

with thin bones and high ridges, between which large muciferous cavities are lodged. Mouth very wide and oblique; villiform teeth in the jaws, on the vomer and palatine bones. Eye very large. Branchiostegals from seven to ten, gill-openings very wide. Præoperculum without spine. One dorsal fin with a few spines in front; ventrals with seven and more rays; pectoral asymmetrical; anal with four spines; caudal deeply forked, with the upper and lower rudimentary rays transformed into spines. Air-bladder simple; pyloric appendages from twenty to thirty.

Of the five species known of this genus two only are known to descend to such a depth as to justify their admission into the deep-sea fauna. The other species (which belong to the Australian fauna) seem to live habitually in shallower water, and not far from the coast, where they are captured not unfrequently by the ordinary means. The two deep-sea species are *Beryx decadactylus* and *Beryx splendens*; they were discovered first in the sea off Madeira, and more recently in the sea off Japan. Lowe says that "the latter species, the 'Alfonsin a casta cumprida' of the Madeiran fisherman, begins to be met with of small size at the depth of 150 or 200 fathoms, but is scarcely taken in full size and plenty except with its congener, *Beryx decadactylus*, the 'Alfonsin a casta larga,' at the depth of from 300 to 400 fathoms, and from one to two leagues from shore." The Challenger Expedition obtained specimens of *Beryx decadactylus* only, off Inosima, at a depth of 345 fathoms, whilst we are indebted to H. Batson Joyner, Esq., for specimens of *Beryx splendens*, which he obtained during his residence at Tokio.

Young specimens have been found in the open sea. A specimen, described by Cuvier and Valenciennes under the name of *Beryx delphini*, was taken from the stomach of a *Coryphæna* in the Western Indian Ocean, in lat. 32° S. and long. 51° E.

Remains of extinct species of *Beryx* are found in Cretaceous formations, but not all the species described as such belong to this genus or even family. The skeleton of *Beryx decadactylus*, of which a figure is given on Pl. VI., well illustrates the family characteristics.

On the whole the bones of the skeleton are solid and firmly built, but some of the bones of the head are dilated into thin lamellar ridges, between which the muciferous channels and cavities are lodged. This is particularly the case with the bones forming the roof of the skull, the infraorbital ring, and the lower part of the mandible. The canal running along the præopercular limbs is much less deeply excavated. The basal portion of the cranial cavity is comparatively short and deep, very much swollen to lodge the organ of hearing and especially a pair of very large otoliths. The bones forming this part of the skull are thin and perforated by an oblong opening between the alisphenoid and basisphenoid, as in *Myripristis*.¹

The vertebral column consists of eleven abdominal and thirteen caudal vertebræ. The five anterior neural spines are remarkably stout and broad to support the anterior

¹ Cat. Fish., vol. i. p. 23.