

Comparative study of vitellogenesis of two African catfish species

Chrysichthys nigrodigitatus and *Heterobranchus longifilis* are two commercially important African catfish species that have been studied for their reproduction and breeding possibilities in the lagoon waters of Ivory Coast. *C. nigrodigitatus* is characterized by an annual reproductive cycle with a vitellogenesis period from March to June. The reproductive season coincides with the short rainy season which is characterized by lower water temperature and salinity at the beginning (September) and by a progressive rise of these parameters at the end of the season (November). The previtellogenic oocytes enter vitellogenesis at an average diameter of 320 μm . This initial oocyte stock is reconstituted progressively as soon as the spawning is achieved and lasts for a period of approximately 3 months. Fully vitellogenic oocytes reach an average diameter of 2.4–2.8 mm by the end of June. The maturation is possible only if a male and a female are confined in artificial spawning receptacles. Maturation and spawning generally occur within the following 3 to 5 weeks for 30 to 80% of the females. When the non-spawning females are kept in the nests they maintain fully vitellogenic oocytes for 3 months with a continuous atresia of the larger oocytes, while the ovaries of the non-spawning females, placed out of the receptacles, exhibit a complete atresia of all the vitellogenic oocytes. After an HCG-induced ovulation, a new reproductive cycle of *H. longifilis* can be achieved in less than a month. The previtellogenic oocytes enter vitellogenesis at an oocyte diameter of about 380 μm and become fully vitellogenic after 15 days (1.2–1.6 mm in diameter). If maturation is not artificially stimulated the females remain at the same stage of vitellogenesis while larger oocytes undergo atresia and are continuously replaced by growing vitellogenic oocytes.

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