



HISTOMORPHOLOGICAL CHANGES IN THE OVARIES OF OREOCHROMIS NILOTICUS DURING BREEDING AND NON BREEDING SEASONS

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Abstract:

The present study was conducted to highlight the relationship between the external morphology of female *O. niloticus* and the histomorphological changes of the ovaries during different seasons of the year. A total of 58 female fishes of *O. niloticus* were used in this investigation. The external features of females didn't show any seasonal variations. Ovaries were paired elongated, cylindrical structure of approximate equal size, located in the posterior body cavity, ventral to the swim bladder and attached to the dorsal body wall by mesovarium. During the non-breeding season, ovaries were small, yellowish red in colour and occupied small portion of the body cavity. While during the breeding season, ovaries were extremely long and wide, yellowish in colour and more vascularized. They occupied almost the entire body cavity. The ovary of *O. niloticus* was covered by a thick capsule during the non-breeding season, but became thin and vascular during the breeding period. Six arbitrary stages of oogenesis process had been established among the ovarian follicles; oogonia (stage 1), chromatin nucleolus stage (stage 2), perinucleolar stage (stage 3), yolk vesicle stage (stage 4), yolk globule stage (stage 5) and mature stage (stage 6). During the non-breeding season, the ovaries were filled with previtellogenic oocytes in perinucleolar stage. Oocytes in the oogonium and chromatin nucleolus stages were abundant; the oogonia reached 10 ± 1.5 / UA and the chromatin nucleolus reached 9.8 ± 1.4 / UA during the non-breeding season. While during the breeding season, the ovaries were in a condition of active vitellogenesis and mature oocytes increased both in number (4.0 ± 0.5 / UA) and in diameter ($806.0 \pm 11.0 \mu\text{m}$). Morphometric studies revealed significant differences in the length, diameter and weight of the ovaries of *O. niloticus* during breeding and non-breeding seasons.

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