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XVII.—*Notes on rare and little-known Fishes taken at Madeira.*
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No. I.

Order PHARYNGOGNATHI, Müll.

Fam. Cyclolabridæ.

Centrolabrus trutta, Lowe, sp.

THE genus *Centrolabrus* was proposed by Dr. A. Günther, in his "Synopsis of the Labroid Genera," which appeared in the 'Ann. and Mag. Nat. Hist.' for November 1861, for the reception of those species of the genus *Acantholabrus*, C. & V., which have their teeth in a single series instead of in a band. The species shortly described by Mr. Lowe, in the Proc. Zool. Soc. for 1833 (p. 143), under the name of *Crenilabrus trutta*, will fall into the genus *Centrolabrus*; and it appears to me that the three species described by M. Valenciennes in his 'Ichthyologie Canarienne' (p. 64), under the names of *Acantholabrus viridis*, *A. romeritus*, and *A. romerus*, not only belong to the present genus, but are in reality merely varieties of the very species now under consideration.

First, with respect to *A. viridis*: this fish was considered by Valenciennes to be near the fish which Mr. Lowe originally called *Crenilabrus luscus*, but which was afterwards shortly described by him under the name of *Acantholabrus imbricatus* (Trans. Zool. Soc. vol. iii. p. 11), a fish now ascertained by Dr. Günther to be identical with *A. Palloni*. With the latter species I am well acquainted, having procured several specimens; and it is quite distinct from the fish described and figured by Valenciennes (pl. 17. fig. 4) under the name of *A. viridis*, in colouring, shape, and fin-formula, and by the possession of rows of imbricated

scales on the vertical fins. Now, certain fishes which I have obtained agree so nearly both with Valenciennes's description and figure of *A. viridis*, and with Mr. Lowe's description of *Crenilabrus trutta*, that there can be no doubt that both these naturalists referred to the same species, and that the fishes now before me also belong to that species. Mr. Lowe's specific name, being the older, must be retained. I may remark, however, that the vertical bands on the sides, spoken of by Mr. Lowe, are not to be clearly made out on my specimens, although there possibly are some slight indications of them; neither did I see more than one spot on the anal fin, whereas he speaks of two or three; whilst I perceive *five* fuscous blotches on the dorsal fin, whereas he found only *four*. But these differences are of little consequence, since he met with a variety "*unicolor viridis subimmaculata*;" and hence it is evident that the colouring is subject to considerable variation. The fin-formula of *A. viridis* agrees (with the trifling exception of 13 being substituted for 14 in the number of the pectoral rays) both with Mr. Lowe's account of *Crenilabrus trutta* and with the rays observed on my specimens. It also agrees with that observed in another Canarian fish, of which Valenciennes made a new species under the name of *Acantholabrus romerus*, saving that he assigns 15 rays to the pectoral fin. The only ground, apparently, for separating the fish from *Crenilabrus trutta* was that the four spots on the dorsal fin and the two or three spots on the anal fin were not seen on his fish—a difference of very little importance, if this were so in the living fish. Since the French naturalist only saw stuffed skins, the spots might have easily disappeared, if there originally. It may therefore be concluded, I think, that these two Canarian fishes and Mr. Lowe's Madeiran fish really belong to the same species.

On referring to the description given by Valenciennes of a supposed third Canarian species (*Acantholabrus romeritus*), it will be seen that the only differences pointed out between it and the other two are in the tint, the number of the teeth, and in the numbers of the spinous and soft rays of the dorsal and anal fins (viz. 16 spinous and 9 soft rays in the former, in place of 17 and 8, and in the latter 4 spinous and 9 soft rays, in place of 5 and 8). The differences in the colouring and the dentition are too trivial to deserve consideration; and it may be strongly suspected, considering the general close resemblance, that, in regard to the fin-rays of the single specimen observed, one of the dorsal and one of the anal spines had been abnormally converted into soft rays.

A description of the species, drawn up from the three specimens that have been obtained by me (in January, February,

and March), shall now be given. The synonymy, if my conclusions are correct, will be —

Centrolabrus trutta (Lowe), Günther.

Crenilabrus trutta, Lowe.

Acantholabrus viridis, Val.

Acantholabrus romeritus, Val.

Acantholabrus romerus, Val.

D. 16-17+8-9. A. 4-5+8-9. V. 1+5. P. 13-15.

C. iv. + 13 + iv. M.B. 5.

Back and head blackish brown; sides of the same colour, dappled with bluish green, the middle portion of the scales being brown with greenish margins, the green dapplings sometimes so arranged as to form a reticulated pattern; belly whitish, with a greenish tinge, the middle of each scale being pale brown; a dark spot at each side of the tail near the base of the caudal fin; the dorsal and anal fins bluish green, with red or orange spots, and occasionally with some obscure fuscous blotches; pectoral fins yellow, immaculate; caudal fin yellow, with red or orange spots or streaks; a blue line under the eye; sometimes blue lines across the opercular pieces, and occasionally small patches of pale red in front of the eyes and on the under jaw.

Body oblong, compressed, clothed with rather small scales having even margins. The height between the ventral fins and the vent is about equal to the length of the head, and, compared with the total length, as 1 to $3\frac{1}{2}$.

The *lateral line* on the anterior part of the body follows the curve of the back; but there is a rapid descent under the end of the dorsal fin, and it is then straight along the tail. The scales of the lateral line are 35, and in the height of the body about 14 (4+10) may be counted.

The *head* between and in front of the eyes is scaleless, whilst the opercle and preopercle are scaly, the former having its membranous border emarginate above the base of the pectoral fin, and the latter having its vertical edge set with fine teeth and its horizontal edge serrate. The longer axis of the slightly oval *eye* is contained about $5\frac{2}{3}$ times in the head. The iris is bright green, surrounded by a ring of gold. The *mouth* is small, furnished with fleshy lips and a protractile upper jaw. Each jaw is set with a single row of small canine *teeth*, which are larger in front than at the sides. In the upper jaw the number varies from 7 to 10, and in the lower jaw from 12 to 19. The palatines and vomer are unarmed.

The long *dorsal* fin rises out of a groove, and commences a little in front of the pectoral fins. It is low in front, the spinous portion being not so high as the soft-rayed portion. The com-

parative lengths of the bases of the two divisions of the fin are as 19 to 9. Each spine carries a short filament, and the last spine is rather longer than its neighbours. The fin is truncate behind, with the angle rounded off.

The *pectoral* fins are inserted close to the edge of the opercle; they are rounded, and their length to the total length of the fish is as 1 to $5\frac{1}{2}$. The *ventral* fins are in length rather more than one-seventh of the total length of the fish, and are inserted considerably behind the pectoral fins. The spine is rather more than half as long as the first soft ray. There is a long scale-like appendage between their roots. The *vent* is in front of the middle of the fish by about one-thirteenth of the whole length. The *anal* fin rises from a groove; it is about half as long as the dorsal fin, and their terminations are opposite each other. The spinous portion is lower than the rest; and the spines gradually increase in length backwards. The fin is truncate behind. The tail is high and compressed; its fin is truncate, with the angles somewhat rounded off.

The following measurements are taken from a specimen which had a total length of $6\frac{3}{4}$ inches, and a height of 2 inches.

	inches.
Head	$1\frac{7}{8}$
Eye, longer axis	$\frac{7}{20}$
Mouth, width	$\frac{4}{10}$
Dorsal fin, length of base	$2\frac{4}{5}$
„ distance from snout	$1\frac{9}{10}$
„ height of soft-rayed part	$\frac{9}{10}$
Pectoral fins, distance from snout	$1\frac{4}{5}$
„ „ length	$1\frac{1}{5}$
„ „ width of base	$\frac{4}{10}$
Ventral fins, distance from snout	$2\frac{4}{10}$
„ „ length	1
Vent, distance of its vertical from snout	$3\frac{1}{10}$
Anal fin, length of base	$1\frac{4}{10}$
„ „ height of soft-rayed portion	$\frac{4}{5}$
Tail, height	$\frac{4}{5}$

Order ANACANTHINI, Müll.

Suborder THORACICI.

Fam. Gadidæ.

URALEPTUS, Costa, Fauna Neapol.

Body scaly, elongated subelliptical, and attenuated behind, with two dorsal fins, one anal fin, and jugular fins of seven rays. Caudal fin distinct. No barbel. Teeth of upper jaw in two rows, of lower jaw in one row. Seven branchiostegal rays.

Uraleptus Maraldi, Risso, sp.

1st D. 11. 2nd D. 60. A. 65. P. 24. V. 7. C. II. 20. II.

The body is subelliptical, compressed, elongated, much attenuated behind, and covered with small cycloid scales. The height compared with the total length is as 1 to $5\frac{1}{2}$. The unarmed head is thick, broad, and flattened above, with a short, obtuse, rounded snout; its length, compared with the total length, is as 1 to $4\frac{1}{2}$. The large eye reaches to the profile of the head, and is contained therein four times; it is distant rather more than a diameter from the tip of the snout, and the space between the eyes is equal to about one diameter and a third. The opercular pieces are covered with scales. The upper jaw is protractile, and the upper border of the mouth is formed entirely of the premaxillary, which is armed with a row (12–16) of small pointed teeth, distant from each other and curving inwards, behind which is an inner row of minute, sharp, closely-set teeth. In front the inner row becomes double. The maxillary is covered with colourless skin, and lies, when the mouth is closed, under the integument behind. The mandible, which is rather shorter than the upper jaw, carries a single row of (9–14) conical, pointed, curving teeth, with minute sharp teeth intercalated between them. The palatine bones, the vomer, and the tongue are unarmed. The mouth is white inside; the rictus of moderate size.

There is no nuchal groove. The first *dorsal* fin is short, but rather higher than the second, and commences a little behind the root of the pectoral fins at the distance of about one-third of the total length of the fish from the snout; it extends to the second, which is long, is rather higher in front than behind, and reaches almost to the caudal fin. The long *anal* fin commences almost as far forward as the second dorsal, which it resembles in shape, and ends opposite to its termination, both being angular behind. The pectoral fins are long and pointed; they are not fleshy, and their rays are slender. The slender *ventral* fins are inserted in front of the pectoral fins; their second ray is elongate, and the first and third are also long. The *caudal* fin, composed of delicate rays, is lanceolate, and is equal to about one-ninth of the total length. The vent is far forward, being situate in the first third of the total length.

The *lateral line* commences a little above the opercle, and follows the curve of the back for its anterior half; it then descends rather rapidly, but is horizontal on the posterior third of the body. There is no barbel on the chin.

The *colour* is a dark brownish grey, with a black throat and pale-red pectoral fins; the other fins are of a dark indigo hue.

Two examples of this fish have occurred, and these were taken

in the months of February and March. The smaller one was $7\frac{1}{4}$ inches in length, the larger 9 inches, and this had a height at the first dorsal fin of $1\frac{5}{8}$ inch, its head measuring 2 inches in length. The fishermen style the fish "Rato," *i. e.* Rat, from its slender tail-like hinder part.

It may be suspected that this fish is the *Gadella gracilis* of Mr. Lowe (Ann. & Mag. Nat. Hist. ser. 1. vol. xiii. p. 399), although in his short description he speaks of a single dorsal fin and subscobinate teeth. I am indebted to Dr. Günther for referring me to the descriptions of *Gadus Maraldi* in Risso's 'Ichth. de Nice,' 125, and *Merlucius Maraldi* in his 'Hist. Nat. de l'Eur. MÉR.' iii. 220. The following figures represent in inches the dimensions of the principal parts of the larger specimen:—

Mouth, depth = width at angle of jaws	.....	$\frac{9}{10}$
Eye, diameter	.....	$\frac{1}{2}$
First dorsal, distance from snout	.....	3
" " length of base	.....	$\frac{6}{10}$
" " height	.....	$\frac{3}{4}$
Second dorsal, height in front	.....	$\frac{7}{10}$
Pectorals, length	.....	$1\frac{4}{10}$
" distance from snout	.....	$2\frac{4}{10}$
Ventrals, length	.....	$1\frac{1}{5}$
Anal, distance behind vent	.....	$\frac{1}{4}$
" height in front	.....	$\frac{7}{10}$
Caudal, length	.....	1
Vent, distance from tip of mandible	.....	$2\frac{4}{10}$

HALOPORPHYRUS, Günther, MS.

Body scaly; two dorsal, one anal, and seven-rayed ventral fins; a barbel; scobinate bands of teeth in the jaws and on the pharyngeal bones; scobinate teeth on the vomer; no teeth on the palatine bones or on the tongue. Branchiostegal membrane with seven rays.

The only species yet discovered of this genus was imperfectly described and badly figured by Risso, in his 'Hist. Nat. de l'Eur. Mérid.' (vol. iii. p. 218, pl. 11. fig. 40), under the name of *Lota lepidion*. From the true *Lotæ*, however, it may be distinguished by the possession of ventral fins with seven rays, and by the larger scales. Three specimens having been lately procured at Madeira, the following description of the species has been drawn up from them.

Haloporphyrus lepidion, Günther.

The fin-rays of the three examples were as follows:—

	1st D.	2nd D.	P.	V.	A.	C.
A.	4	55	21	7	49	VII. or VIII. + 16 + VII. or VIII.
B.	4	56	21	7	52	" "
C.	4	52	20	7	48	" "

The fish is of a uniform dark brownish-grey colour, with fins of a bluish black. The body is oblong, attenuated, and compressed behind, the thickest part being under the second dorsal fin, and the tail behind the dorsal fin low and thin. In general appearance it closely resembles *Mora mediterranea*, Risso (which has been of late years abundant in the market of Funchal, where it bears the name of *Abrotea do alto*), but is at once distinguished by the single anal fin. The *head* is scaly, thick, unarmed, rounded in the neighbourhood of the eyes, and flat between them; the mucous pores are numerous; the cheeks convex. The snout is short and rounded. The nostrils are close together, and the posterior is the smaller; the anterior has an elevated semitubular border on its hinder side. The eye is round and of moderate size; it is contained about six times in the head, is distant about $1\frac{1}{2}$ of its diameter from the snout; it is high up, and the distance between the two is about $1\frac{1}{4}$ of the diameter.

The seven-rayed *branchiostegal* membrane is much exposed, being left in great part unprotected by the gill-cover.

The *rictus* is wide and moderately deep. The lower portions of the upper jaw, which is scaleless, are very protrusile; and when the mouth is open, the orifice is nearly circular. The lower jaw is furnished with a thick cartilaginous lip, and shuts inside the upper jaw. There is a barbel at the chin. The premaxillary forms the upper border of the mouth; the maxillary is broad below, and reaches back nearly to the vertical from the middle of the eye. The *teeth* are small, and form scobinate bands in the premaxillary and mandibles, that in the former being broader in front and narrowing backwards on each side, whilst the band in the lower jaw is nearly of the same width throughout. There is a small patch of similar teeth on the vomer, but none on the palatines or tongue, which is broad, thick, and pointed in front. The pharyngeals are armed with scobinate teeth.

The first *dorsal* fin is short, having only four rays, of which the first is much elongated, and is equal to one-third of the total length of the fish. It commences over the pectoral fins, at a distance from the snout nearly equal to one-fourth of the total length of the fish. The long second dorsal fin is separated by only a short interval from the first. Its rays project beyond the membrane, and it falls in slightly between the two extremities, the largest rays being in the anterior third. The posterior extremity of the fin is angular, and the last three rays very short. The highest part of the fin is about two-sevenths of the greatest height of the fish.

The pointed *pectoral* fins are inserted in the upper half of the

height under the first dorsal. The first ray is not quite equal to the total length of the fin, which is equal to about one-eighth of the total length of the fish, and reaches back to the fifth ray of the second dorsal. The fifth, sixth, and seventh rays are longer than the rest, the last being by a trifle the longest.

The thoracic *ventral* fins are separated by a wide interval, and have their first and second rays very long, the latter being to the total length of the fish as 1 to $4\frac{3}{4}$ nearly.

The vent is a little in advance of the *anal* fin, which is about two-thirds of the length of the second dorsal fin, and has its highest part in front. The middle is depressed, the posterior extremity angular, and it terminates a little in front of the end of the second dorsal. Like that fin, it has the lower two-thirds fleshy, and covered with small scales between the rays.

The *caudal* fin is truncate, and at the middle its length is about one twenty-third of the total length of the fish.

The deciduous *scales* are small, and have the free border simple. The *lateral line* commences in advance of the first dorsal fin, rising slightly with a gentle curve, to fall rapidly just behind the vent, whence it is straight to the middle of the tail. The scales of the lateral line are about 200; and there are about 85 rows of scales in the height, of which 15 are above the lateral line.

On opening specimen A., the liver was found to be excessively large, forming three lobes, two of which were 7 inches long and between 2 and 3 inches across. The pyloric cæca were in two bundles, eight on each side, and $3\frac{1}{2}$ inches in length. An air-sac with a very thick coat, 4 inches long, lay under the back. The cæcal stomach had also a thick coat, and was 4 inches in length. The intestine had two convolutions, and was 17 inches long.

One of the three specimens was taken in the month of January, the other two in March. Their dimensions in inches are given in the following table:—

	A.	B.	C.
Total length	25	35	$21\frac{1}{2}$
Height under commencement of 2nd dorsal.	$5\frac{3}{4}$	8	$4\frac{3}{4}$
Thickness, same place	$3\frac{1}{4}$	$4\frac{1}{2}$	
Length of head	$5\frac{3}{4}$	$8\frac{1}{4}$	$5\frac{1}{4}$
Eyes, diameter	1	$1\frac{3}{8}$	
„ distance from one to the other	$1\frac{1}{4}$	$1\frac{8}{10}$	
Mouth, upper jaw, length	$2\frac{1}{2}$		
„ width from side to side when open	$2\frac{3}{4}$		
Barbel	$1\frac{1}{8}$	$1\frac{3}{8}$	
1st dorsal fin, distance from snout	6	$8\frac{1}{2}$	
„ length of 1st ray	$8\frac{1}{4}$	$10\frac{3}{8}$	$7\frac{1}{4}$
„ „ 2nd ray		$1\frac{1}{2}$	

	A.	B.	C.
Interval between the two dorsals	$\frac{1}{3}$	$\frac{3}{8}$	
2nd dorsal fin, length of base	$13\frac{3}{4}$	21	
„ height in front	$1\frac{3}{4}$	$2\frac{3}{10}$	
Pectorals, distance from snout	6	8	
„ length	$3\frac{1}{4}$	$4\frac{3}{8}$	$2\frac{7}{8}$
„ width of base	$\frac{9}{10}$	$1\frac{1}{8}$	
Ventrals, length of 1st ray	$4\frac{1}{4}$	$6\frac{1}{4}$	
„ length of 2nd (longest) ray	$5\frac{1}{2}$	$7\frac{1}{4}$	5
„ distance apart	$1\frac{3}{8}$	$1\frac{3}{4}$	
„ width of base	$\frac{3}{10}$		
Vent, distance from snout	11		
Anal, distance from snout	$11\frac{1}{2}$	$15\frac{3}{4}$	
„ length of base	9	$13\frac{1}{2}$	
„ height	$1\frac{3}{8}$	2	
Caudal, length at middle		$1\frac{1}{2}$	
Tail, height behind 2nd dorsal	$\frac{8}{10}$	1	

Fam. Macrouridæ.

MACROURUS, Bloch.

Of this curious genus Mr. Lowe has given short diagnoses of three species taken at Madeira, viz. *M. atlanticus*, *M. lævis*, and *M. serratus*. Specimens of only the first two have fallen in my way; and I will now describe them from my notes. Both are of rare occurrence, but the first is taken more frequently than the second. It appears to be the fish which is figured in the 'Fauna Italica' under the name of *M. Mysticetus*, and described in the text under the name of *M. cælorynchus*, although there are considerable differences between the numbers of the rays in the dorsal and anal fins as stated by Bonaparte (1st D. 9; 2nd D. 68; A. 83) and those given below.

Macrourus cælorynchus, Risso, Ichth. Nice, p. 200;
Hist. Nat. iii. 244.

M. atlanticus, Lowe, Trans. Zool. Soc. iii. p. 15.

1st D. 10. 2nd D. 98. A. 110. P. 15-20. V. 7. M.B. 6*.

The head is thick and subcubical, the body compressed and much attenuated behind, so that the tail with its fin terminates in a point. The body is dark grey above, the belly paler grey; the anal, pectoral, and ventral fins black. It is clothed with small scales that have a tessellated arrangement, and are rough with numerous minute spines, but are without a keel. The head compared with the total length is as 1 to 4; the height of the

* Risso assigns seven, Bonaparte five branchiostegal rays to *M. cælorynchus*.

body to the length as 1 to $7\frac{1}{2}$. The head, between the eyes, is concave; two crests with numerous small spines commence over the middle of the eyes, and run backwards. The postero-superior orbit of the eye is spinous, and a spinous crest runs backwards from it. The rest of the head is covered with minute villiform spines, except the space around each pair of nostrils, which is naked. The large *eye* is contained about three times its longer diameter in the head, about twelve times in the total length, and is distant about one diameter from the tip of the snout. The eyes are separated from each other by a space about equal to their own shorter diameter. The projecting snout is subcarinate both above and below, and it is subtrilobate at the tip. There runs backwards from it between the eye and the mouth, almost to the posterior angle of the subopercle, a keel or broad crest (bearing a band of small spines), that gives a remarkable appearance to the head. The mouth is on the under side of the head, as in the case of the Shark tribe. The upper border of the mouth is formed partly by the premaxillary and partly by the maxillary; but only the former is set with teeth. There is a villiform band of teeth in each jaw, but none on the palate, vomer, or tongue. The upper jaw is very protractile. The pharynx and the inside of the gill-covers are black. The chin carries a short barbel.

The *first dorsal* fin has ten rays, and is a little posterior to the vertical passing through the roots of the pectoral and ventral fins. Its longest rays, when pressed to the back, reach to the commencement of the second dorsal. It begins at a distance from the snout equal to about one-fourth of the total length of the fish, and its height is rather less than the height of the body under it, but much greater than that of the second dorsal. The first ray is not serrated; it is slightly longer, but not stronger, than the next three rays. The last ray is about one-third of the length of the first.

The *second dorsal* fin commences behind the commencement of the anal fin, and is much lower than that fin. Both of them unite with the caudal without a break. The space separating the two dorsal fins is about one-third the length of the head.

The pointed *pectoral* fins are inserted near the border of the opercle, and their length is about equal to half the length of the head; they reach backwards to the commencement of the anal fin, but not quite so far as the commencement of the second dorsal fin.

The *ventral* fins are placed under the roots of the pectoral fins. The first ray is produced, and reaches back as far as the vent, which is situated at a distance from the tip of the snout equal to one-third of the total length of the fish. Between the

ventral fins there is a depression, the middle part of which is scaleless.

The *anal* fin commences under the space separating the two dorsal fins, and is higher and more distinct than the second dorsal; it is highest at the middle. There are about 82 rays in it, counting all to the tip of the tail.

The *lateral line*, in the anterior part of its course, is nearly parallel with the outline of the back; it descends a little under the anterior part of the second dorsal, and is then straight along the middle of the tail.

The following are the dimensions in inches of the two longest specimens that have occurred:—

Total length	10	$13\frac{1}{5}$
Height under first dorsal	$1\frac{3}{10}$	$1\frac{7}{8}$
Thickness at pectorals	$\frac{8}{10}$	$1\frac{1}{4}$
Head, length	$2\frac{4}{10}$	$3\frac{3}{10}$
„ thickness behind eyes	$1\frac{1}{10}$	$1\frac{5}{8}$
Eye, longer diameter	$\frac{8}{10}$	$1\frac{1}{8}$
„ shorter diameter .....	...	$\frac{6}{8}$
First dorsal, height	$1\frac{4}{10}$	$1\frac{9}{10}$
„ distance from snout	$2\frac{1}{2}$	
Second dorsal, distance from snout	$3\frac{1}{2}$	$5\frac{5}{8}$
Pectorals, length	$1\frac{1}{10}$	$1\frac{7}{10}$
„ distance from snout	$2\frac{4}{10}$	$3\frac{3}{10}$
Ventrals, length of first ray	$1\frac{1}{10}$	$1\frac{4}{10}$
Vent, distance from tip of mandible ..	$1\frac{8}{10}$	$3\frac{1}{2}$
Anal, distance from vent	$\frac{6}{10}$	
„ height at middle .....	...	$1\frac{1}{10}$
Barbel, length .....	...	$\frac{1}{2}$

Macrourus lævis, Lowe, Ann. & Mag. Nat. Hist. ser. i.
vol. xiii. p. 400.

1st D. 9. 2nd D. A. & C. 00. P. 15. V. 8. M.B. 7.

The body is coloured a light grey, and has a sleek appearance, from the smallness of the scales; those on the head and cheeks are rougher. The head is rather less than one-sixth of the total length of the body, the height of which (under the first dorsal) is contained rather more than seven times in the length. The body attenuates rapidly behind the first dorsal fin. The *head* is subcubical, the snout short and blunt. On the vertex is a ridge rising from depressions between the eyes, which are oval. The cheeks are flat; the mouth is on the under side of the snout, which projects one-fifth the length of the head beyond the mouth. The upper border of the mouth is formed entirely of the premaxillary. The *teeth* are small and acute, forming two rows in the upper jaw, those of the outer row being conical, curved, and larger, but fewer and more irregularly disposed than

those of the inner row. In the lower jaw there is but a single row of teeth, and these are similar in form to the teeth in the outer row above. The palatines, vomer, and tongue are unarmed. The mouth is white within, and the tongue is only free near the tip. The chin carries a small barbel.

The *first dorsal* fin is much higher than the second; it commences at a distance from the snout equal to a little more than the length of the head. It is highest in front, where its height is about three-fourths of that of the body under it; but its longest rays, when pressed to the body, do not nearly reach back to the commencement of the second dorsal. The first spine is not serrated.

The *second dorsal* fin unites, like the anal, with the caudal.

The pointed *pectoral* fins are inserted under the first dorsal fin, and are about half as long as the head.

The short *ventral* fins have their roots under the roots of the pectoral fins.

The *vent* is distant from the snout about one-fifth of the total length, and the *anal* fin commences shortly behind it under the root of the pectorals.

The *lateral line* in the anterior part of the body follows the curve of the back; it descends rather rapidly behind the tip of the pectoral fin, and is straight along the middle of the body and tail.

Differences in the dentition, the scales, the configuration of the sides of the head, the position of the vent, and the structure of the ventral fins, distinguish this species from the preceding one; whilst both may be discriminated from *M. serratus* by the simple, not serrated, first spine of the first dorsal fin.

The following measurements were taken from the single specimen that has occurred, now in the British Museum:—

Total length	14 $\frac{1}{2}$
Height under first dorsal	2
Thickness of body near pectoral	$\frac{9}{10}$
Head, length	2 $\frac{1}{2}$
„ thickness behind eyes	1 $\frac{3}{10}$
Snout, distance from tip to mouth	$\frac{1}{2}$
Eye, longer axis	$\frac{8}{10}$
Upper jaw, length	1 $\frac{2}{10}$
First dorsal, distance from snout	2 $\frac{8}{10}$
„ height	1 $\frac{4}{10}$
Second dorsal, distance from snout	4 $\frac{8}{10}$
Pectorals, length	1 $\frac{2}{10}$
Vent, distance from tip of under jaw	2 $\frac{6}{10}$
Ventrals, distance from vent	$\frac{1}{5}$
Barbel	$\frac{6}{10}$



Johnson, James Yate. 1862. "Notes on rare and little-known fishes taken at Madeira. No. I." *The Annals and magazine of natural history; zoology, botany, and geology* 10, 161–172.

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