Egypt J. Aquat. BioL& Fish. Vol. 10,No.l: 151 - 172 (2006) ***ISSN** 1110 - 6131*

ONTOGENY OF CRF- AND ACTH-SECRETING CELLS DURING DEVELOPMENT OF *OREOCHROMIS NILOTIC* LARVAE

Noha A. Khalil
National Institute of Oceanography and Fisheries, Fish Reproduction Laboratory,alknater ,Egypt.

Key words: Fish larvae, *Oreochromis niloticus,* development, CRF, ACTH, immunocytochemistry.

ABSTRACT

Ontogenic development of the onset and localization of the immunoreactivity to antibodies against corticotrophin releasing factor (CRF) and adrenocorticotropic hormone (ACTH) was investigated in the developing of *Oreochromis niloticus* larvae, by using immunohistochemical technique, in an attempt to disclose a possible involvement of these molecules in the early immune-endocrine integration. The immunocytochemical analysis showed that CRF was localized in the developing gills and digestive tract in the examined stages of development (from 0 to 35 days post-hatching). In gills, CRF immunoreactivity was observed in presumptive chloride cells. In the digestive system, CRF immunoreactivity was restricted to the mucosal epithelium of the undifferentiated digestive tube and in the gastric glands of the stomach. Along the larval development both the number of CRF-immunoreactive (ir) cells and the intensity of immunoreaction were gradually increased especially after the onset of exogenous feeding at 21-28 days post-hatching (dph). ACTH immunoreactivity was obtained only in the goblet cells of the developing intestine, and showed strong immunoreaction during the period of yolk sac resorbtion at 7-10 dph. With the onset of exogenous feeding, ACTH-ir cells showed significant decrease in both the number and size, and gave very weak immunoreaction at 28 dph.

The early appearance and broad anatomic distribution of activities of CRF and ACTH in the larvae likely indicates the functional importance of these molecules in osmoregulation, immune response, food intake and growth during development especially in the period after yolk sac resorption.