATION TO HAEMOPOIESIS**

**Subrata Kumar De and Santi Gopal Pal\***

**Department of Zoology, Kurseong College,  
Kurseong 734 203, West Bengal, India  
email : skdkc@hotmail.com**

**\*Department of Zoology, University of Calcutta, 35 B. C. Road,  
Kolkata - 700 019, West Bengal, India  
santigopal\_pal@yahoo.co.in**

The thymus in fishes originate from early endodermal and ectodermal pharyngeal tissues. This preliminary microscopic study of thymus of *Pseudapocryptes lanceolatus* is important from anatomical, developmental biological and immunological points (De and Pal, 2004 in *Micros. Microanaly.* 10, Suppl. 2, pp. 1562).

Healthy *P. lanceolatus* of same age group are acclimatized and thymus glands are dissected for transmission electron microscopy (TEM) following routine procedures using 2.5% buffered glutaraldehyde in 0.1 M phosphate buffer (pH 7.2) as pre-fixative, osmicated (1% in distilled water) and embedded in Araldite. The thin sections of 50-60 nm are examined in Philips 400 electron microscope operated at accelerating voltage of 60 kV.

The thymus sections provide details of an apparent lymphohaemopoietic gland. There are different types of blood cells present within the thymus gland such as developing erythrocytes, leukocytes, macrophages, early neutrophils, plasma cells etc. The epithelia cells are also characterized in the thymus gland of this fish. The latter form the thymic microenvironment.

The thymus is found to be particularly rich in lymphocytes, lymphoblasts and blood cells, in addition to the secretory cells. This picture supports the haemopoietic and immunological nature of this gland in fish. It appears clear that there is enormous potentials to study thymus gland of fish in view of the increased stresses in the aquatic environments in the tropical countries.