

description of the adult male of the species, and is most distinct in external character and colour from the Fur-Seal (*A. falklandicus*) of the Falkland Islands and of *A. lobatus* from Australia.

The skull is equally distinct from the various skulls of all the species of the genus *Arctocephalus* (both Fur- and Hair-Seals) which are in the collection of the British Museum, and is easily known from them by the shortness of the face and the height and convexity of the nose. See Plate LXVIII.

The skull of this specimen is quite distinct from the skull of the *Arctocephalus gilliespii* of California, recently described by Dr. Mac Bain in the 'Proceedings of the Physical Society of Edinburgh,' under the name of *Otaria gilliespii*, from a skull in the Edinburgh Natural History Museum, of which we have a cast in the British Museum: but we are not able to ascertain with certainty whether this is a Fur- or Hair-Seal, though, from the length of the palate, compared with the width of the skull at the hinder grinders, I am induced to believe that it may belong to an animal which has a soft under fur. This proves that the Seals from the different parts of the West Coast of America are distinct from each other, each specimen having a specific geographical range.

ARCTOCEPHALUS URSINUS. Northern Fur-Seal.

Adult male grey-black; hair of the back long, black, reddish, with a subterminal band and a short grey tip; under fur short, woolly, red; the hair of the neck and front of the body longer, forming a kind of mane; lips and nose reddish; whiskers very long, strong, white, smooth, tapering to a fine point. Skull short, forehead very convex and rounded.

Hab. Behring's Straits.

I may state that the name *Arctocephalus ursinus* is usually applied to the various species of Eared Fur-Seals found in the different English and Continental Museums.

7. DESCRIPTION OF A NEW SPECIES OF FISH, PERISTETHUS RIEFFELI. BY PROF. DR. KAUP.

(Pisces, Pl. VIII.)

This new species is an inhabitant of the seas of China and perhaps Japan, and shows, with a species of Japan and two of the Moluccas, that the Mediterranean species is not so isolated as we have hitherto believed.

The genus *Peristethus* (*Peristedion*) is to be placed in the middle of the subfamily *Triglinæ*, and connects the similar forms of *Dactyloptera* with those which are near to the genus *Trigla*.

The highest genera, *Cephalacanthus* and *Dactyloptera*, have no separated rays on the pectorals, a thorn-shaped prolongation of the preopercle, and a normal covering of scales without a trace of lateral line.

The lowest group shows also a high head, less obtuse, and three free articulated rays on the pectorals, small scales, and a distinct lateral line. To this section belong *Prionotus* and *Trigla*.

The genus *Peristethus*, which connects both groups, has only two articulated rays before the pectorals; and before the commencement of the small furcated caudal are three carinated scales, of which there are two only in *Dactyloptera*. The strongly-armed body is without a lateral line.

From these characters, this genus is more allied to the last than the first group. As in *Trigla lyra*, the snout is furcated, and along the dorsal line is a series of elevated thorns, by which the dorsals are placed in a more or less deep furrow.

If we see marks enough to connect *Peristethus* with one or the other group, there is also a series of characters by which this genus differs from all the others. *Peristethus* shows no trace of teeth in either jaw; and the symphysis of the lower jaw has fringed skin-flaps, more or less moveable, hanging downwards. The head is long and very compressed, with two fork-shaped prolongations on the end of the snout. Every part of this fork is rough on the margins, and on its lower part are four cavities covered with a thin transparent skin. The long head is only three times the length of the body; and the body has a pyramidal form with eight sides. All the scales are connected one with another, and have in the middle a thorn directed backwards. The pectorals are of middle length, not quite reaching the ventrals, and show only two free fingers. The over-breast and belly are of two shields, with a serrated suture in the middle, and elevated on the margins; the first shield is larger and longer than the second, which is rarely separated in two.

The dorsal commences on the second ring of the body and reaches not quite to the end of the body. The males are distinguished by the first rays of the dorsal being thin, filiform, and elongated. This is the case in the European species; and the others are no exception. The anal commences next the anal ring, and is as long as the second dorsal.

The colour is red; but this colour changes after death to a dirty ochreous-yellow.

The flesh of the smaller species is very dry and is not used. The Mediterranean species is not rare, but the fishermen take it only as a curiosity. The cavities in the two branches of the fork make it very weak and fragile; and most examples of these fishes have lost one or both parts of their fork.

In quite perfect specimens we never find the fork longer than an inch; therefore the horned fish of Pliny must be distinct from the Mediterranean fish. This horned fish of Pliny had horns of 18 inches in length, and is, according to the opinion of Cuvier and Valenciennes, the *Cephaloptera*, which Rondelet has never seen or described.

It is, in fact, curious, that the old authors never mention the *Cataphractus*,—the reason probably being its rare appearance, its smallness, and its bad flesh.

As I always place the smallest forms with the most rounded skull at the head, and give the bird-types with the largest pectorals, which enable these forms to fly, the second place, and as I see in the *Peristethus* the bone- or reptile-fish, and in *Prionotus* the real fish-type, my arrangement of the genera in this little subfamily is as follows :—

- I. CEPHALACANTHUS.
- II. DACTYLOPTERA.
- III. PERISTETHUS.
- IV. PRIONOTUS.
- V. TRIGLA.

After this preface, we proceed to distinguish the different species of

Genus III. PERISTETHUS (PERISTEDION*).

PERISTETHUS CATAPHRACTUS. (Pl. VIII. fig. 1.)

Peristedion cataphractum, Lac.

P. cataphractum (♂) *et chabrontera* (♀), Risso, iii. p. 402.

Octonus holosteon, Raf.

Trigla hispanorum chabrontera, Osb.

Trigla hamata, Bl. Schn.

Malarmat, Rond. p. 237 (♂), excellent fig. ; Cuvier & Val. iv. p. 101 (♂), excellent fig.

Peristedion malamart, Yarr. p. 67 (♂), excellent fig.

This figure of Bloch, t. 49 (♂), is bad, shows too many scales and rays in the second dorsal.

Diagn.—Front with three thorns. Eye-covers with thorns. Preopercle leaf-shaped, without prolongation. The length of the head to the breadth under the middle of the eyes as $2\frac{7}{12}$: 1. Breadth of the head nearly equal to its height, measured under the eyes. The forks more or less divergent.

Not exceeding the length of a foot. Common in the Mediterranean, more rare in the Channel.

PERISTETHUS ORIENTALIS. (Pl. VIII. fig. 2.)

Peristedion orientale, T. & Schleg. Fn. Jap. t. xiv. f. 5, 6 ; t. xv. f. 1, 2.

Similar in length to *P. cataphractus*, but without thorns on the front, and eye-covering. A female, besides the short rays of the first dorsal, shows the ventral shield separated into two, which is abnormal. On the symphysis are three small skin prolongations, and behind it a longer one.

I find the true specific character in the form of the head, and therefore doubt whether the number of the rays shows a great difference from the other species.

* The name *Peristedion* is wrongly formed.

PERISTETHUS RIEFFELI, Kaup. (Pl. VIII. fig. 3.)

Thorns on the front, not on the eye-margins ; parts of the fork broader, and convergent towards the end. The breadth of the head is to the length as $1 : 1\frac{3}{5}$. The height of the head not quite half the breadth. The thorn-shaped prolongation of the preopercle not comparable with those of *P. cataphractus* and *P. orientalis*. The eyes are proportionately smaller, the front narrower and more concave, than in *P. cataphractus* and *P. orientalis*.

When we compare its head with those of the other species, we are led to believe that such a head belongs to a larger fish, which, however, is not the case. Our fish is scarcely larger than a large individual of *P. cataphractus*. In one cavity of the eye of a dry example I found a piece of China paper with the written characters of the country. From that, and the maceration and the varnish, I believe that this example came in an insect-box from China ; it is, judging by the short rays of the first dorsal, a female.

I have named this very interesting species in honour of the memory of my true and excellent friend De Rieffel, who has done so much for our Museum and University.

Besides these smaller species of *Peristethus*, there appear to be two mentioned by older authors, which attain an immense size. The first I call

PERISTETHUS GIGAS.

Length 3 feet, of which the head is one-third.

In Valentyn, 'Oud en nieuw Ostindien,' tom. iii. p. 363, fig. 55, is a fish mentioned and figured under the name Tkan Scythân Merah (Red Devil Fish), which belongs, according to Cuvier, to this genus.

A bad plate of this is also given in Renard's 'Poissons et Ecrevisses,' fig. 67. What makes me doubt whether Renard copied the engraving of Valentyn, is that on the surface of the fork are cavities covered with membranes, which we do not see in the figure of Valentyn. Therefore I believe that both authors used one and the same painting belonging to another collection, made at Amboyna.

These cavities on the upperside of the bifurcated snout, which we find in the better known species on the underside, permit us to hazard two conjectures. Either this species has these cavities on both sides of the fork, or, by the mistake of the first drawer, the cavities of the under side are erroneously placed on the upper side.

According to Renard, this fish reaches the length of 8 feet 7 inches ; but this does not agree with the assertion of Valentyn. According to the latter, the flesh of this fish is dry and without flavour ; Renard says it is similar to that of the Sturgeon. The last opinion is certainly not founded on experience, but on the analogy of this fish with the Sturgeon. I have more confidence in old Valentyn than Renard, and consequently think that the size of 8 feet is an exaggeration, and that the length given by Valentyn is the more exact.

Another species, not yet rediscovered,



Kaup, J. J. 1859. "Description of a new species of fish, *Peristethus Rieffeli*." *Proceedings of the Zoological Society of London* 27, 103–107.

View This Item Online: <https://www.biodiversitylibrary.org/item/100589>

Permalink: <https://www.biodiversitylibrary.org/partpdf/244959>

Holding Institution

Smithsonian Libraries and Archives

Sponsored by

Biodiversity Heritage Library

Copyright & Reuse

Copyright Status: Public domain. The BHL considers that this work is no longer under copyright protection.

This document was created from content at the **Biodiversity Heritage Library**, the world's largest open access digital library for biodiversity literature and archives. Visit BHL at <https://www.biodiversitylibrary.org>.