

are really external, and that these only could receive tactile impressions, since the other parts are covered by the eyes, the rostrum, squame of the antennæ, and the antennule of the opposite side. The fringing setæ along the margins of the surface which bears the opening of the auditory sac, as well as the close-set row of fringing setæ which cover the opening, act, doubtless, as strainers, and prevent the entrance of foreign bodies to that delicate organ."

Among the Dendrobranchiata the characteristic features of the first antennæ remain the same; that is, the peduncle consists of the same number of joints, and terminates in two slender flagella. But the first joint, instead of being cylindrical, is broad, flat, and deeply excavate on the upper surface for the reception of the ophthalmopod, which when at rest lies ensconced and protected by a fringe of hairs (the blepharis) that surrounds the excavation. In the genus *Sicyonia* the excavation is so deep that its floor becomes translucent. But whenever this is the case, the inner and outer margins become correspondingly thick and strong, the outer margin being armed with a long pointed process (stylocerite), often of considerable strength, and the inner margin with a long, slender, unjointed appendage, which I have named the prosartema, and which is confined to the genera of this division, and is not unfrequently reduced to a rudimentary and obsolete condition.

In *Penæus canaliculatus* the prosartema exists in the most perfectly developed form; it arises from the inner marginal wall near the base, and projecting forwards, overlies the ophthalmopod when the latter is at rest; the margins are fringed with hairs, and it reaches quite to the extremity of the first joint (Pl. XXXI. fig. b).

In *Penæus serratus* the prosartema is scarcely as long as in *Penæus canaliculatus*, the margins are fringed with hairs, and the stylocerite on the outer side is short and pointed.

In *Sicyonia carinata* (Pl. XLIII. fig. 3b) the prosartema is reduced to a rudimentary lobe thickly surmounted with hairs, and the stylocerite on the outer margin is long, slender, and pointed.

In the genus *Aristeus* the prosartema is little more than a rudimentary process fringed with hairs, and the stylocerite is produced to a length that passes beyond the distal extremity of the second joint of the peduncle.

Both these structures are useful for the protection of the ophthalmopod. The stylocerite does not exist in the Trichobranchiata, and only in a reduced condition in the genus *Sergestes*; while both it and the prosartema are absent in *Lucifer*.

In this division the second and third joints of the peduncle are shorter and stouter than the first; in many cases they assume a subcylindrical form, and they are occasionally armed by having the distal angles produced into teeth; but in all essential points these two joints are only of importance as being the supporters of the two flagella. In the genus *Penæus* the flagella are never extremely long, and are sometimes