



## Research Article

# Anatomical and Histological Studies on the Olfactory Organ of Riverine Catfish, *Eutropiichthys vacha* (Hamilton, 1822)

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### Abstract

**Background and Objective:** The olfactory organ is of immense importance and plays a momentous role in various teleost behaviours. The structural detailed and functional aspects of different cells on the olfactory mucosa of *Eutropiichthys vacha* (*E. vacha*) (Hamilton, 1822) were studied morphologically as well as histologically. **Materials and Methods:** The gross morphology and the cellular composition of the olfactory epithelium in *E. vacha* were described by scanning as well as light microscopy. **Results:** The paired olfactory chambers placed on the dorsal part of the snout and communicated to surrounding environment by anterior and posterior nasal openings. The olfactory organ was lodged in the depression of the olfactory cavity and consisted of  $32 \pm 2$  lamellae of various sizes that inserted into both sides of narrow midline raphe, forming an oval shaped rosette. The lamella was composed of olfactory epithelium whose surfaces contained sensory and non-sensory parts. The lateral surface and linguiform process of olfactory lamella contained sensory epithelium, whereas, the rest portion of the lamella was covered with non-sensory epithelium. The sensory epithelium was embossed with three types of receptor cells distinguished on the basis of architecture on their apical part bearing cilia, microvilli or rod like processes. The non-sensory areas were comprised of supporting cells and a series of mucous cells. Basal cells were confined in the deeper region of the epithelium above the basement membrane. **Conclusion:** Role of various cells lining the epithelia of the olfactory organ related to the mode of life and living of fish concerned.

**Key words:** *Eutropiichthys vacha*, olfactory epithelium, morpho-histology, function

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**Competing Interest:** The author has declared that no competing interest exists.

**Data Availability:** All relevant data are within the paper and its supporting information files.