WEBERIAN APPARATUS IN *Mystus gulio* (Ham-Buch.) AND *M. bleekeri* (Day)

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The present paper deals with the structural aspects of the Weberian ossicles and allied structures in two species of *Mystus*, namely, *Mystus gulio* and *M. bleekeri*. The treatment of this study involves an account of the anterior-most region of the vertebral column, the posterior region of the skull, the auditory apparatus, the Weberian ossicles, and the air-bladder. The first two regions are modified to form a supporting framework for the entire Weberian Mechanism.

(a) *Mystus gulio* (Ham-Buch.)

*Anterior region of the vertebral column:*

Six anterior vertebrae from 2nd to 7th are rigidly united to form a single compound vertebral region (Figs. 1, 2, 3). The second, third and fourth vertebrae are completely fused to form the so-called *complex vertebra* (Fig. 3, CV).

The ventro-lateral sides of the complex and the fifth vertebrae are invested by two superficial bones (Figs. 1, 2, 3, SB) one on each side. Each *superficial bone* (Figs. 2, 3, SB) is a triangular plate, the broad base of which is fused with the ventro-lateral side of the complex vertebra and the narrowed apex lies in contact with the ventral surface of the fourth transverse process. Each superficial bone extends forward up to the posterior face of the first vertebra where it gives rise to a ventral and anteriorly directed *sub-vertebral process* (Fig. 3, SVS) which in conjunction with similar *articular processes* of the first vertebra (AV₁) and the basioccipital bone (APB) situated in front, gives rise to a sub-vertebral triangular plate on each side, at the junction of the vertebral column to the skull mid-vertically (Fig. 2). Posteriorly the superficial bone extends as far as the middle region of the fifth centrum. The superficial bone is produced vertically downwards in the form of a prominent ridge on each side of the compound vertebral region. The two-ridges thus
form the lateral walls of a ventrally open groove—called the *sub-centrum aortic groove* (Fig. 1, AG). Ventrally this groove is covered by the median dorsal wall of the air-bladder.

![Diagram](image)

*Fig. 1. Ventral view of cranium and anterior vertebral region of *M. gulio*. AG, Sub-centrum aortic groove. ATP₄, Anterior portion of the 4th transverse process. BO, Basioccipital. CG, Cardinal groove. EXO, Ex-occipital. PR, Prootic. PT, Pterotic. PTA, Ventral arm of the post-temporal. PP, Post temporal plates. PTP₄, Posterior portion of the 4th transverse process. RN, Radial nodule. RP, Ribbon-like "dorsal lamina". SB, Superficial bone. SP, Sphenotic.*

*The first vertebra* (Fig. 2, V₁) is a small discoidal bony piece, but without any rudiments of the transverse processes as in *Arius* (Karandikar and Masurekar, 1954). The ventral surface of this vertebra is produced downward into a pair of accessory articular processes (Fig. 3, AV₁). Anteriorly these frayed processes get interlocked with similar but stronger articular processes (APB) arising from the posterior ventral face of the basi-occipital. Posteriorly these processes get articulated with the forwardly directed, sub-vertebral processes given off from the superficial bones (SVS). This constitutes the first of the three points of attachment between the posterior face of the skull and the anterior vertebral region. All these articulations result