

TRANSACTIONS
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I. Supplement to "A Synopsis of the Fishes of Madeira*." By the Rev. R. T. LOWE,
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Fam. PERCIDÆ.

Genus CALLANTHIAS.

Gen. Char.—Head scaly, except the short muzzle before the eyes; teeth as in *Anthias*, Bl.; preopercle perfectly entire; opercle with two flat adpressed spines; lateral line high up, near the back, and ending at the end of the dorsal fin, which is even or continuous; branchiostegous membrane with six rays.

CALLANTHIAS PARADISÆUS. A most elegant little fish; in general habit and colouring resembling *Anthias sacer*, Bl., but without the produced third spine of the dorsal fin. Its analogies are singularly complicated, but its affinities are truly Percidous. By Bloch it might have been arranged either in *Bodianus* or *Cephalopholis*, Bl., but it is really inadmissible into any well-defined or constituted modern genus. It is almost as rare as beautiful.

Fam. BERYCIDÆ.

Genus BERYX, Cuv.

BERYX DECACTYLUS, Cuv. *B. corpore ovali, lato, profundo, altitudine longitudinem capitis superante; dorso elevato, arcuato, gibbo; ventre prominente: basi pinnae*

* Published in the Transactions of the Zoological Society, vol. ii. p. 173.

dorsalis elongato, pinnis pectoralibus haud brevior: oculis maximis: operculi angustissimi carinâ obscurâ: osse humerali angusto, margine posteriore recto, verticali.

D. 4 + 18 — 20; V. 1 + 10; &c.

B. decadactylus, Cuv. et Val., Hist. III. 222.

B. splendens, nob. quoad icon. Tab. III. in Camb. Phil. Trans., Vol. VI. Part 1; haud textus.

When I published *B. splendens* as a new species in the Cambridge Transactions, I was unacquainted with the present fish, though it is scarcely perhaps less common than the former. I consequently did not discover till long after, that the figure intended for my *B. splendens* had been inadvertently taken by Miss Young from an individual of *B. decadactylus*, Cuv., of which it offers the more obvious peculiarities. The true *B. splendens*, therefore, yet remains unfigured, and till an opportunity presents of supplying this deficiency in the "Fishes of Madeira," I subjoin its true specific characters, contrasted with those of *B. decadactylus*.

B. SPLENDENS. *B. corpore oblongo, altitudine longitudinem capitis haud æquante: dorso recto: basi pinnae dorsalis brevi, pinnis pectoralibus brevior: oculis magnis; capite utrinque pone oculos gibboso: operculi lati carinâ prominente: osse humerali dilatato, margine posteriore arcuato, obliquo.*

D. 4 + 13 — 15; V. 1 + 10 — 13 (1 + 11 fere); &c.

B. splendens, nob. Proceed. Zool. Soc. 1833. 1. 142. Camb. Phil. Trans. VI. 1. 197; excl. icon.—Syn. Mad. Fishes in Trans. Zool. Soc. Vol. ii. p. 174.

Trachichthys pretiosus, nob.

Hoplostethus mediterraneus, Cuv. et Val. IV. 496. t. 97. bis. Rariss.

This fish is unquestionably congeneric, if it is not even still more closely allied with *Trachichthys australis* of Shaw. Hence the above adoption of the older generic appellation, affording opportunity for the substitution of a less restrictive specific title; better suited to a fish: proved by the occurrence of two individuals in these Atlantic seas not to be peculiarly Mediterranean.

To the Sub-Percidous family *Berycidae* belongs also *Polymixia*; nob. Camb. Phil. Trans. IV. 1. 198. t. IV.—Syn. Mad. Fish. pp. 178, 179.

Fam. TRIGLIDÆ.

SCORPÆNA USTULATA. *S. minor, laciniis nullis, rubra, pallido variegata nigroque punctata; genis operculisque granulato-pustulosis, maculâ fuscâ notatis: pinnae dorsalis medio unimaculatæ spinâ quartâ ceteris longiore: capite s. rostro abbreviato, obtuso; maxillis æqualibus: squamis majusculis, scabriusculis.*

D. 12 + 9; A. 3 + 5; P. 1 + VII. + 10; V. 1 + 5; C. $\frac{5 + VI.}{5 + V.}$.

Rariss.

Occasionally taken with the common sort (*Sc. scrofa*, L.), with which it agrees in general colouring, resembling rather the Rocaz (*Sebastes maderensis*, nob.) in shape. It appears undescribed, and is very distinct in its characters, being a true *Scorpena*, notwithstanding the absence of *laciniæ*, having the whole head naked or scaleless. It scarcely attains half the size of *Sc. scrofa*, L.

Trigla lineata, L. Cuv. et Val. Hist. IV. 34.; Yarrell, Brit. Fish. 1. 46. Rariss.
A single individual only has occurred.

Fam. SPARIDÆ.

Pagellus rostratus, nob.—Syn. Mad. Fish. 177.

Reference to the excellently characteristic figures of Rondelet and Salviani has satisfied me that this is merely *Pagellus erythrinus*, Cuv. and Val.

Fam. CHÆTODONTIDÆ.

Pimelepterus Boscii, Lac.—“*Cheiroco*” or “*Xarroco*.”—Cuv. et Val. VII. 258. t. 187. Rariss.

Fam. SCOMBRIDÆ.

Nauclerus abbreviatus, Cuv. et Val. Hist. IX. 251.

Two individuals have occurred of this pretty little fish, answering so well to the species above referred to, that it were unreasonable to doubt their identity, although its describers have omitted mentioning a strong superscapular spine, and a fourth smaller tooth or spinule along the lower border of the preopercle, anterior to the three which arm its angle. Alive, and in a glass of sea-water, the activity and lovely colours of these little fishes rendered them most interesting objects. They were taken following a piece of floating timber; and until close examination after death, could scarcely be distinguished from the young of *Naucrates ductor*, Cuv., but for the absence of the caudal keels.

TETRAPTURUS GEORGII.—“*Peito*.”

Having at length, through Mr. Leacock’s kind exertions, obtained a fine example of the *Peito* in perfect condition, I am enabled to state that it forms a new and very distinct species of *Tetrapturus*, Rafin.; differing from *T. belone*, Raf., as described by MM. Cuvier and Valenciennes, especially in having the pectoral fins proportionally twice as long, and the body clothed with large scales of a peculiar shape and nature. I only forbear to draw up its specific character till I have checked my notes and observations by examination of more examples; but I hope to be allowed the privilege at once of commemorating by its specific name the valuable assistance rendered to the cause of Ichthyology by Mr. George Butler Leacock of this island, generally, as well as in the present instance.

Thynnus Albacora.—" *Atum Albacora*."—*T. corpore elongato, postice attenuato: pinnæ anali secundâque dorsali antice longe falcato-productis: pectoralibus ad medium secundæ dorsalis attingentibus: ore oculisque parvis.*

Tunny, Penn. Brit. Zool. Ed. 1. iii. 266. No. 133. t. 52. excl. syn. An L' Auxide de Sloane, Scomber Sloanei, Cuv. et Val. Hist. VIII. 148; i. e. Albacore, Sloane, Hist. of Jam. 1. t. 1. f. p. 28? Sat. vulg.

The length of the narrow produced fore-part of the second dorsal fin varies from one-sixth to one-fourth part of the whole length of the fish; that of the pectoral fins is from one-fifth to one-fourth part of the same, and their tips reach to the middle of the second dorsal fin. Thus, in this latter point it is intermediate between the common Tunny (*T. vulgaris*, L.) and the following new species (*T. obesus*, nob.); approaching most the latter.

Pennant's figure is at least a tolerable representation of this very distinct species, agreeing with it in its main points of difference from the true *T. vulgaris*, L. It may be hoped that the attention of British Naturalists will be directed to this point. The proper season for the Albacora in Madeira is September and October.

THYNNUS OBESUS.—" *Atum Patudo*."—*T. corpore abbreviato, obeso: pinnis acutis; pectoralibus ad finem secundæ dorsalis attingentibus: oculis magnis.*

Vulgaris.

This fish is constantly distinguished by the fishermen from the common Tunny or " *Atum Rabilha* " (*T. vulgaris*, L.) by the larger eye, and shorter thickset figure. The pectoral fins vary from one-fourth to nearly one-sixth part of the whole length, their points reaching to the end of the second dorsal fin. In *T. vulgaris*, L. the tips of the pectoral fins reach only to the end of the first, or to the beginning of the second dorsal fin.

T. obesus is in greater abundance earlier in the summer than *T. Albacora*. In size it ranges next below *T. vulgaris*, L., not however attaining above half the extreme size of that species; nor much exceeding the full size of *T. Albacora*.

Thynnus Alalonga, Cuv. et Val.—" *Atum Avoador*."—Cuv. et Val. Hist. VIII. 120. t. 215.

Orcynus Alalonga, Risso, iii. 419. Vulgaris.

No difficulty can occur in the recognition of this species, from the great length of the pectoral fins, which are one-third part of the whole length, and reach to the end of the anal fin, or to the first spurious finlet behind it. Its proper season is said to be January.

Gen. APHANOPUS, nob.

Gen. Char.—Form as in *Lepidopus*, elongate, much compressed, like a sword-blade, naked, but with a short keel on each side, towards the tail.

Muzzle and teeth as in *Lepidopus* (Gouan), but the palatines unarmed.

Dorsal fins two, nearly equal. Anal fin as in *Lepidopus*, but with a strong sharp spine instead of a scale before it, a little behind the vent. No trace or rudiment of ventral fins.

APHANOPUS CARBO.—“*Espada preta.*” Rariss.

Of this most curious new genus a single individual only has yet occurred. The whole fish is of a dark coffee colour, approaching to black, and has in form so close a general resemblance to *Lepidopus argyreus*, Cuv., that it might well be taken hastily for a mere variety of that fish.

Tetragonurus atlanticus, nob.

Differs from *T. Cuvieri*, Cuv. and Val., XI. 172. t. 318. chiefly in the longer head, much larger eye (nearly twice as large in proportion to the whole length), greater width between the eyes, teeth twice as numerous, in the upper jaw; thicker body, longer pectoral fins, higher (twice as high) first dorsal fin, and inequality of its spines. Having, however, seen only a single individual, I forbear to characterize it more distinctly; especially since of *T. Cuvieri* so few examples have as yet occurred; and that even MM. Cuvier and Valenciennes appear to have taken their figure from one which was imperfect in the caudal fin at least. The first dorsal fin is described by MM. Cuvier and Valenciennes as having fifteen spines; but twenty-one are figured in the plate.

The following is the fin formula of *T. Cuvieri*, according to Risso; and MM. Cuv. and Val.:

“1st. D. 18; 2nd. D. 1, 12; A. 1, 11; P. 16; V. 1, 5; C. 36.”—Risso Hist.

“1st. D. $\left\{ \begin{array}{l} 15 \text{ in text,} \\ 21 \text{ in fig.} \end{array} \right\}$ 2nd. D. 1 + 13; A. 12; P?; V?; C?; B. M. 5.”—Cuv. and Val. Hist.

That of *T. atlanticus*, nob. is

1st D. 15; 2nd. D. 11; A. 11.; P. 16; V. 1 + 5; C. $\frac{7 + \text{VIII.}}{7 + \text{VII.}}$; B. M. 5.

The true affinities of this fish are certainly rather to be sought among the Mackerels (*e. g. Thyrsites*) than the Mulletts. Its relation to the *Mugilidæ* is, indeed, one merely of a faint analogy.

Xiphias gladius, L.—“*Peixe Agulha.*”

The ordinary Sword-fish of Madeira is truly the common *Xiphias gladius*, L.

I have heard, however, of “another sort, with a bayonet or spit-like beak,” which may perhaps have been a *Histiophorus* or *Tetrapturus*.

SERIOLA DUBIA. Rariss.

A single individual only has occurred, which I am unable to identify with any of the species enumerated by MM. Cuv. and Val. The second dorsal fin is produced in front

into a point; five-eighths the depth of the body beneath. The sides of the tail are sufficiently distinctly keeled; and there is no temporal band. In the first of these characters it comes nearest *S. Rivoliana* or *S. falcata*, Cuv. and Val.; differing, however, from both, principally in the points in which they are said to agree with *S. Dumerilii*, Cuv. and Val. With *S. Lalandi*, Cuv. and Val., it agrees in the two latter points above mentioned; but differs in the produced second dorsal and anal fins; *S. Lalandi* appearing from MM. Cuvier and Valenciennes' description not to disagree in this respect with *S. Dumerilii*, Cuv. and Val. The individual described measured two feet and a half long.

Lampris lauta. For "Vertebris 69" and "Vert. 49," in the specific character and following formula of the *Lampris lauta*, p. 183 of the Synopsis of Mad. Fish. (vol. ii. Trans. Zool. Soc. p. 183), read, Vertebris 45; and in the seventh line of the next page, for "six vertebræ more," read "two vertebræ more."

Fam. CORYPHENIDÆ.

Coryphæna hippurus, Cuv. et Val. ? "*Dourado macho*."—Syn. Fish. Mad. 183.

This fish agrees with *C. hippuroïdes*, Raf., according to the brief account transcribed by MM. Cuv. and Val., in having a row of larger dusky spots along the ridge of the back on each side at the base of the dorsal fin, which is itself immaculate, whilst the anal fin is also somewhat high and pointed in front. In these three points it is at variance with MM. Cuvier and Valenciennes' elaborate description of their *C. hippurus*, L. The individual described, however, by these consummate Ichthyologists was a male; whilst the only three which I have been able to examine closely, proved on dissection to be females, though commonly supposed by the Maderan fisherman to be the male of *C. equisetis*, L. Hence the Maderan fish, whether identical or not with the obscure and doubtful *C. hippuroïdes*, Raf., is for the present better referred to *C. hippurus*, L. Sufficient ground appears for the suspicion that the above differences may be only sexual. But were it otherwise, they would alone scarcely warrant its specific discrimination.

CORYPHÆNA NORTONIANA.—"*Delfin*."

This is a deeper fish than the preceding, in proportion to its length; with the front much steeper and bluffer; indeed, nearly vertical; the dorsal fin beginning also somewhat forwarder. In the fin-formulæ, and number of the vertebræ (31), the two agree; and I have seen too few individuals at present to decide whether they really are distinct, or only so in sex. But for its spotted body, I should be greatly tempted to refer it to the imperfectly known *C. imperialis*, Raf. (See Cuv. and Val., Hist. 9, 286.) In this uncertainty as to both rank and synonyms, less ultimate confusion will result from a distinct specific name, applied provisionally, than from a doubtful reference. It is

therefore called after the Honourable C. E. C. Norton, to whose able pencil I was first indebted for a knowledge of the fish. Two other supposed individuals have since occurred, of which, however, one was unfortunately neglected, and the other had been too much injured by a blow, beating in the interparietal crest, to be fully satisfactory. This last individual, taken November 22nd 1838, was apparently a male; but I could not satisfy myself completely even on this point, and infer it only from my inability to discover any trace of the ovaria.

Coryphæna equisetis, L. 1, 447.—“Dourada,” “*D. femæa*,” or “*D. amarella*.”—*C. equisetis*, Cuv. et Val., 9, 297, t. 267.

This may at once be distinguished from the foregoing species by its unspotted body, marked only by a few scattered, clear, but extremely minute black specks, very different from the diffused, pale, dusky, larger spots of the preceding. The pectoral fins are also very short, the dorsal fin with fewer rays (53–55), the number of vertebræ greater (33), the form deeper and less elongated than even in the first species here recorded. It also is a smaller fish. Being our commonest species, I have seen numerous examples, but none exceeding two feet in length. The average length is very uniformly from twenty to twenty-two or twenty-three inches.

This fish, which is the commonest of the “Dourados” of Madeira, differs from *C. equisetis*, L., as described by MM. Cuv. and Val., under the name of *C. equisetis*, only in the head being rather longer than high, instead of higher than long, in the dorsal fin being lower in its highest part, and also lower *before* than *at* its hinder end; and lastly in the profile being oblique from the beginning, whilst in *C. equisetis*, Cuv. and Val., “il monte d’abord verticalement sur le tiers à peu près de son contour.” The first three discrepancies might well be merely due to slightly different modes of measurement. The latter is less easily accountable; for in this Maderan fish at least, of which I am well acquainted with both sexes, I find nothing to confirm M. Dussumier’s observation, that a greater height of the interparietal crest is characteristic of the male in *Coryphæna*. See Cuv. and Val. 12, Pref. p. vii.

Asteroderma coryphænoïdes (Bon.); *Astrodermus coryphænoïdes*, Cuv. et Val. IX. 353. t. 270.—*Diana semilunata*, Risso, Hist. iii. 267. f. 14.

A single small example only has occurred.

Pompilus Rondeletii, Will. 215, t. O. 1, f. 6.

Centrolophus pompilus, Yarr. 1, 158.

————— *pompilus*, Cuv. et Val. 9, 334, t. 269.

————— *morio* (Lacep.) Ib. 342. Rariss.

Two examples have occurred during the writing of this paper; the first was uniformly blackish, without spots or marks, thus answering to *Centrolophus Morio* of Lacepède: the second individual was smaller, and was marked precisely as in MM. Cuvier and Valenciennes’ figure (t. 269.) of *C. pompilus*.

I have no hesitation in uniting both these fishes, with their respective synonyms,

under the name long since applied by Willughby to designate the species; although by him employed especially in reference to the second state or variety above mentioned, which also was the variety originally described by Rondeletius.

Pompilus Bennettii.

Leirus Bennettii, nob. in Camb. Trans. VI. 1, 199, t. V.—Syn. Mad. Fish. p. 179.

Centrolophus ovalis, Cuv. et Val. IX. 346.

————— *crassus*. Ib. 348.

The genus *Leirus* proves identical with *Centrolophus*, Lac., which in its turn, if not intolerable in itself (see Cuv. and Val. IX. 331.), must yield precedence to the prior claims of *Pompilus*, Rond. The species described by the Ichthyologist of Montpellier, (*Centrolophus pompilus*, Auct.) ought, on the other hand, as long ago by Willughby, to be called *Pompilus Rondeletii*.

Brama Raii, Bl. "Freira."—Syn. Mad. Fish. p. 179.

The true affinities of this fish are most assuredly Scombridal, or to speak more strictly, Coryphænid.

It was in reconsidering those of *Brama*, and in reaching this conclusion, that I was first led to detect the true affinities and synonyms of *Leirus*. It was not till convinced of the necessity of placing *Brama* next to *Pompilus* (*Centrolophus*, Lac.), that I discovered *Leirus Bennettii* to be a genuine species of this last-named genus.

So valuable are these studies of affinities; and thus do even errors often lead to valuable truth. I was not wrong, however, in associating *Leirus Bennettii* with *Brama*; but in not referring sooner it, or rather both, to the neighbourhood of *Pompilus*.

Fam. MUGILIDÆ.

MUGIL MADERENSIS. "*Tainha de moda*."

This is the fish published, in the former part of this list, under the name and with the synonyms of *M. Chelo*, Cuv. Comparing it, however, more closely with the description of *M. Chelo* in the eleventh volume of MM. Cuvier and Valenciennes' Histoire, I find the following principal discrepancies in the Maderan fish:—

1. The produced scaly appendages at the base of the first dorsal fin extend considerably beyond the base of the fourth spine.
2. The maxillary is but very slightly S-like.
3. The upper lip is by no means peculiarly thick and fleshy, but rather the contrary.
4. It is a shallower, less deep fish in proportion to its length.
5. The tongue is altogether smooth, without any "asperités" whatever, at the edges or anterior end of the "arête," which cannot be called "très-aigüe."
6. The palate also is entirely smooth, not papillose near the vomer.
7. A conspicuous bright metallic brassy spot on the opercula, as in *M. auratus*, Cuv. and Val.

It differs, however, essentially from this last-named species, and from *M. breviceps*, Cuv. and Val., in the exposure of the ends of the maxillary.

Fam. GOBIDÆ.

Having considerably extended my list of species, as well as rectified some errors in the nomenclature of others, I subjoin a complete enumeration of the Maderan species of this family hitherto discovered.

Blennius gattorugine, Will. Cuv. et Val. XI. 200. Will. Ichth. 132. t. H. 2. f. 2.—Yarr. 1. 226. Rariss.

A single individual only has occurred.

Blennius palmicornis, Cuv. et Val. XI. 214. t. 320. Syn. Mad. Fish. 185. Vulgaris.

Blennius Artedii, Cuv. et Val. XI. 231. — *inæqualis*, nob. Synops. Mad. Fish. 185. haud Cuv. et Val. Rarior.

This is the little fish, which, being formerly known to me only by a sketch, I had erroneously supposed to be referrible to *B. inæqualis*, Cuv. and Val. On better acquaintance it however proves their *B. Artedii*; and is indeed a most distinct and well-marked little species, scarcely exceeding two inches in length, and at once characterized by its active lively habits, its light tawny brown or yellowish olive colour, sprinkled all over with numerous white specks or dots, and the hollow, triangle-shaped, ciliate, occipital crest.

Blennius parvicornis, Cuv. et Val. XI. 257. Syn. Mad. Fish. 185. Rariss.

Of this, as formerly of *B. Artedii*, I have no means of judging, except from some notes and a drawing taken by Miss Young, July 10th, 1835, during my absence from the island. My friend Mr. Yarrell has, however, examined the individual from which these were taken; and on his accuracy I rely entirely for the correctness of the above name or reference. I had before supposed it to be undescribed, calling it *B. strigatus*.

Pholis lævis, Flem. Cuv. et Val. XI. 269. Yarr. 1, 230. Syn. Mad. Fish. 185. Rarior.

I cannot help suspecting that MM. Cuvier and Valenciennes' Maderan specimen at least, discovered by my friend Henry Richardson, Esq., of Aber Hirnant, North Wales, of *Blennius trigloides*, Cuv. and Val. XI. 228, is really nothing but this state or variety of *Pholis lævis*, which differs from the ordinary European fish only in having five or six distinct dark blotches or "demi-bands" along the back. I have hitherto met with no other fish beside the present answering at all to their description of *B. trigloides*; whilst this state of *Pholis lævis*, although somewhat rare, is by no means so uncommon as to have been likely to escape Mr. Richardson's unwearied assiduity.

Salarias atlanticus, Cuv. et Val. XI. 321. Syn. Mad. Fish. 185. Vulgaris.

Tripterygion nasus, Riss. Cuv. et Val. XI. 409. Syn. Mad. Fish. 185. Rariss.

GOBIUS NIGER, β . nob.

—————, L. Syn. Mad. Fish. 185.

Gobius Maderensis, Cuv. et Val. XII. 55. Rarior.

I believe this to be a mere variety or state of the common European *G. niger*, Cuv. and Val., analogous to the above-mentioned Maderan state of *Pholis lævis*, Flem.

GOBIUS EPHIPIATUS, *G. fuscus, maculatus et punctatus: capite nuchâque nudis, hac sulcatâ: pinnarum pectoralium dorsaliumque radiis haud productis: squamis magnis.*

D. 1^{ma}. 6; D. 2^{da}. 12; A. 11; P. 19; V. 5; C. $\frac{5 \text{ v. } 6}{5 \text{ v. } 6} + XV$; B. M. 5. Rariss.

Of a nearly uniform brown colour, a little paler on the belly, with a row of darker rich brown patches along the sides, and above these numerous scattered smaller spots. Head spotted. The spots on the head and fore part of the body are ocellate, or surrounded by a ferruginous or yellow ring. The eyes are scarcely a semidiameter apart. The ventral fins are united, but by a very low membrane in front. Length of the only individual which has hitherto occurred, five inches. It appears sufficiently distinct from all the described European species by its naked head and nape.

Fam. LOPHIDÆ.

CHEIRONECTES BICORNIS. *C. hispidus, setis furcatis, nudus, sexappendiculatus, pallide ruber, punctulis fuscis conspurcatus: fronte super oculos bicorni; cornu anteriore distincto, recurvo; posteriore gibboso-cristiformi; filamento intermedio inconspicuo: brachiis pectoralibus ventralibusque exsertis.*

D. 12; A. 7; P. 10; V. 5; C. $\frac{1+1}{1+1} + V$.

A single individual only has occurred of this pretty little species, which in the foregoing characters appears distinct enough from all enumerated by MM. Cuv. and Val.; approaching, perhaps, nearest to *Ch. furcipilis, pardalis, or coccineus*. It was only one and three-fourths of an inch long, and seven-eighths of an inch deep. The whole fish is strongly scabrous to the touch.

Fam. LABRIDÆ.

Crenilabrus caninus, nob. Synops. 186.

A most remarkable variety of this fish has the preopercle perfectly entire; invalidating thus completely the generic character. This state of the species appears permanent, and independent of age or size; whilst it is wholly unaccompanied by other marks of difference or indications of disease. It is rare comparatively with the normal form, but is described by MM. Cuv. and Val. under the name of *Labrus scrofa*.

ACANTHOLABRUS IMBRICATUS. *A. pinnâ dorsali analique basi squamosis; squamis subquaternis, bractearum modo imbricatis, inter spinas assurgentibus: dorsalis parte spinosâ postice unimaculatâ: caudâ utrinque bimaculatâ: squamis magnis.*

D. 20 + 9; A. 5 + 8; P. 15; V. 1 + 5; C. $\frac{3 \text{ v. } 4}{3 \text{ v. } 4} + III$; M. B. 5.

Crenilabrus luscus, nob. in Syn. Mad. Fish. 187; nec Yarrellii nec Linnæi.

This also proves distinct from Mr. Couch's Scale-rayed Wrasse (*Acantholabrus Couchii*, Cuv. and Val. 13. 248), to which, as figured by Yarrell for the *Labrus luscus*, L. (a true *Labrus*, according to Valenciennes), I had formerly referred it. A still nearer ally appears, however, to be *Acantholabrus Palloni*, Cuv. and Val. 13. 243 (*Crenilabrus exoletus*, Risso, haud *Labrus exoletus*, L.). From this it differs in the extension up between each of the spines of the dorsal and anal fins of generally four of the large scales into a curious distinct and moveable imbricated appendage; in the large dark spot or patch on the hinder end of the spiny portion of the dorsal fin; in having two dark spots on each side at the base of the caudal fin, one on the dorsal, and another fainter on the ventral line; and lastly in the general colour. In the first and last of these four points, it agrees better with *Acantholabrus Couchii*, Val. (*Crenilabrus luscus*, Yarr., Brit. Fish. 1. 300); but it differs in the other two, is only half the size, and whilst the dorsal and the anal fins have severally one spine less, the dorsal has one soft ray more.

LABRUS RETICULATUS.

This fish cannot be at present safely referred to the Ballan Wrasse of British Authors (*Labrus maculatus*, Bl.), Yarr. 1. 275; although in size and form of body, no less than in the peculiar lowness of the spiny portion of the dorsal fin, and abrupt production of the soft part of the same, and of the anal fin, as well as in the number of the rays of all the fins, there is a strong agreement. It will, I think, however, ultimately prove merely a dark variety of that species. The colour is peculiarly sombre; being a dark brown, approaching on the back almost to black; the whole beautifully reticulated with dark chestnut-brown lines, forming a border to each scale, and leaving the centre pale. The preoperculum was scaly. A single individual occurred in March 1838, and measured sixteen inches in length. Its fin-formula was,

D. 19 + 11; A. 3 + 9; P. 14; V. 1 + 5; C. $\frac{3 + \overline{I + VI}}{3 + I + V}$; B. M. 5.

This individual has been deposited in the Society's collection.

Ctenolabrus iris, Cuv. et Val. XIII. 236. Rariss.

A most elegant and well-marked little species.

JULIS UNIMACULATA.—"Peixe Verde."—*J. elliptico-oblonga, gracilinscula: corpore aurato-viridi, lateribus medio fasciâ longitudinali obscurâ: squamis magnis, liturâ rufâ perpendiculate notatis: capite rosaceo-rufo, strigis fasciisve flexuosis cæruleis picto: pinnâ dorsali medio unimaculatâ analique basi squamatis: operculo postice biangulato: caudâ lunatâ, locis abbreviatis.*

D. 8 + 13; A. 3 + 11; P. 2 + 13; V. 1 + 5; C. $\frac{2v. 3 + VI}{2v. 3 + VI}$.

Var. *α. taniata*: corpore 5-6-fasciato: fasciis angustis viridibus, immaculatis. Vulgatiss.

Var. *β. lineolata*: corpore efasciato, toto lituris rufis creberrimis ad perpendiculum ductis æqualiter picto. Vulg.

Blended apparently by Valenciennes (Hist. XIII. 377.) with the blue-collared *J. turcica*, Risso, under the name of *J. pavo*; as formerly by me considered merely a variety of *J. turcica*. Long-continued observations have, however, established its claim to rank as a species, which is composed of two varieties, precisely corresponding with the two of which the true *J. turcica* consists.

JULIS MELANURA. *J. oblongus, postice nigrescens: capite superne dorsoque olivaceofuscis: lateribus perpendiculate strigatis; strigis posterioribus nigricantibus: pinnæ dorsalis antice altioris radiis tribus primordialibus longioribus, operculique angulo lato truncato, basi primarum pectoralium cæruleo-nigrescente notatis: pinnæ dorsali analique fasciatis, basi nudis; caudali rotundato nigricante: squamis parvis: dente solitario majore ad canthum oris utrinque, antrorsum porrecto.*

D. 9 + 12; A. 3 + 12; P. 14 v. 15; V. 1 + 5; C. $\frac{4+VI}{4+VI}$; M. B. 6; Vert^e. 25.

Julis speciosa, nob. in Syn. Mad. Fish. 186; haud Rissoi.

————, Cuv. et Val., Hist. 13. 375; quoad tantum exempla *Canariensia*, et forsitan quidem *Maderensia*.

On re-examination and a close comparison of this fish with MM. Cuvier and Valenciennes' description of the true Mediterranean *J. speciosa*, of Risso, I find that it is properly distinct; although a Canarian individual at least of it has been referred by Valenciennes, as the Maderan fish was formerly by me, to Risso's species. It differs chiefly in the elevation of the three first rays of the dorsal fin, the spot on which is small, not large; in the deep blackness of the caudal fin and hinder part of the tail or body; and, lastly, in being of considerably larger size (8-10 inches in length) than the true Mediterranean *J. speciosa*, Riss. Not having met at present with any other fishes in Madeira which agree so nearly as *J. melanura*, with that species, I cannot help suspecting that in M. Valenciennes' Maderan specimens of his *J. speciosa* may exist the principal peculiarities which he has expressly noted in Mr. Webb's Canarian example, and which are precisely those of *Julis melanura*.

Fam. FISTULARIDÆ.

CENTRISCUS GRACILIS. *C. corpore gracili, angusto, elliptico-oblongo, supra fusco, lateribus argenteis: rostro producto, elongato: pinnæ primæ dorsalis, inter oculos pinnamque caudalem mediæ, spinâ secundâ mediocri, brevioris, pinnam caudalem nequam attingente.*

1^{ma} D. 4 v. 5; 2^{da} D. 11; A. 17; V. 1 + 4; P. 15; C. $\frac{7+IV}{7+V}$. Rarior.

In its shape and colour this is very obviously different from the common red Snipe-fish (*C. Scolopax*, L.). But I have not been able to assure myself that the above differences are not sexual. They are certainly not dependent upon size. The depth averages from one-fifth to one-sixth and a half of the whole length, instead of one-fourth of the same. In two individuals of the same length within one quarter of an inch, the depth of the larger (*C. Scolopax*, L.) was very nearly double that of the smaller (*C. gracilis*, nob.), and the 2nd spine of the 1st dorsal fin was respectively in each one-fourth and one-seventh of the whole length of the fish.

Fam. ESOCIDÆ.

BELONE GRACILIS, nob.—“*Catuta*.”

Early in March last year (1838) a fisherman brought alive in sea-water two fishes, which, in their slenderness, and the upper jaw being only half the length of the lower, differed obviously from the common *B. vulgaris*. Measuring, however, seven or eight inches only in length, it seemed questionable, in the absence of equal-sized individuals of *B. vulgaris* for comparison, whether they might not be the young of that species. My friends, however, the Rev. L. Jenyns and Mr. Yarrell, have examined these two individuals, and the latter warrants me in stating, on their joint authority, that these two fishes are “not, in their opinion, *B. vulgaris*,” being “much more slender for the same or equal length.”

Scomberesox Saurus, Cuv.

The Portuguese name “*Delphine*” (rectius “*Delfim*,”) is erroneously appended to this fish. Another individual has been lately brought to me with the name of “*Almeirão*,” but the species is far too rare to have obtained any permanent and genuine appellation in Madeira.

CYPSELURUS PULCHELLUS.

From want of materials for comparison, I am unable to give correctly the specific characters of this most elegant little Flying-fish, which is remarkably characterized by two or three bright rose-coloured horse-shoe-shaped marks on each side of the belly, one behind the other. The ventral fins are placed a little behind the middle of the body, not reckoning the caudal fin, and their tips reach to the base of the latter. The tips of the pectoral fins reach only to the end of the base of the dorsal fin, which is large, high, and produced. The anal fin is small and low, but a little produced backwards. The cirrate appendage to the lower jaw is like a leathern flap or apron, torn irregularly at the bottom into strips or thongs. I willingly abandon my own MS. name of *Cheilopogon* for this genus, distinguished from *Exocætus* by the variously-appendaged

lower jaw, in favour of the designation which I find this group of fishes has received from Mr. Swainson whilst this paper has been going through the press.

Fam. SALMONIDÆ.

SCOPELUS MADERENSIS.

A small dark mulberry-coloured fish, which might easily be taken for the fry or young of *Pomatomus telescopus*, Risso. The dark vinous-coloured ground is concealed by very large deciduous platinum-like scales. The only individual which has yet occurred was three inches long. It approaches very near to *Sc. Humboldti*, Risso, Hist. iii. 467. (supposed to be identical with Pennant's *Argentine*, Yarr. 11. 94.), and has the row of larger silver dots, or pits, extending forwards from the root of the caudal fin along the ventral line: but it disagrees remarkably with the generic characters assigned to *Scopelus* by Cuvier, R. An. 2nd Ed. ii. 314, in having both the palatines and tongue acute with teeth.

The fin-formula in the Madeiran fish was

1st, D. 3 + 10; 2nd, D. 1 club- or feather-shaped;

A. 2 + 12; P. 13; V. 1 + 7; C. $\frac{7 + 1 + \text{IX.}}{6 + 1 + \text{VIII.}}$.

Gen. ALYSIA.

Corpus subelongatum, compressum; dorso postice ventreque spinoso-serratis. *Rostrum* brevissimum, ore rictuque magnis, hoc pone oculos diducto. *Dentes* minuti, tenues; in maxillâ inferiore, Vomere, et Palatinis scobinati. *Lingua* postice lateribus subaculeolata.

Squamæ magnæ, haud deciduæ, scabræ; squamis lineæ lateralis latissimis, maximis, scutellatis, s. per totam longitudinem loricato-imbricatis.

Pinnæ ventrales sub apice pinnarum pectoralium sitæ. *Dorsales* duæ; prima inter Ventrals et Analem posita; 2^{da} ad finem analis, rudimentalis. *Pinna caudalis* minima, furcata.

ALYSIA LORICATA.

The spinoso-serrate ventral and hinder part of the dorsal lines, together with the peculiar scales of the lateral line, appear to forbid the blending of this interesting little fish with the Cuvierian genus *Aulopus*, as defined in the R. Anim., Ed. 2. ii. 315, though they have many characters in common. The Maderan fish is no less rare than elegant. It scarcely exceeds two inches in length. The back is a deep blue; the sides bright silvery or platinum; and a row of dead-silver dots or pits extends along the ventral line, as in the *Scopelus* above described. The fin-formula is

1st, D. 2 + 10; 2nd, D. rudimentary; A. 2 + 21 (+ 8 detached depressed points

or spines); P. 15 or 16; V. 1 + 5; C. $\frac{4 + 1 + \text{IX.}}{3 + 1 + \text{VIII.}}$.

MERLUCIUS AMBIGUUS.—“*Morçêgo do mar.*”

Having only obtained a single individual, I forbear attempting a specific character of this little Hake, which, in the production into a filament of the second ray of the ventral fins and grooved nape, resembles a *Motella*; wanting, on the other hand, the beards, and having no trace of any fin within the nuchal groove. From *Merlucius Mairaldi*, Risso, Hist. iii. 220. it differs in the colouring; and though the upper jaw closes over the under, it scarcely can be called “longer.” In Risso’s fish the nape is grooved (*sillonée*), but he says nothing of any peculiarity about the ventral fins.

The Maderan Hake, or “*Pescada*,” *Merlucius vulgaris* of my Synopsis, p. 189, proves, upon better acquaintance, distinct from the common British Hake, *M. vulgaris*, Cuv., Yarr., &c. (*Gadus Merlucius*, L.). Instead of being even, the dorsal and anal fins are each produced at their hinder end into a rounded lobe; the jaws are nearly equal in length; the teeth are large and numerous; the scales small. I do not name it, for I believe it has already been called by Mr. Swainson *M. sinuatus*; and I am doubtful whether it may not also be the *M. esculentus* of Risso, iii. 220, though in his synonyms he has confounded it with the true Northern Hake. I believe it to be the fish imperfectly figured long ago by Salviana, p. 73, copied by Willughby, t. L. membr. 2. n. 1, which has usually been referred to also for the Northern Hake.

FAM. GADIDÆ.

MACROURUS ATLANTICUS.—“*Praga*” or “*Lagartixa do mar.*”—*M. fusco-cinereus*, dorso vinoso, gutturis umbilico pinnisque ventralibus atris: squamis areolato-scaber-
gimis, echinatis, ecarinatis, inermibus: oculis maximis.

M. rupestris, nob. in Synops. Mad. Fish. p. 190, nec Bl. nec Cuv. et omiss. syn. *Lepidoleprus cælorhynchus*, Risso.

On further examination, this most singular fish appears to be quite distinct from *M. rupestris*, Bl. t. 177; and therefore, according to Cuvier (R. Anim. 2nd Ed. ii. 337, note), from *Lepidoleprus cælorhynchus*, Risso, through which indeed alone I had referred it to the northern fish described by Bloch. But besides the points included in the specific character, the first ray of the first dorsal fin is neither serrate nor stronger than the rest. The diameter of the eye is one twelfth or one thirteenth part of the whole length, which scarcely exceeds one foot.

FAM. PLEURONECTIDÆ.

RHOMBUS CRISTATUS. *R. corpore oblongo-elliptico: oculis approximatis: dentibus tenuibus pectinatis; in maxillâ superiore uniseriatis; in inferiore anguste scobinatis: pinnae dorsalis dimidii anterioris radiis apice liberis; primordialibus (2^{do}—6^{to}.) productis, elongatis: latere (sinistro) fusco, immaculato: squamis (haud deciduis) magnis, marginis scabris.*

D. 92; A. 75; V. 6; P. 1 + 9; C. $\frac{3+VI}{3+V}$. Rariss.

The Whiff of British authors (*R. megastoma*, Yarr. 2. 251) appears the nearest ally of this apparently new species. Indeed, except for Mr. Yarrell's more detailed account, I should have scarcely perhaps scrupled referring it to "La Cardine ou Calimande" of Cuvier's *R. Anim.* 2. 341, of which he says, "ses premiers rayons sont libres;" of course meaning of the dorsal fin. Nothing is, however, discernible of this in either Mr. Yarrell's figure or description of "The Whiff;" nor even, if correct, does it express sufficiently the peculiarity of this part in the Maderan fish. The only individual which has yet occurred was five and a quarter inches long.

Fam. CYCLOPTERIDÆ.

LEPADOGASTER ZEBRINUS.—"Chupa sangue." *L. fusco-nigrescens, lateribus postice strigis obliquis, nuchâque fasciis divergentibus saturatoribus maculisque binis cæruleis pyriformibus pictis: naribus biciliatis: pinnis dorsalibus analibusque caudali adnatis.*

D. 17 v. 16; A. 10 v. 9; P. 15 v. 16; V^s. 4; C $\frac{7}{6}$ + X. Haud rara.

In the double nasal cilia, and connexion of the caudal with the dorsal and anal fins, this little fish agrees with *L. cornubicus* (Flem.), Yarr. 2. 264. The structure of the sucking disk is also similar to the representation of the same part in that species, and not to that of the "*bimaculated Sucker*," at p. 268. In this particular it perfectly agrees also with the former species indicated in my Synopsis, p. 190; which is, however, perfectly distinct specifically, having neither a nasal cilium nor the caudal fin united with the dorsal and anal fins. Of this last-mentioned species no second example has yet occurred. The present (*L. zebrinus*) is not by any means uncommon. It varies considerably in intensity of colour, and in the distinctness of the darker stripes upon the nape and flanks. The nasal cilia are of the general dark brown or blackish tint.

Fam. ECHENEIDÆ.

§. *Cauda lunata.*

Echeneis Remora, L. Syst. Ed. 12.—"Pegador." *E. tota cinereo-fuliginosa, nigrescens: laminis disci xvii. v. xviii.; pinnis pectoralibus brevibus, ovatis, integris, apice rotundatis: linguâ lævi.*

D. 23; A. 23; P. 26; V. 1 + 5; C. $\frac{3 v. 4 + VIII}{3 v. 4 + VII}$; M. B. 9. Rarior.

ECHENEIS PALLIDA. *E. tota pallide cinerea, fuligineo hinc et hinc subnebulata: laminis xix.; pinnis pectoralibus brevibus, latis, apice rotundatis, subtruncatis, tenuiter crenulatis: linguâ medio scobinatâ.*

D. 24; A. 22; P. 27; V. 1 + 5; C. $\frac{3 v. 4 + VIII}{3 v. 4 + VII}$; M. B. 9. Rariss.

§. Cauda integra, S. truncata.

ECHENEIS JACOBÆA.—*E. tota cinereo-fuliginosa, nigrescens: laminis xix.: pinnis pectoralibus brevibus, latis, pectinato-rotundatis, crenatis: ventre sulcato: linguá scabrâ.*

D. 24; A. 24; P. 21; V. 1 + 5; C. $\frac{3 + VII.}{3 + VIII.}$; M. B. 8. Rariss.

ECHENEIS VITTATA.—*E. purpureo-nigrescens, pallido variegata, fasciâque nigrâ longitudinali laterali, antice utrinque albo marginata: pinnis pectoralibus ovatis, acutiusculis, integris; pinnæ dorsalis analisque antice caudalisque marginibus albis: laminis xxiii.: linguá scabrâ: oculis magnis: corpore elongato, postice valde attenuato, gracili.*

D. 39; A. 39; P. 22; V. 1 + 5; C. $\frac{1 + VIII.}{1 + VII.}$. Rariss.

The nearest ally of this very distinct species appears to be *E. lunata*, Bancr. in Zool. Journ. V. 413. t. 18. But this, besides other differences, has a lunate tail.

ECHENEIS BRACHYPTERA. (Echeneis ———? Syn. p. 191.) *E. cinereo-fuliginosa, nigrescens; pinnis dorsalibus analibusque antice albo submarginatis: laminis xvi.: pinnis pectoralibus brevibus, latis, truncatis, integris: linguá medio scobinatâ.*

D. 28; A. 24; P. 26; V. 1 + 5; C. $\frac{3v.4 + VII.}{3v.4 + VII.}$; M. B. 8.

This is the first of the two species indicated by me in the former part of this List or Synopsis. Of the second sort, there mentioned as having been seen by Miss Young, and which I have there doubtfully referred to *E. naucrates*, L., no fresh example has occurred. I should now be much inclined to consider it identical with *E. vittata*; but Miss Young affirms that it was “certainly plain-coloured.”

Fam. MURENIDÆ.

Sphagebranchus serpens.

S. serpa, Risso, Hist. Nat. iii. 195. No. 81.

A single individual only has occurred, precisely answering to the description above referred to. It measured eleven inches in length. I could not detect the slightest rudiment of pectoral fins.

Fam. GYMNOBONTIDÆ.

Diodon Hystrix, a. Linn.—*D. punctatus*, Cuv.—*Hystrix piscis Clusii*, &c., Will. t. I. 5.

A single example only has occurred.

TETRODON CAPISTRATUS. *T. pusillus, oblongiusculus, levissimus; dorso iliisque incrimibus, nudis; ventre adpresso-spinelloso: dorso fusco; lateribus ochraceo-fulvis, fusco longitudinaliter bifasciatis, capiteque utrinque cæruleo punctatis, iliis oblique lituratis, rostroque subproducto gulâve semi-capistrato: pinnâ caudali utrinque nigro-limbatâ.*

D. 9; A. 8; P. 16; C. $\frac{2}{2v.3} + VIII.$ Rariss.

A most elegantly-coloured little species, which I cannot refer with certainty to any already described. Only two individuals have hitherto occurred. The first was little more than two inches long: the second nearly twice as large.

The *Orthogoriscus* of Madeira, called by the fishermen, "*Peixe Porco*," or "*Bouto*," I forbear at present to designate further, not having seen a sufficient number of individuals to determine its characters. The caudal fin is produced into a short point in the middle, not truncate, as in all the figures to which I have access of the European Sun-fishes.

Fam. SQUALIDÆ.

CARCHARIAS FALCIPINNIS. "*Faqueita*." C. corpore supra griseo-cinereo, subabbreviato, medio crassiore s. altiore, utrinque attenuato: rostro brevi, lato, depresso, apice obtuso: oculis rotundatis: pinnâ dorsali primâ altâ, triangulari, subanticâ s. supra medium pinnarum pectoralium positâ: pinnis pectoralibus falcatis, angustis, elongatis, apice obtusis: pinnâ dorsali secundâ analique oppositis: ventralibusque parvis. Rariss.

An *Squalus ustus*, Dum.

It is perhaps only for want of better materials for comparison that I have been unable to refer this Shark precisely to the above-indicated or to some other described species. It is about three feet long, and the female differs in nothing from the male. The teeth are precisely similar to those of the "*Tintureira*" (*C. glaucus*, Cuv.).

The "*Marraxo*" proves to be, as I suspected, *Lamna cornubica*, Cuv., adult, or of large size.

CARCHARIAS MICROPS.—"*Tubarao*."

The *Tubarao* of Madeira proves to be a genuine species of *Carcharias*, as defined by MM. Müller and Henle in the Magazine of Natural History for the year 1838, p. 35. It is remarkable for the smallness of the eye; and the teeth, as reported previously by the fishermen, are really feeble in proportion to its bulk; they are in only two rows, and precisely similar in both jaws. The tail is very large and powerful. The individual examined measured eight feet five or six inches in length. I name it only provisionally, and abstain again from attempting a specific character,—deferring, in both points, to the expected publication of MM. Müller and Henle, amongst whose indicated "twenty species" it will probably be found.

ALOPECIAS SUPERCILIOSUS.

At once distinguished from the only other known species of the genus, *Carcharias vulpes*, Cuv., by the enormous eye and its prominent brow. I have at present only seen a single young example.

Gen. ACANTHIDIUM.

Corpus gracile, elongatum. Spiracula magna. Pinnæ dorsales duæ, antice spiniferæ;

secundâ majore posticâ, caudæ approximâtâ. *Pinna analis* nulla. *Pinnae ventrales* subposticæ s. secundæ dorsali subanteriores.

Dentes utriusque maxillæ dispares, parvi: superioris laniarii, plano-triangulares, tenues, acuminati; acumine recto; basi utrinque denticulo aucto; antice triseriati, lateribus biseriati: inferioris incisorii, acumine utrinque a medio oblique deflexo, uni- vel bi-seriati. *Cauda* oblique oblonga, apice truncata.

This new genus appears exactly intermediate between the established genera of Cuvier, *Spinax* and *Centrina*: agreeing with the former in its elongated form, and with the latter in the teeth.

The ventral fins are placed more backward than in *Spinax*, but rather forwarder than in *Centrina*, i. e. neither halfway between the two dorsal fins, nor opposite the second dorsal fin, but just before the second dorsal fin, which begins exactly opposite the termination of their base. The tail or caudal fin resembles that of *Spinax* rather than of *Centrina*, and the spines of both the dorsal fins are reflexed as in *Spinax*, forming the fore-edge of each fin. The pectoral fins are abruptly truncate. The second dorsal fin is greatly larger than the first; in which it differs equally from *Spinax* and *Centrina*. The teeth are not arranged quincuncially, but behind each other in rows.

Two species have occurred, both of which have hitherto been confounded with *Centrina*.

ACANTHIDIUM PUSILLUM. "*Gata negra.*" *A. totum atrum, pusillum: rostro crassiusculo: dentibus inferioribus uniseriatis: spiraculis oculo remotiusculis.*

Centrina? *nigra*, nob. olim in Proceed. Zool. Soc. 1833, p. 144*. Syn. Mad. Fish. in Trans. Zool. Soc. p. 194. Rariss.

Four individuals of this curious little shark have now occurred, agreeing equally in the foregoing characters and in their dimensions, varying in length only from eleven to twelve inches. The second dorsal fin is somewhat forwarder or more distant from the origin of the tail than in the next species.

The condition of the teeth, and constancy of size, both indicate an adult fish; and a comparison of the present species with the foetal and adult state of the following, in these two points alone demonstrates *Acanthidium pusillum* to be no stage of *A. calceus*.

ACANTHIDIUM CALCEUS. "*Sapata.*" *A. purpureo-fuscum, subtus pallidius: rostro plano-depresso: dentibus inferioribus biseriatis: spiraculis oculo, pinnâque dorsali secundâ caudæ approximatis.*

Centrina Salviani, Syn. Mad. Fish. in Trans. Zool. Soc. p. 194: nec aliorum. Rarior.

* A serious erratum has been caused here by the transposition of a sentence. The paragraph referred to should stand thus: "It (*Centrina?* *nigra*) is intermediate in characters between *Centrina*, Cuv., and *Acanthias*, Risso, having the teeth of the former genus as well as the backward position of the second dorsal (*rectius* ventral) fin, and the form of body of the latter."

This shark very much resembles in its general aspect *Scymnus nicænsis*, Risso, the "Gata" of Madeira: but is at once distinguished by the spines in front of the two dorsal fins, which, as in *A. pusillum*, are both recurved, and ought, had I attended to the excellent figures copied by Willughby from Salviani of *Centrina nigra*, Cuv., instead of allowing myself to be deceived by a miserable figure of Lacepède's, alone to have preserved me from the blunder of referring to that species for the present shark, the usual size of which exceeds by a few inches only three feet.

Fam. RAIIIDÆ.

Raia oxyrhynchus, Will., Ichth. p. 71.—"Raia."

Sharp-nosed Ray, Penn., Ed. 1. iii. 83. No. 31. Yarr., Brit. Fish. ii. 424.

Two male individuals only have occurred: the largest, measuring three feet in width from wing to wing, was furnished on the back with patches of strong hooked spines or prickles, much as in the figure in the British Fishes; but the second example, scarcely two feet wide, although decidedly a male, was devoid of these appendages. The colour of the upper surface was a pale, dull, yellowish or ashy-grey, obscurely mottled or dappled with a few scattered distant paler whitish spots.

TRYGON ALTAVELA.—"Andorinha do mar." *T. corpore rhomboideo, duplo latiore quam longo, alis expansis, caudá perbrevis.*

Pastinaca marina altera *πτερυπλατεία*, Altavela Neapoli dicta *Columnæ*. Will., Hist. 65. Tab. C. 1. f. 3. (Copied from F. Columna.)—Rariss.

A single female individual only has occurred, measuring five feet and a half from tip to tip of wings.