Morphological studies on the Gaseous Chambers of the African-Catfish (*Clarias gariepinus*).

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This study aimed to find out the morpho-functional correlations of supra-branchial gaseous chambers (SC) and gas bladder (GB) in *Clarias gariepinus*. Gross, and Histological observations were made on ten different ontogenetic stages ranged from 10 mm SL (Standard length) to 100 mm SL, and mature fish 330 mm-333 mm SL. Computed tomography (CT) was performed on five mature fishes at 130 K Volt and 80 Ma, different CT windows were adjusted as follows: Soft tissue (WL: 40, WW: 300), Bone (2000: 400), and Air-chambers (-600:1200). Each SC lodged mid-constricted membranous sac, communicated to gill cavity via single opening. The GB was an oval sac surrounded by incomplete bony capsule, it touched the skin laterally, otic capsule medially and SC anteriorly. The SC membrane was three layered with a gill like mucosa (respiratory mucosa); GB has an inner layer of simple squamous epithelium and an outer layer of dense irregular connective tissue. Collectively, the larval stages were adult like, but differ in proportions; in stages from 10 to 26 mm, SC adventitia was ill defined or absent and SC musculosa was well developed relatively to the total thickness of the membrane. In CT images, there was a clear communication between the otic capsule and GB at the level of anterior-medial fissures of complex vertebra; disc–shaped fat pads appeared as hypodense bilateral areas dorso-medial to GB and caudo-posterior to SC. Results Concluded that GB and SC had and accessory auditory role related to their anatomical structure, position and communications.

Keywords*:* Acoustic lens, Catfish, *Clarias gariepinus,* CT, Gas-bladder.