

Scopelus benoiti, *Pachystomias microdon*, *Opostomias barbatum*, and *Malacosteus indicus*.

Leydig¹ mentions organs which belong to this group in several species of *Scopelus* besides *Scopelus benoiti*.

b. Structure.

(1) General.

The organs are glandular and generally surrounded by an exceedingly thick light-reflecting spicule-layer, but the pigment layer is often not very highly developed.

There is a tangential lobe and an extension reaching down into the interior of the orbital fossa as in *Opostomias micripnus*. The latter is generally larger than the former, spherical in shape and connected with the tangential portion by a comparatively narrow neck. On the surface which looks outwards, vertical striations are found, which in fine sections can be resolved under high powers into elements similar to those of *Opostomias micripnus* above described. The distinction between the interior glandular and external epithelial portion is, however, not clearly marked, and the whole structure is much less regular than in that fish.

(2) Special description of the suborbital organs in *Pachystomias microdon*.

a. *General appearance*.—Seen from the outside the suborbital organs in this fish appear as two very conspicuous white masses below the eye (Pl. LXXI. fig. 25). The anterior one, which lies below and in front of the eye, is oval, and its upper margin is slightly concave. The anterior end extends forwards and slightly upwards. It is 3 mm. long and 1.5 mm. wide. The posterior organ is sausage-shaped, being 1.5 mm. wide and 17 mm. long. Its anterior end lies just below the posterior end of the smaller anterior organ (Pl. LXXI. fig. 25, b), and it extends backwards and slightly downwards. The posterior end is slightly turned up.

On dissection it appears that the orbital cavity in the skeleton of the head is greatly extended downwards and backwards (Pl. LXXI. fig. 26), and in the lower portion of this extended orbital cavity the two phosphorescent organs are situated. The nerves which supply them come from the angle between the anterior and internal walls of the large cavity (Pl. LXXI. fig. 26), and to each of the organs an extensive spherical mass appears to be attached internally, which, of course, is not visible from the surface before dissection.

β. *The smaller anterior organ*.—The non-transparent and soft membrane which covers the portion of the orbital cavity below the eye, is perforated so as to allow

¹ Leydig, Die augenähnlichen Organe der Fische.