

With forked tail.

GILTHEAD SPARUS.

Sparus Aurata. *S. argenteo-cerulescens, superciliis auratis, macula utrinque pone caput purpurea.*

Silvery-blueish Sparus, with gold-coloured brows, and a purple spot beyond each side the head.

Sparus Aurata. *Lin. Bloch. t. 266.*

~~Cymat~~ length about fifteen inches, but occasionally found of far larger size: body broad and thin, the back rising into a carina: colour as expressed in the specific character, but sometimes with the addition of several brownish longitudinal stripes: native of the Mediterranean, Atlantic, and Indian seas, and held in considerable esteem as a food: much admired by the ancient Greeks and Romans, and by the former nation consecrated to Venus.

 SARGY SPARUS.

Sparus Sargus. *S. subargenteus fluvo longitudinaliter striatus subnigro transversim fasciatus, macula ad basin caudæ nigra.*

Subargenteous Sparus, with yellow longitudinal streaks, blackish transverse bands, and black spot at the base of the tail.

Sparus Sargus. *Lin. Bloch. t. 264.*

Size nearly that of the Gilthead: shape not dissimilar, but deeper in proportion: native of the Mediterranean: esteemed as a food.

RAJAN SPARUS.

Sparus Raii. *S. subargentco-cærulescens, dorso subfusco, capite truncato-declivi.*

Silvery-blueish Sparus, with dusky back, and abruptly-sloping head.

Sparus Raii. *Bloch. t. 273.*

Size that of the Gilthead: shape very broad, the head sloping abruptly downwards, nearly as in the Coryphenes: eyes large: all the fins ~~early~~ at the base: pectoral fins long and sharp: native of the Mediterranean.

LUTIAN SPARUS.

Sparus Lutianus. *S. griseo-argenteus, corpore supra lineam lateralem fasciis transversis cæruleis, infra lineis longitudinalibus flatis.*

Silvery-grey Sparus, marked above the lateral line with transverse blue streaks, and below it with longitudinal yellow lines.

Lutianus Lutianus. *Bloch. t. 244.*

Size and habit of a Gilthead: scales large: colour silvery grey, with pretty numerous deep yellow lines longitudinally disposed on the upper parts of the body, following the curve of the back: abdomen plain: fins yellow: native of the American seas.

RED-TAILED SPARUS.

Sparus Erythrourus. *S. argenteus, dorso subcaruleo, pinnis et præsertim cauda rubris.*

Silvery Sparus, with blueish black, and red fins, particularly the tail.

• *Sparus erythrourus.* *Bloch. t. 261.*

SIZE and habit of the Gilthead : colours as mentioned in the specific character : eyes red : native of Japan.

BREAM SPARUS.

Sparus Brama. *S. argenteus, dorso subfusco, pinnis roseis, squamis supra lineam lateralem parvis.*

Silvery Sparus, with brownish back, rose-coloured fins, and scales small above the lateral line.

Sparus Brama. *Lin. Bloch. t. 269.*

HABIT of the Gilthead : native of the Mediterranean and Atlantic : in considerable esteem as a food : grows to the length of about twelve inches.

MENDOLE SPARUS.

Sparus Mæna. *S. griseo-argenteus, pinnis roscis, macula utrinque laterali fusca.*

Silvery-grey Sparus, with rose-coloured fins, and dusky spot on each side.

Sparus Mæna. *Lin. Bloch. t. 270.*

HABIT of the Bream Sparus, but of a less deep shape: length about ten inches: scales large: eyes red. Native of the Mediterranean sea, where it is a very common fish, but not much esteemed as a food.

 ANNULAR SPARUS.

Sparus Annularis. *S. subargenteo-flavescens, dorso olivaceo fasciis quinque semidecurrentibus subnigris, cauda rubra apice nigra.*

Subargenteo-flavescient Sparus, with olivaceous back crossed by five semi-decurrent blackish bands, and red tail tipped with black.

Sparus Annularis. *Bloch. t. 271.*

HABIT of the Mendole. Size the same: colour resembling that of the common Perch: at a certain distance from the base of the tail a round black spot, situated at the bottom of the last dusky bar of the body: pectoral fins and tail red, the rest blackish: native of the Mediterranean: not much esteemed for the table.

GREAT-EYED SPARUS.

Sparus Macrophthalmus. *S. flarescens, roseo longitudinaliter striatus, oculis magnis, dentibus caninis quatuor in maxilla superiore.*

Yellowish Sparus, with rose-coloured longitudinal streaks, large eyes, and four canine teeth in the upper jaw.

Sparus macrophthalmus. *Bloch. t. 292.*

HABIT of the Gilthead : size that of a Perch : scales large and very finely ciliated at the edges : eyes very large, with red irides : native of the Indian seas ?

ROSE SPARUS.

Sparus Erythrinus. *Sp. rosceus, abdomine argenteo.*

Rose-red Sparus, with silvery abdomen.

Sparus Erythrinus. *Bloch. t. 274.*

SIZE and shape of a Perch : colour most beautiful rose-red, deepest towards the back : abdomen silvery : scales of moderate size : dorsal fin paler than the body, but edged with deep rose. Native of the Mediterranean : found also in the Indian seas, where it is said to acquire noxious qualities.

PAGRE SPARUS.

Sparus Pagrus. *S. roseus, maculis duabus nigris utrinque ad opercula.*

Rose-red Sparus, with two black spots on each side near the gill-covers.

Sparus Pagrus. *Lin. Bloch. t. 267.*

HABIT of Sparus Aurata, but of a somewhat longer shape : size that of a Carp : colour beautiful rose-red, with numerous longitudinal streaks of a deeper red : abdomen silvery, slightly marked by yellowish longitudinal streaks : eyes large and silvery. Native of the Mediterranean.

ROUGH SPARUS.

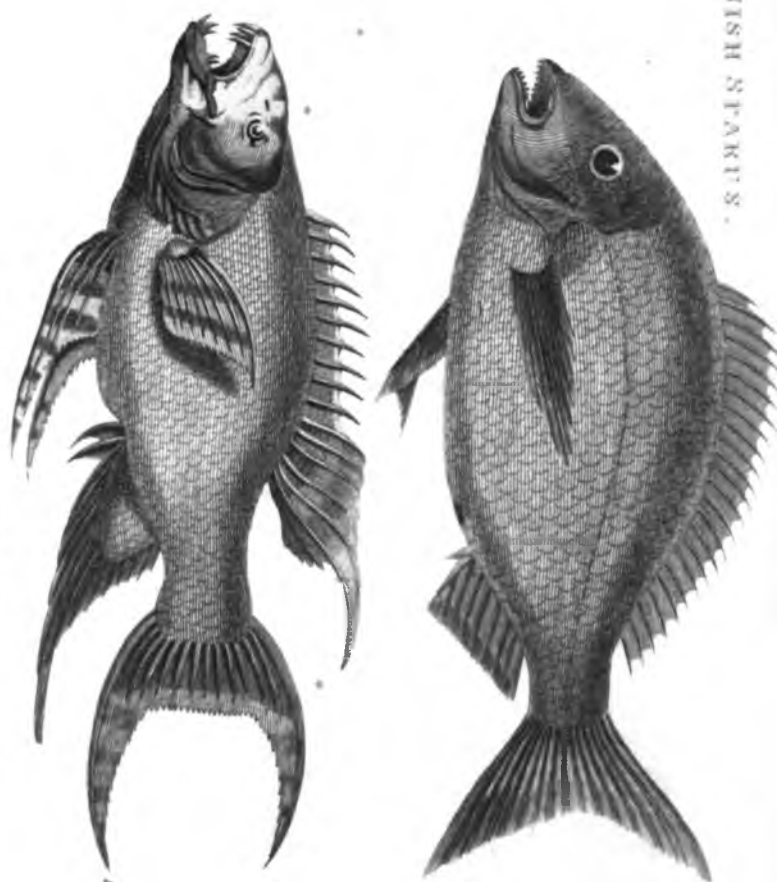
Sparus Dentex. *S. subargenteo-flavescens, dorso rubro-fusco, capite virente, dentibus acutis parvis, caninis quatuor.*

Subargenteo-flavescient Sparus, with reddish-brown back, green head, sharp, smallish teeth, with four large canine in each jaw.

Sparus Dentex. *Lin. Bloch. t. 268.*

GENERAL size and shape of a Carp : varies much in colour, being said to grow purple when old, and sometimes white ; it is also occasionally spotted and streaked with black : lateral line pretty strongly marked, and curving in the direction of the back : scales middle-sized : tail scaly at the base, and but slightly forked. Native of the Mediterranean, where it arrives at a considerable size, and is a very strong and voracious fish.

BROWNISH STARS.



PALCACTID STARS.

1891

FALCATED SPARUS.

Sparus Falcatus. *S. flavus, pinnis virentibus, dorsali analique subfalcatis.*

Yellow Sparus, with greenish fins, the dorsal and anal fin sub-falcated.

Sparus tetracanthus. *Bloch. t. 279.*

Le Harpe bleu-doré. *Cepede. 4. p. 428. pl. 8. f. 2.*

A LARGE and handsome species: colour yellow, with the head, back, and fins strongly tinged with green: scales middle-sized: dorsal and anal fin scaly at the base, widened and somewhat falcated at their extremities: tail deeply lunated: mouth wide: front teeth strong, the rest much smaller, except towards the back part of each jaw: eyes gold-colour. Native of the American seas: described and figured by Bloch from the drawings of Plumier.

I cannot help imagining this fish to be the same with the *Harpé bleu doré*, of the Count de Cepede, which he informs us was described from a drawing by Plumier. The Count places it in a distinct genus.

SALP SPARUS.

Sparus Salpa. *S. griseo-argenteus, dorso subfusco, corpore stris longitudinalibus subflavis, dentibus superioribus apice bifidis.*

Silvery-grey Sparus, with brownish back, body marked by yellowish longitudinal streaks, and upper teeth bifid at the tips.

Sparus Salpa, *Lin. Bloch. t. 265.*

Size and shape of a Carp; scales rather large: lateral line very distinctly marked: eyes yellow: tail scaly at the base. Native of the Mediterranean.

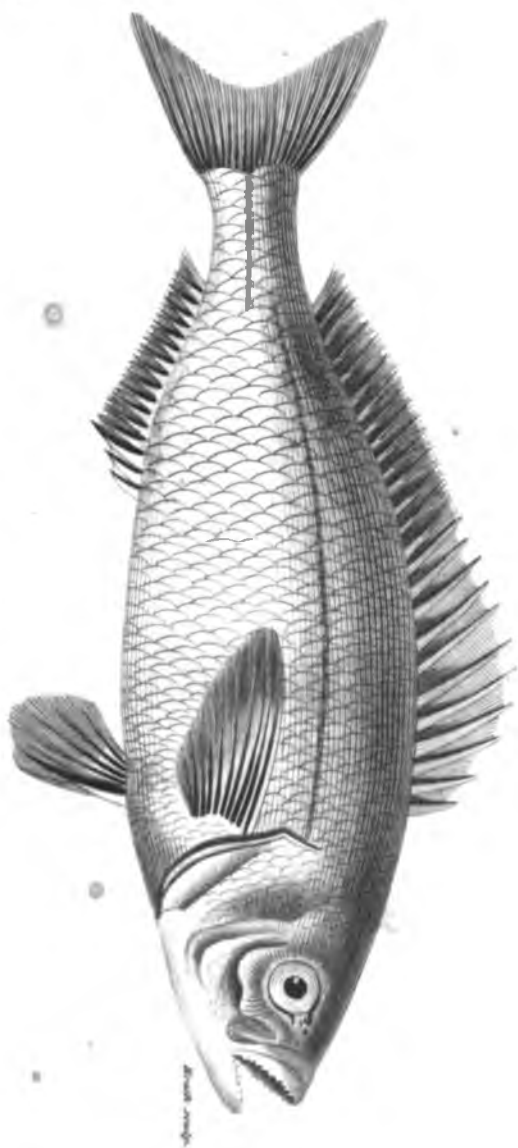
VIOLET SPARUS.

Sparus Violaceus. *S. violaceus, subtus subargenteus, pinnis subfuscis, oculis flavis.*

Violet-coloured Sparus, silvery beneath, with brownish fins and yellowish eyes.

Sparus chrysops. *Bloch. t. 248.*

Size and shape of a Carp, but rather longer bodied in proportion: scales rather large: lateral line interrupted near the tail: native regions unknown: introduced into the ichthyology of Dr. Bloch on the authority of a drawing in the collection of Mr. Link of Leipzig.



VIOLET SPARS.

Scorpaenopsis diabolus (Pisces, Scorpaenidae).

ANCHOR-TOOTHED SPARUS.

Sparus Anchorago. *S. flavescens, fusco transversim fasciatus, pinnis rubris, dentibus curvatis.*

Yellowish Sparus, with transverse brown bands, red fins, and curved teeth.

Sparus Anchorago. *Bloch. t. 276.*

Size and shape of a middling Carp : head tinged with red : dorsal fin dusky, with reddish tip, and between the spines of the fore-part are small elongations : rest of the fins red : scales rather large : eyes blue. Native of the Indian seas ?

DOG-TOOTHED SPARUS.

Sparus Cynodon. *S. subargenteo-flavescens, pinnis rubris, dentibus caninis quatuor in maxilla superiore.*

Subargenteo-flavescens Sparus, with red fins, and four canine teeth in the upper jaw.

Sparus Cynodon. *Bloch. t. 278.*

Size and shape as in the preceding species : scales rather small than large : fins red, except the back-fin, which is yellow : eyes blue. Native of the Mediterranean.

FASCIATED SPARUS.

Sparus Fasciatus. *S. elongato-subquadratus albidus, subnigro transversim fasciatus, pinnis nigro marginalis.*

Lengthened subquadrate Sparus, with transverse dusky bands, and fins edged with black.

Sparus fasciatus. Bloch. t. 257.

A SINGULAR and curious species: size rather large: shape squarish-elongated: scales very large: head, gills, and abdomen cinereous, finely freckled with small whitish specks, as are also the edges of the fins: orbits of the eyes radiated with pale diverging streaks: dorsal and anal fin somewhat dilated behind, and stretching towards the tail, which is strongly lunated. Native of Japan.

 ABILDGAARD'S SPARUS.

Sparus Abildgaardi. *S. albidus dorso subfusco, squamis magnis hexagonis.*

Whitish Sparus, with dusky back, and large hexagonal scales.

Sparus Abildgaardi. Bloch. t. 259.

SIZE and shape of a Carp: scales very large, and hexagonal; but those on the head and gill-covers are rounded; lateral line ramified on each scale over which it passes, and interrupted a little before the tail: eyes blueish; orbits radiated in a singular manner round the lower half by a series of tubular pores: native of the American seas, and named by Dr. Bloch from Professor Abildgaard, by whom the drawing was communicated.

GREEN-TAILED SPARUS.

Sparus Chlorourus. *S. subflavescens, squamis viridi arcuatis, pinnis viridibus, operculis roseis.*

Yellowish Sparus, with large scales crossed by a green band, green fins, and rose-coloured gill-covers.

Sparus Chloulourus. *Bloch. t. 260.*

A HIGHLY elegant species: in size and shape allied to the *S. fulcatus*, but with a sharper front: scales large, and each marked across the middle by a curved green band: fins and tail green; the latter strongly lunated, and marked by minute pale specks: sides of the head marked by several small round spots: dorsal and anal fin somewhat dilated, and lengthened at the hind-part. Native of the American seas.

 RED-FINNED SPARUS.

Sparus Erythropterus. *S. subargenteus, dorso subfusco, pinnis rubris.*

Subargenteous Sparus, with brownish back, and red fins.

Lutianus Erythropterus. *Bloch. t. 259.*

HABIT of a Perch: scales rather small than large: fins bright red, except the first part of the dorsal: tail but very slightly inclining to a divided form, being nearly even: teeth of moderate size, and sharp. Native of Japan.

BOAR SPARUS.

Sparus Verres. *S. albidus, dorso violaceo, pinna caudali rubra, dorsali & anali apice rubris.*

Whitish Sparus, with the back violet, the tail and tips of the dorsal and anal fin red.

Lutianus Verres. *Bloch. t. 255.*

HABIT somewhat resembling that of the Sparus falcatus, but size smaller: scales rather large: dorsal and anal fins scaly at their base, and dilated and extended backwards towards the tips: eyes yellow: front teeth in both jaws very strong and curved somewhat like the tusks of a boar: the rest rather small. pectoral fins red at the base, and violet-coloured at the tips: ventral pale violet. Native of the Japanese sea.

 GOLD-TAILED SPARUS.

Sparus Chrysurus. *S. roscus, fascia longitudinali media pinnisque dorsali, anali, & caudali luteis.*

Rose-red Sparus, with longitudinal middle band, dorsal and anal fin and tail gold-yellow.

Sparus Chrysurus. *Bloch. t. 262.*

A HIGHLY elegant species: length about twelve inches: shape long and slender: colour bright rose-red, deepest on the back: from the gills to the tail on each side a gold-yellow stripe: a second on each side the bottom of the abdomen: scales of moderate size: pectoral and ventral fins dusky-violet: tail very sharply forked: teeth small and of equal size: native of the South-American seas.



See page 60.

GOLD-TAILED SPARRY.

about July 2 London Published by G. B. R. & Co. 17, Pall Mall.

BLUE-BANDED SPARUS.

Sparus Vittatus. *S. flavescens, vittis utrinque tribus longitudinalibus cæruleis.*

Yellowish Sparus, with three longitudinal blue bands on each side.

Sparus vittatus. *Bloch. t. 275.*

Of a somewhat lengthened shape, like that of a Grayling: scales of moderate size: pectoral and ventral fins red: the rest yellow tinged with pale blue at the base: eyes red: tail large, and pretty deeply lunate. Native of Japan.

ORIENTAL SPARUS.

Sparus Cuning. *S. argenteus, dorso subcæruleo, corpore longitudinaliter flavo-striato, pinnis flavis, dorsali subviolaceo.*

Silvery Sparus with blueish back; the body striped longitudinally with yellow, the fins yellow, the dorsal pale-violet.

Sparus Cuning. *Bloch. t. 263.*

LENGTH about seven inches: habit of a Dace, or rather more slender: tail greatly forked: scales of moderate size. Native of the Indian seas.

RUFIOUS-BANDED SPARUS.

Sparus Hurta. *S. cauda bifida, corpore fasciis transversis rubris, dentibus laniariis exsertis.* *Lin. Gmel. p. 1272.*

Fork-tailed Sparus, with red transverse bands, and front teeth exserted.

HABIT broad and thin: dorsal fin occasionally withdrawn into a longitudinal furrow: fore-teeth in the upper jaw prominent and strong: body marked by a few transverse reddish bands: native of the Mediterranean.

 SPINED SPARUS.

Sparus Spinifer. *S. argenteo-rubescens, dorso lincisque corporis obscurioribus, spinis dorsalibus quinque mediis elongatis.*

Reddish-Silvery Sparus, with the back and lines on the body dusky, and the five middle spines of the dorsal fin elongated.

Sp. spinifer. *Lin. Gmel. Forsk. Arab. p. 32.*

SHAPE ovate: scales large: front-teeth in each jaw four, conic, strong, and remote: length a foot and half: native of the Red sea, inhabiting deep places: esteemed a very delicious fish for the table.

BULL-EYED SPARUS.

Sparus Boops. *S. olivaceo-flavus, subtus argenteus, lateribus aureo longitudinaliter striatis.*

Olivaceous-yellow Sparus, silvery beneath, with longitudinal gold-coloured streaks along the sides.

Sp. boops. *Lin. Gmel.*

HABIT longish and subcylindric: colour olivaceous yellow, varying in splendour at different seasons: front teeth in the upper jaw obtuse and denticulated: native of the Mediterranean, but found also in the Indian seas.

SARB SPARUS.

Sparus Sarba. *S. ovato-oblongus argenteus, vittis longitudinalibus, subfuscis, linea aurea utrinque ad pinnas ventrales,*

Ovate-oblong silvery Sparus, with longitudinal brownish bands, and a gold-yellow line on each side near the ventral fins.

Sp. Sarba. *Lin. Gmel. Forsk. Arab. p. 31.*

SCALES large: front-teeth close, conic: ventral fins yellow: dorsal recumbent occasionally in a longitudinal channel. Native of the Arabian seas.

TWO-BANDED SPARUS.

Sparus Bicinctus. *S. subviolaceus, vittis pluribus longitudinalibus flavis, capite cingulis duabus transversis nigris.*

Subviolaceous Sparus, with several longitudinal yellow bands, and two transverse black fillets round the head.

Sp. bivittatus. *Bloch. t. 263.*

LENGTH near six inches : habit of a Carp : all the fins pale yellow : scales middle-sized : tail pretty deeply forked. Native of the Indian seas ?

SMARE SPARUS.

Sp. Smaris. *S. argenteus, ocello nigro laterali, pinnis pectoralibus caudaque rubris.*

Silvery Sparus, with a black lateral spot, and red pectoral fins and tail.

Sparus Smaris. *Lin.*

BACK of a reddish tinge : head marked by several pores : front teeth somewhat blunt and intermixed with smaller teeth : native of the Mediterranean.

BLACK-TAIL SPARUS.

Sparus Melanurus. *S. argenteus*, dorso caeruleo, lateribus fusco longitudinaliter striato-maculatis, oculo nigro ad basin caudæ.

Silvery Sparus, with blue back, sides stripe-spotted longitudinally with brown, and a black spot at the base of the tail.

Sparus melanurus. *Lin.*

LOWER jaw thickly set with small sharp teeth : sides marked by dusky spots, and generally by a black spot on each side the tail. Native of the Mediterranean.

SILVER SPARUS.

Sparus Argenteus. *S. argenteus*, macula utrinque prope caput nigra.

Silvery Spare, with a black spot on each side near the head.

Sparus argentatus. *Lin. Gmel.*

SHAPE very deep, or like that of the Gilt-head : length a few inches : native of the Japanese sea.

SYNAGRE SPARUS.

Sparus Synagris. *S. purpurascens*, lineis utrinque septem aurcis.

Purplish Spare, with seven gold-coloured lines on each side.

S. Synagris. *Lin. Gmel. Catesb. Car. 2. t. 17.*

LENGTH about ten inches : eyes large. Native of the American seas.

BROAD SPARUS.

Sparus Latus. *S. flavicans, capite argenteo, squamis longitudinaliter imbricatis.* Lin. Gmel. p. 1276.

Yellowish Sparus, with silvery head with longitudinally-imbricated scales.

A SMALL species: length three inches: habit broad and thin. Native of the Japanese sea.

VIRGATED SPARUS.

Sparus Virgatus. *S. depressus, oblongus, squamis virgatus.*

Depressed, oblong Sparus, with the scales disposed in rows.

Sp. virgatus. Lin. Gmel.

ALLIED to the Salp Sparus: head obtuse: native of Japan.

HASSARA SPARUS.

Sparus Hassara. *S. argenteus, lineis longitudinalibus fuscis-flavescentibus.*

S. Hassara. Lin. Gmel. Forsk. Arab.

LENGTH about a span: on each side fourteen dusky streaks: front-teeth in each jaw strong, remote, obtuse: native of the Arabian seas, and esteemed for the table.

BERDA SPARE.

Sparus Berda. *S. squamis lateralibus singulis fascia transversa fusca, spinis dorsalibus recumbentibus.*

Whitish Sparus, with each of the side-scales marked by a transverse brown band, and with the rays of the dorsal fin recumbent in a furrow.

S. Berda. *Lin. Gmel. Forsk. Arab.*

SHAPE oval: scales large and rounded: native of the Arabian sea.

 CHILI SPARUS.

Sparus Chilensis. *S. subargenteus, lineis utrinque transversis fuscis.*

Subargenteus Sparus, with five transverse brown lines on each side.

S. Chilensis. *Lin. Gmel. Molin. Chil.*

A VERY large species: shape ovate: head small: front-teeth strong and conic: scales large, rhomboidal, and spotted with white: lateral line curved in the direction of the back. Native of the South-American seas, and esteemed for the table.

GOLDEN-EYED SPARUS.

Sparus Chrysops. *S. caeruleus, dorso canaliculato, iridibus aureis.*

Blueish Sparus, with channelled back, and golden irides.

S. chrysops. *Lin. Gmel.* *Aurata Bahamensis.* *Catesb. Car.*
2. l. 16.

HEAD variegated with blue streaks: pectoral, ventral, anal, and caudal fins blue: native of the American seas.

 SPINE SPARUS.

S. Spinus. *S. caeruleo-variatu, spina dorsali recumbente.*

Sparus with blue variegations, and recumbent dorsal spine.

S. Spinus. *Lin. Gmel.*

NATIVE of the American and Indian seas.

 MORMYRE SPARUS.

Sparus Mormyrus. *S. argenteus, fasciis plurimis transversis nigris.*

Silvery Sparus, with numerous transverse black bands.

S. Mormyrus. *Lin. Gmel.*

NATIVE of the Mediterranean: length five or six inches: tail bordered with black at the tip.

BROWNISH SPARUS.

Sparus Fuscescens. *S. fuscescens, squamis aureis, macula nigra ad pinnas pectorales.* Lin. Gmel. p. 1279.

Brownish Sparus, with the scales tinged with gold-colour, and a black spot at the pectoral fins.

HABIT rather broad: length about four inches: native of the Japanese sea.

OSBECK'S SPARUS.

Sparus Osbeckii. *S. corpore longitudinaliter caeruleo flavoque fasciato, capite rubro caeruleoque variato.*

Sparus with the body longitudinally striped with blue and yellow, and the head varied with red and blue.

Spare Osbeck. *Cepede. 4. p. 107.*

LENGTH a few inches: on each side, above the lateral line a black spot: native of the Mediterranean.

VARIEGATED SPARUS.

Sparus Variegatus. *S. argenteus, corpore nigro transversim variato, cauda nigro marginata.*

Silvery Sparus, with the body transversely variegated with black, and the tail bordered with black.

S. bigarré. Cepede. 4. p. 109.

SHAPE oval: native of the Mediterranean

MARSEILLES SPARUS.

Sparus Massiliensis. *S. flavus, lateribus fusco maculatis, fasciis longitudinalibus brevibus versus caudam.*

Yellow Sparus, with the sides spotted with brown, and marked by short longitudinal bands toward the tail.

S. Massiliensis. Copele.

NATIVE of the Mediterranean.

CASTANEOLA SPARUS.

Sparus Castaneola. *S. dorso nigro, lateribus caeruleis, abdomine argenteo.*

Sparus with black back, blue sides, and silvery abdomen.

S. Castagnole. Copele. 4.

LOWER jaw longer than the upper: fore parts deeper or more elevated than the hind: head rounded in front: mouth prominent, and rounded: fins blue, except the pectoral, which are yellow. Native of the Mediterranean.

BRUNNICH'S SPARUS.

Sparus Brunnichii. *S. ovalis argenteus, linea laterali fusca.*

Oval silvery Sparus, with brown lateral line.

S. Bogaraveo. Copele. 4. p. 112.

LENGTH a few inches: in the dorsal fin are twelve sharp, and thirteen soft rays: in the anal fin three sharp, and thirteen soft: native of the Mediterranean: observed by Brunnich.

MAHSENA SPARUS.

Sparus Mahsena. *S. fuscus lineatus, fasciis transversis nebulosis argenteis.*

Dusky, lineated Sparus, with clouded, transverse, silvery bands.

Sciæna Mahsena. *Lin. Gmel. Forsk. Arab.*

SHAPE ovate oblong: in each jaw eighteen strong conic teeth, besides some setaceous ones in the jaws, and the obtuse grinders: fins reddish-violet, with small ramenta or appendices. Native of the Arabian seas.

HARAK SPARUS.

Sparus Harack. *S. virescens, pinnis rubescentibus, macula utrinque lineari nigra infra lineam lateralem.*

Greenish Sparus, with reddish fins, and a linear black mark on each side near the lateral line.

Sciæna Harak. *Lin. Gmel. Forsk. Arab.*

MUCH allied to the S. Mahsena: four pretty strong front-teeth in each jaw: the remainder growing gradually larger: besides these are several setaceous ones: the lateral mark mentioned in the specific character is rectangular, and bounded by a dusky cloud. Native of the Arabian seas.

RAMAK SPARUS.

Sparus Ramak. *S. albido-virescens, lineis longitudinalibus obsoletis violaceo-flaventibus, pinnis rubentibus.*

Whitish-green Sparus, with longitudinal yellowish-violet lines, and reddish fins.

Sciæna Ramak. *Lin. Gmel. Forsk. Arab.*

GREATLY allied, except in colour, to the *Mahsena*, and native of the same seas.

GREAT-EYED SPARUS.

Sparus Grandoculis. *S. caerulea, oculis magnis, labio inferioris gibbo.*

Blueish Sparus, with large eyes, and gibbous lower lip.

Sciæna grandoculis. *Lin. Gmel. Forsk. Arab.*

ALLIED to *S. Mahsena*: shape ovate-oblong, with obscure longitudinal streaks: in each jaw six front-teeth: fins pale violet: pectoral fins pale red: the dorsal and anal each increased by a lobe at the hind part: native of the Arabian seas.

SILVER-EYED SPARUS.

Sparus Argyrops. *S. cauda lunata, dorso canaliculato, oculorum iridibus argenteis. Lin. Syst. Nat. Gmel. p. 1277.*

Sparus with lunated tail, channelled back, and silvery irides.

Zanthurus Indicus. *Will. ichth. app. t. 3.*

ALLIED to *Sp. Chrysops*: the three first rays of the dorsal fin are elongated. Native of the American seas.

GOLD-GREEN SPARUS.

Sp. Viridi-Aureus. *S. olivaceo-flavescens*, fasciis quinque annularibus nigris, pinnis pectoralibus basi atrocæruleis.

Olivaceo-flavescient Sparus, with five annular black bands, and the pectoral fins blueish-black at the base.

Le Spare Vertor. *Cepede*. 4. p. 131.

A VERY small species: described by *Cepede* from *Commerson*, who observed it in vast shoals following the ships in the Indian seas, particularly about the coasts of New Guinea: body covered with small scales.

MYLOSTOME SPARE.

Sparus Mylostomus. *S. aureo cæruleoque longitudinaliter undulatus*, macula utrinque versus caudam nigra.

Sparus longitudinally undulated with blue and yellow, with a black spot on each side near the tail.

Spare Mylostome. *Cepede*. 4. p. 131.

IN habit resembling a *Coryphene*, except that the front is less sloping: jaws beset with fine teeth, in the manner of a file: tongue short and cartilaginous: eyes large and prominent: scales striped, and slightly crenated on the edges: general colour deep yellow, paler on the pectoral fins, and mixed with green on the dorsal fin and tail, at the end of which are two black spots, so placed as to resemble in some degree the figure of a pair of spectacles. Observed by *Commerson* in the Indian seas: size not particularized.

MYLIO SPARUS.

Sparus Mylio. *S. flavesceus, lineis longitudinalibus interruptis fuscis, corpore antice fascia duplici transversa nigra.*

Yellowish Sparus, with interrupted longitudinal brown bands, and the fore-part marked by a double transverse black band.

Sparus Mylio. *Cepede. 4. p. 132.*

MUCH allied to the Mylostome: size that of a common Carp: scales large: in the upper jaw six somewhat prominent front-teeth: upper lip extensile: Native of the Indian seas: observed by Commerson.

COMMERSIONIAN SPARUS.

Sparus Commersonii. *S. argenteus, lineis lateralibus interruptis fuscis maculatus.*

Silvery Sparus, spotted with interrupted brown lateral lines.

Sparus Breton. *Cepede. 4. p. 132.*

A SMALL species: lower lip extensile to a very considerable degree: observed about the coasts of the Isle of France.

GOLDEN-LINED SPARUS.

Sparus Aureo-lineatus. S. lineis aureis longitudinalibus, dorso postico macula oblonga argentea, pinnis rubris.

Sparus with longitudinal gold-coloured lines, hind part of the back marked by an oblong silvery spot, and red fins.

Sp. aureo-lineatus. Cope. 4. p. 132.

A small species : native of the Indian seas.

BLACK-TAIL SPARUS.

Sparus Melanurus. S. fuscus, abdomine albido, corpore lineis longitudinalibus luteis, cauda nigra albo-marginata.

Brown Sparus, with whitish abdomen; body marked by longitudinal yellow lines, and black tail bordered with white.

Perca melanura. Lin. Catesb. Car. 2. t. 7.

SIZE of a small Perch : native of the American seas.

LEAPING SPARUS.

Sparus Saltator. S. griseus, cauda bifurca postice rubra, abdomine lato griseo-lineato.

Greyish Sparus, with the tail red towards the tip, and abdomen yellow streaked with grey.

Perca sectatrix. Lin. Catesb. Car. 2. t. 8. f. 2.

SIZE of a small Perch : has a habit of frequently leaping out of the water, and, according to some, of following ships, in their swiftest course.

POISONOUS SPARE.

Sparus Venenosus. *S. griseus, corpore punctis sanguineis notato, pinnis pectoralibus apice flavis.*

Greyish Sparus, with the body sprinkled with sanguine spots, and the pectoral fins yellow at the tips.

Perca venenosa. Lin. Catesb. Car. 2. p. 5.

A MIDDLE-SIZED species : native of the American seas ; and, like several other fishes in those regions, reputed poisonous at some particular seasons : probably, from feeding on some acrimonious kinds of Mollusca, &c.

SALIN SPARUS.

Sparus Salin. *S. argenteo-cæruleus, macula utrinque nigra, pinna flavis.*

Silvery-blue Sparus, with a black spot on each side, and yellow fins.

Sparus Salin. Cope. 4. p. 137. Perca unimaculata. Bloch. t. 308. f. 1.

A SMALL species : native of the Brazilian seas : habit broad : beneath the lateral line a few longitudinal yellow streaks,

JUBA SPARUS.

Sparus Juba. *S. argenteus, dorso violaceo, pinnis flavo luteoque variatis, cauda bimaculata.*

Silvery Sparus, with violet back, fins varied with yellow and orange, and tail marked by two spots.

Perca Juba. *Bloch. t. 311. f. 1.*

BACK much elevated : head marked by a black band from eye to eye : on the tail two black spots : size rather larger than that of the Selim. Native of the American seas.

DUSKY-BACKED SPARUS.

Sparus Melanotus. *S. argenteus, dorso nigricante, pinnis apice rubentibus.*

Silvery Sparus, with dusky back, and fins reddish at the tips.

Perca argentata. *Bloch. t. 311. f. 1.*

NATIVE of the Japanese seas : teeth small.

NIPHON SPARUS.

Sparus Niphon. *S. albus, dorso sulfusco, lateribus lineis longitudinalibus flaventibus.*

White Sparus, with brownish back, and sides marked by longitudinal yellowish lines.

Perca Japonica. *Bloch. t. 311. f. 2.*

Sparus Niphon. *Cepede. 4. p. 141.*

NATIVE of the Japanese seas, in which the isle of Niphon forming the principal feature, Cepede calls

this species by its name. Dr. Bloch, with perhaps equal propriety, considered it as a Perch, under the title of *Perca Japonica*. In fact, in the numerous tribe of thoracic fishes many species may be found which can hardly be said to belong, with strict propriety, to any of the established genera.

BLUE SPARUS.

Sparus Cæruleus. *S. totus cæruleus, squamis magnis hexagonis radiatis.*

Sparus entirely of a blue colour, with large hexagonal radiated scales.

S. Holocyaneus. *Cepede. 4. p. 141.*

SLIGHTLY described by Cepede from one of Plummer's drawings, in which it is called *Turdus marinus totus cæruleus*, a fine blue being the universal colour of the fish. It is dangerous to attempt descriptions of animals from drawings alone: a practice to which the Count de Cepede seems in many instances too much devoted. The pectoral fins in this species are falcated, and the tail deeply lunated; the head without scales, and the jaws of equal length: native of the American seas.

SCALY-TAILED SPARUS.

Sparus Lepisurus. *S. maculis utrinque duabus fuscis, cauda ultra basin squamosa.*

Sparus with two brown spots on each side, and tail scaled beyond the base.

S. Lepisure. Cepede. 4. p. 142.

NATIVE of the Indian seas: mentioned by Cepede from the MSS. of Commerson: dorsal and anal fin scaly at the base; the tail still more so.

MOON SPARUS.

Sparus Luna. *S. latus, ruber, dorso cæruleo, lateribus luteo variatis, linea laterali lutea.*

Red Sparus, with broad body, blue back, sides varied with yellow, and yellow lateral line.

S. Demi-Lune. Cepede. 4. p. 142.

DESCRIBED by Cepede from a drawing by Plu-
mier: size considerable: body deeper than long:
pectoral fins twice the length of the ventral: sides
marked by several irregular gold-coloured spots:
back blue: tail deeply lunated: native of the
American seas.

BILOBATE SPARUS.

Sparus Bilobatus. *S. ciruda biloba, lobis rotundatis.*

Sparus with bilobate tail, with the lobes rounded.

Le Bilobé. *Cepede. 4. p. 143.*

MENTIONED by Cepede from Commerson: native of the Indian sea.

CARDINAL SPARUS.

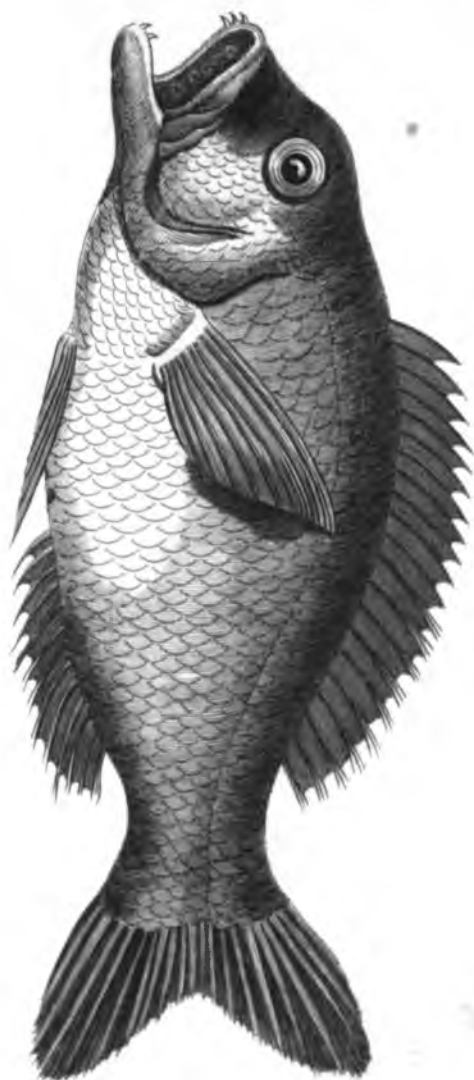
Sparus Cardinalis. *S. ruber, abdomine roseo.*

Deep-red Sparus, with rose-coloured abdomen.

Spare Cardinal. *Cepede. 4. p. 143.*

DESCRIBED by Cepede on the authority of some Chinese drawings in the Prince of Orange's collection: the deep-red colour of the upper parts and the rose-colour of the lower are abruptly separated: between the eyes is a kind of raised skin, reaching forwards like a hood as far as the tip of the upper jaw.

BILLOBATE SPARKS.

*Bilobate Sparks*



BIFONATE STARKS.

Mouth parts.

CHINESE SPARUS.

Sparus Sinensis. *S. ruber, lineis quatuor longitudinalibus flavis, abdomine flavo, cauda supra radio elongato nudo.*

Red Sparus, with four longitudinal yellow lines, abdomen yellow, and tail furnished at the upper part with a long naked ray.

MENTIONED by Cope from the same Chinese drawings which afforded the former species: pectoral and ventral fins yellow.

 BUFONITE SPARUS.

Sparus Bufonites. *S. pallidus, striis utrinque longitudinalibus numerosis fuscis.*

Pale Sparus, with numerous longitudinal brown lines on each side.

Sp. Bufonite. *Cope. 4. p. 143.*

DESCRIBED by Cope from Commerson, who presented its figure to the Count de Buffon: habit that of a Gilthead, and the pavement of molars * in the mouth exactly resembling those of the Gilthead: all that is said of the colour of this species is that on each side are eleven or twelve longitudinal stripes.

* These, when found fossil, are often termed *bufonites*, as well as those of the *Anarhichas Lupus* or Wolf-fish.

PARROT SPARUS.

Sparus Psittacus. *S. rostro curvato, corpore utrinque longitudinaliter striato.*

Sparus with curved snout, and longitudinally-striated body.

Spare Parrot. *Cepede. 4. p. 47.*

Much allied to the preceding species : observed by Commerson in the Indian seas.

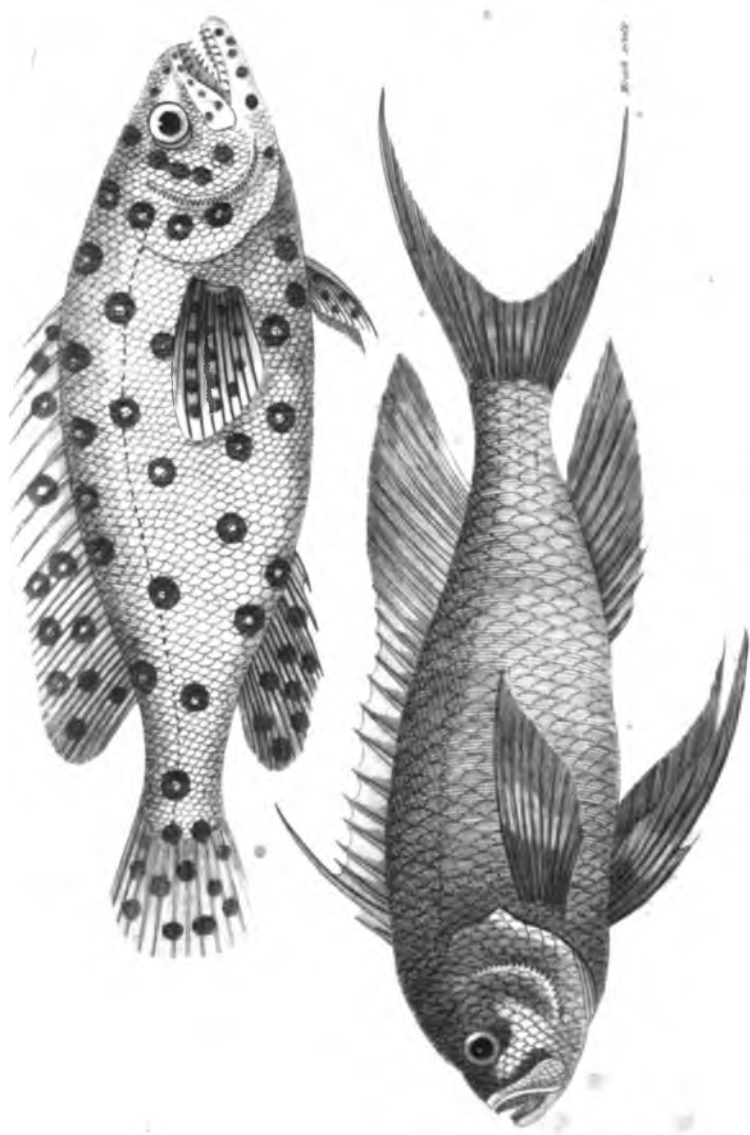
VIRGINIAN SPARUS.

Sparus Virginicus. *S. fasciis duabus transversis nigris, lineis plurimis longitudinalibus caeruleis.*

Sparus with two black transverse bands, and numerous longitudinal blue lines.

Sparus Virginicus. *Lin. Gmel.*

GILL-COVERS subserrated : body marked by numerous parallel longitudinal streaks: the first black band passes across the eyes: the second from the shoulders, over the sides of the thorax, to the pectoral fins; tail bilobate and obtuse. Native of the American seas.



ANTHIA SPARUS.

1868 July 2, London. Published by G. Kearsley, Fleet Street.

-ANTHIA SPARUS.

Sparus Anthias. *S. argenteo-rosaceus, pinnis ventralibus falcatis, radio secundo dorsali elongato, cauda elongato-furcata.*

Silvery rose-coloured Sparus, with falcated ventral fins, second ray of the dorsal fin elongated, and long-forked tail.

Labrus Anthias. *Lin. Gmel. Anthias sacer. Bloch.*

COLOUR a beautiful rose red, deepest on the back, fins and tail: sides and abdomen silvery: tail extremely forked: scales of moderate size: length about twelve or fifteen inches: native of the Mediterranean, and popularly known by the title of Barber-fish, on account of the long and sharp ray of the dorsal fin.

 ASCENSION SPARUS.

Sparus Ascensionis. *S. gracilis, supra rubescens, subtus albicans, squamis transversis.*

Slender reddish Sparus, whitish beneath, with scales disposed in transverse ranges.

Sparus Ascensionis. *Lin. Gmel.*

NATIVE of the Isle of Ascension: gill-covers serrated, with two of the teeth longer than the rest.

STIGMA SPARUS.

Sparus Stigma. *S. pinna dorsali ramentacea, operculis inustis.*
Lin. Syst. Nat.

Sparus with ramentose dorsal fin and gill-covers marked by a spot resembling the impression of a hot iron.

Perca Stigma. *Lin. Gmel.*

PENTAGRAM SPARUS.

Sparus Pentagramma. *S. fasciis quinque longitudinalibus albis fuscisque alternis, pinna dorsali ramentacea.*

Sparus with the body marked by five longitudinal alternate brown and white bands.

Perca lineata. *Lin. Gmel.*

DESCRIBED by Linnæus in the Museum Adolphi Friderici as a species of *Sciæna*. Native region unknown.

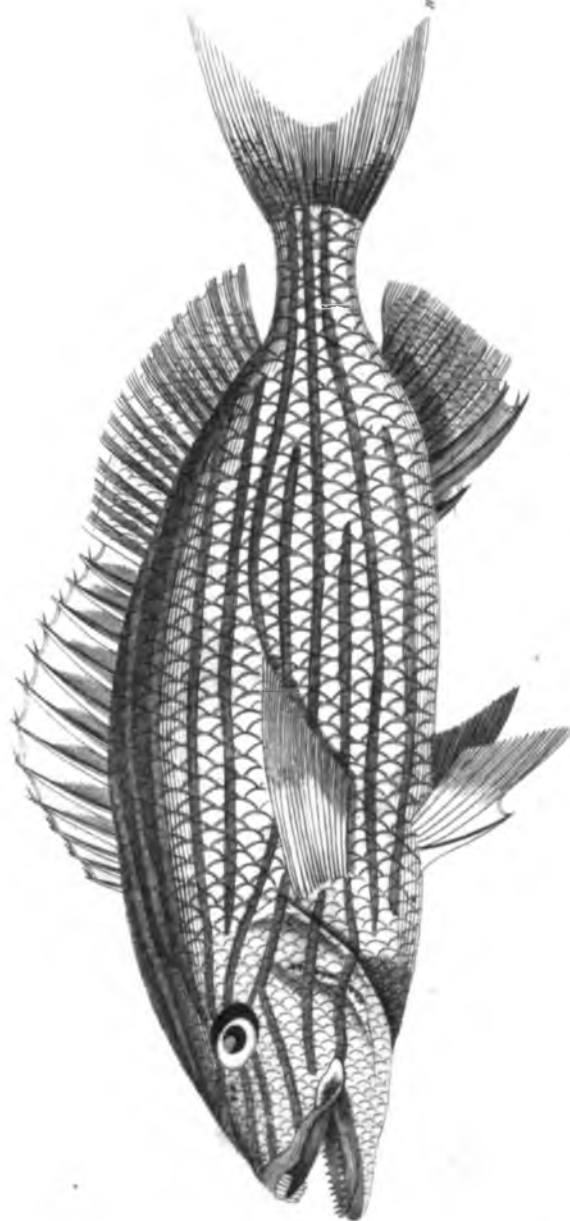
SILVERY SPARUS.

Sparus Argenteus. *S. argenteus, pinna dorsali macula nigra, naribus tubulosis.*

Silvery Sparus, with tubular nostrils, and a black spot on the dorsal fin.

Perca argentea. *Lin. Gmel.*

NATIVE of the American seas: described by Linnæus in the Museum Adolphi Friderici.



SQUIRREL SPARUS.

And, July 1. London. Engraved by W. Smith, Fleet Street.

SERRAN SPARUS.

Sparus Serran. *S. flavicans, fasciis quatuor longitudinalibus sanguineis.*

Yellowish Sparus, with four longitudinal blood-red bands.

Perca Cabrilla. *Lin. Mus. Ad. Frid. 2.*

DORSAL fin sometimes slightly ramentose. Native of the Mediterranean: said sometimes to vary, in having the stripes rather violet than red.

SQUIRREL SPARUS.

Sparus Sciurus. *S. griseus, squamis magnis flavo marginatis, capite longitudinaliter cæruleo flavoque lineato.*

Grey-brown Sparus, with large scales bordered with yellow, and head marked longitudinally by numerous blue and yellow lines.

Perca formosa. *Lin. Anthias formosus. Bloch.*

SIZE of a common Perch: native of the American seas, where it is known by the name of the Grunt, or Squirrel-fish. In colours it seems to vary, Dr. Bloch's plate representing it of a yellow colour, striped along the body as well as the head with blue lines.

HAMRUR SPARUS.

Sparus Hamrur. *S. cupreo-ruber, pinnis obscurioribus, ore subverticali.*

Copper-red Sparus, with darker-coloured fins, and subvertical mouth.

Sciæna Hamrur. *Lin. Forsk. Arab.*

SCALES small and membranaceous at the margin: teeth small, subulate, and of equal size: tail lunated. Native of the Arabian seas.

 DIAGRAM SPARUS.

Sparus Diagramma. *S. albus, fasciis longitudinalibus fuscis.*

White Anthias, with longitudinal brown bands.

Perca Diagramma. *Lin. Anthias Diagramma. Bloch.*

SIZE of a Perch: colour white, elegantly marked on the upper part by four or five longitudinal deep-brown bands: fins and tail varied with brown. In the living fish the bands are probably yellow, since in the *Systema Naturæ* they are so described: in spirits however they appear brown: scales small: native of the Indian seas?

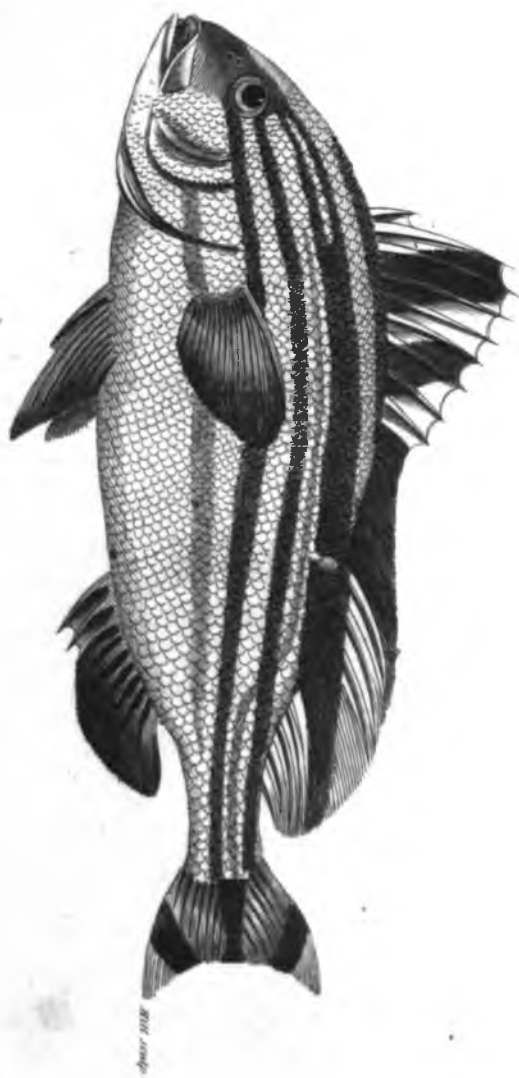


DIAGRAM SPARKS . .

Johns and Sons, London. Published by the Government, Price 1/6.

SILVER-EYED SPARUS.

Sparus Argyrophthalmus. *S. flavus abdomine argenteo, oculis maximis, cauda subcarrulea.*

Yellow Sparus, with silvery abdomen, extremely large eyes, and blueish tail.

Anthias macrophthalmus. *Bloch. t. 319.*

SIZE of a Perch: scales rather small: eyes silvery with a tinge of blue: native of Japan.

STRIATED SPARUS.

Sparus Striatus. *S. corpore luteo longitudinaliter striato, cauda albida.*

Sparus with longitudinal yellow streaks, and whitish tail.

Perca striata. *Lin. Gmel.*

GREATLY allied to the *Sparus melanurus*, from which it is said principally to differ in having the tail whitish instead of black. Native of the American seas.

VOSMAER'S SPARUS.

Sparus Vosmaeri. *S. rubro-purpureus, fascia utrinque longitudinali flava, pinna dorsali analique violaceis.*

Purplish-red Sparus, with a longitudinal yellow stripe on each side, and violet dorsal and anal fin.

Anthias Vosmaeri. *Bloch. t. 321.*

SIZE of a Perch: scales rather large than small: mouth and teeth small: pectoral, ventral, and caudal fins bright red. Native of Japan.

ELLIPTIC SPARUS.

Sparus Ellipticus. *S. albidus, dorso subfusco, ellipsi duplicata violacea notato.*

Whitish Sparus, with brownish back, marked by a doubled, violet-coloured ellipsis.

Anthias bilineatus. *Bloch. t. 325. f. 1.*

SIZE of a small Perch: along the back several dusky streaks, and on each side two parallel, deep-violet stripes, curving upward in such a manner as to form two large concentric ellipses on the back: scales middle-sized: anal fin black on the fore-part, and orange behind. Native of Japan.

JAPANESE SPARUS.

Sparus Japonicus. *S. luteus, dorso transversim caeruleo-lineato, pinnis rubentibus.*

Yellow Sparus, with the back crossed by blue lines, and reddish fins.

Anthias Japonicus. *Bloch. t. 325. f. 2.*

SIZE and habit of the preceding species: dorsal fin marked along its fore-part by a dusky band; the hind-part, with the other fins and tail red. Native of Japan.

 HEXAGONAL SPARUS.

Sparus Hexagonus. *S. corpore hexagono-elongato.*

Sparus with hexagonally-elongated body.

Lutianus hexagonus. *Cepede. 4. p. 214.*

EYES very large: scales strongly striated: vertical diameter of the tail much less than that of the body: all the laminae of the gill-covers denticulated: teeth rather blunt, and in several rows in each jaw: described by Cepede from a specimen in the Prince of Orange's Museum.

 LUNULATED SPARUS.

Sparus Lunulatus. *S. rubescens, lunula caudali nigra.*

Reddish Sparus with black caudal crescent.

Perca lunata. *Lin. Trans. 3. p. 33.*

SIZE of a small Perch: scales middle-sized: pectoral and ventral fins lanceolate: tail slightly forked. Observed by Mr. Mungo Park about the coasts of Sumatra.

 GOLD-BANDED SPARUS.

Sparus Aureo-vittatus. *S. albicans, vitta longitudinali flava.*

Whitish Sparus, with yellow longitudinal band.

Perca aurata. *Lin. Trans. 3. p. 33.*

OBSERVED by Mr. Park about the coasts of Sumatra.

NAKED-HEADED SPARUS.

Sparus Gymnocephalus. *S. capite squamis destituto, pinna dorsali antice triangulari elevata, radio secundo elongato.*

Sparus with head destitute of scales, and dorsal fin high and triangular in front, with the second ray elongated.

Lutianus gynnocephalus. *Cepede. 4. p. 181.*

HEAD and gill-covers destitute of scales : lower lip longer than the upper : first part of the dorsal fin very high and triangular, and the second ray longer than the rest. Described by Cepede from Commerson : native of the Indian seas.

 TRIANGLE SPARUS.

Sparus Triangulum. *S. labiis duplicatis, macula caudali nigra trigona albo-marginata.*

Sparus with doubled lips, and tail marked by a triangular black spot, edged with white.

Lutianus Triangulum. *Cepede.*

MENTIONED by Cepede from Commerson : native of the Indian seas.

SMALL-MOUTHED SPARUS.

Sparus Microstomus. *S. albidus, fusco-maculatus, capite conico-elongato, ore parvo.*

Whitish Sparus, with conically-elongated head, and small mouth.

Lutianus Microstomus. *Cepede.*

NATIVE of the Indian seas: described by Cepede from Commerson: body covered with minute, irregular, dusky spots.

INSIDIOUS SPARUS.

Sparus Insiadiator. *S. ruber, lateribus flavescens, cauda subforcipata, rostro longissimo.*

Red Sparus, with yellowish sides, subforcipated tail, and very long snout.

Sparus Insiadiator. *Lin. Gmel.*

LENGTH about ten inches: head compressed, scaly: snout very long: mandibles divided, and each furnished in front with two teeth of larger size than the rest: scales on the body rather large: fins yellowish; the dorsal and anal varied with green stripes: native of the Indian seas, where it preys chiefly on insects, exploding against them a drop of water from its tubular snout, in the same manner as the *Chaetodon rostratus*.

With even, or rounded tail.

ORPH SPARE.

Sparus Orphus. *S. rubro-purpureus, macula utrinque nigra prope caudam.*

Reddish-purple Sparus, with a black spot on each side near the tail.

Sparus Orphus. *Lin. Gmel.*

INHABITS the Mediterranean : said to be remarkably tenacious of life.

MAROON SPARUS.

Sparus Chromis. *S. fuscus, striatus, macula utraque nigra ad pinnas ventrales, radio secundo elongato.*

Brown, striated Sparus, with a black spot on each side at the base of the ventral fins, of which the second ray is elongated.

Sparus Chromis. *Lin. Gmel.*

HEAD small : sides marked with longitudinal streaks of a lighter hue than the ground-colour. Native of the Mediterranean, where it is often observed in small shoals.

RHOMBOID SPARUS.

Sparus Rhomboides. *S. subrhombus griseus, luteo longitudinaliter striatus, macula utrinque versus caput nigra.*

Subrhomboid grey Sparus, with yellow longitudinal streaks, and a black spot on each side towards the head.

S. rhomboides. Lin. Gmel.

SHAPE subrhomboid, and very deep: size of a Perch: colour cinereous, with yellow stripes: fins and tail yellow. Native of the American seas. If this species be the *Percu rhomboidalis* of Catesby there must be a mistake either in his figure, or in the arrangement of the species, since he represents it with the tail pretty deeply forked.

RETICULATED SPARUS.

Sparus Reticulatus. *S. fuscus, corpore albo-reticulato.*

Brown Sparus, with the body reticulated with white.

Sparus capistratus. Lin. Gmel.

SHAPE oblong, resembling that of a Holibut: scales loosely imbricated, and each marked towards the end by a squarish white spot or bar, causing a reticular appearance on the body: in the upper jaw two large front-teeth, and in the lower four: dorsal fin almost the length of the back: native of the American seas.

GALILÆAN SPARUS.

Sparus Galilæus. *S. virescens, abdomine albido.*

Greenish Sparus, with whitish abdomen.

Sparus Galilæus. *Lin. Hasselq. it. 343.*

NATIVE of Palestine, inhabiting the lake Genesareth, in which being very common it is supposed to have been the principal species in the miraculous draught of fishes recorded by St. Luke.

ROCK SPARUS.

Sparus Rupestris. *S. griseus, fusco transversim fasciatus, pinna dorsi ramentacea, antice macula fusca.*

Grey Sparus, with dusky transverse bands, and ramentose dorsal fin, marked on the fore-part by a black spot.

Labrus rupestris. *Lin. Gmel. Lutianus rupestris. Bloch.*

NATIVE of the Northern seas, frequenting the shores: size of a small Perch: from the eyes to the mouth on each side three blue stripes.

PEACOCK SPARUS.

Sparus Pavo. *S. albidus, dorso subfusco, ocello utrinque nigro ad humeros et ad basin caudæ.*

Whitish Sparus, with brownish back, and an ocellated black spot on each side the shoulders and base of the tail.

Sparus saxatilis. *Lin. Gmel. Blach. t. 309.*

LENGTH about twelve inches: shape somewhat like that of a Pike: from the eye strait along the gill-covers on each side a black line: dorsal, anal, and caudal fin marked with numerous round white spots: pectoral and ventral plain: the black spot on each side at the shoulders and tail bordered with white. Native of the South-American seas, and esteemed as a food.

RADIATED SPARUS.

Sparus Radiatus. *S. olivaceo-fuscus, cæruleo-maculatus, subtus flavescens, oculis rubris, orbitis cæruleo-radiatis.*

Olive-brown Sparus, spotted with blue, beneath yellowish, with red eyes and blue-rayed orbits.

Sparus radiatus. *Lin. Turdus oculo radiato. Catesby.*

SIZE of a Carp: at the base of each scale a blue spot: fins yellow, with a narrow border of blue: tail brown at the base, and orange at the tip: beneath the breast a transverse orange band: native of the American seas.

LIVID SPARUS.

Sparus Lividus. *S. livens*, gula marginibusque pinnarum caeruleis, pinna dorsali ramentacea.

Livid-brown Sparus, with the fins bordered with blue, and the dorsal fin ramentose*.

Labrus livens. *Lin. Gmel.*

LENGTH about twelve inches: colour livid brown: lateral line at first curved, and afterwards strait. Native of the Mediterranean.

 VARIEGATED SPARUS.

Sparus Varius. *S. purpureo*, viridi, caeruleo, nigroque varius.

Sparus variegated with green, purple, black, and blue.

Sparus varius. *Lin. Gmel. Will. p. 306.*

A BEAUTIFUL species: teeth in the upper jaw strong and close-set: beneath the abdomen two purplish red spots: tail blue: native of the Mediterranean, and said to be excellent for the table.

* Furnished with small processes projecting beyond the membrane.

BLACK-FINNED SPARUS.

Sparus Melanopterus. *S. purpurascens, abdomine flavo-viride, oculis viridi-radiatis, pinnis nigris.*

Purplish Sparus, with yellow-green abdomen, green-rayed orbits, and black fins.

Labrus melapterus. *Bloch. t. 285.*

A BEAUTIFUL species: length about twelve inches: in each jaw two large front-teeth: pectoral fins pale. Native of Japan.

GREEN-FINNED SPARUS.

Sparus Chloropterus. *S. viridis, abdomine subflavente, capite fusco caeruleo-lineato.*

Green Sparus, with yellowish abdomen, and brown head striped with blue.

Labrus chloropterus. *Bloch. t. 289.*

LENGTH about ten inches: scales rather large: two pretty large front-teeth in each jaw: fins green; the dorsal marked on the hind-part by small pale spots. Native of Japan.

ZONATED SPARUS.

Sparus Zonatus. *S. fuscus, fasciis transversis albidis, capite virescente.*

Brown Sparus, with transverse whitish bands; and greenish head.

Labrus fasciatus. *Bloch. t. 290.*

LENGTH about a foot: scales middle-sized: eyes red: dorsal, anal, and caudal fin blackish. Native of Japan.

PUNCTULATED SPARUS.

Sparus Punctulatus. *S. subfuscus, punctis numerosis caeruleis, abdomine albedo.*

Brownish Sparus, with numerous blue specks, and whitish abdomen.

Perca punctulata. *Lin. Gmel. Bloch. t. 314.*

SIZE of a Perch: upper parts pale rufous-brown, lower parts white or silvery: the whole body thickly marked with small round blue spots: fins reddish: teeth rather small, and of equal size: native of the American seas.

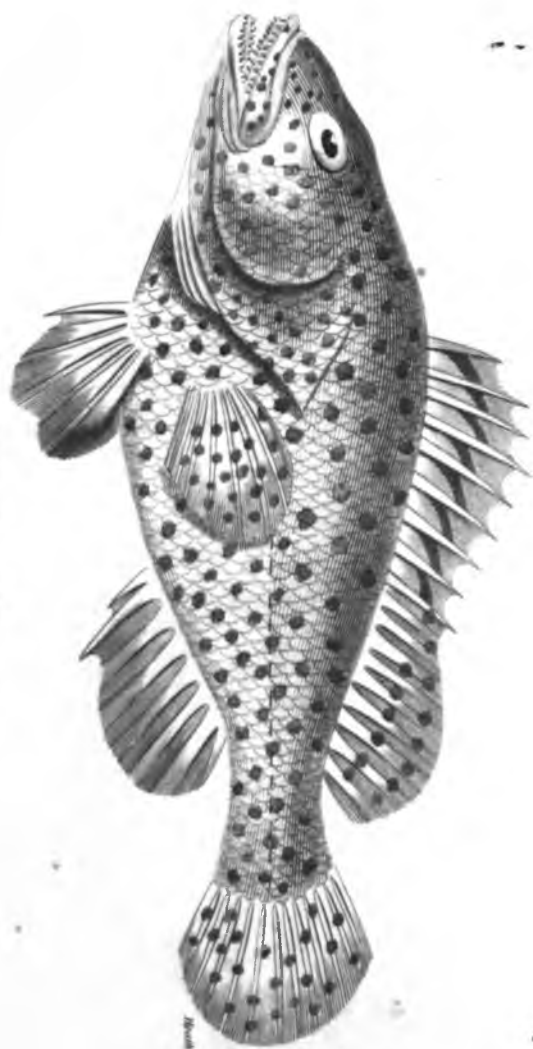
SANGUINE SPARUS.

Sparus Cruentatus. *S. roseo-argenteus, sanguineo-punctatus.*

Silvery-rose-coloured Sparus, with blood-red specks.

Perca guttata. *Lin. Bloch. t. 312.*

SIZE of a common Perch: colour a beautiful deep rose-red, with a silvery cast on the sides and abdo-



SANGUINE SPARKS.

1953, July 1, London. Printed by G. Kearsley, Fleet Street.

men, and the whole fish pretty thickly marked with small, round, deep blood-red spots: eyes yellow. Native of the American seas.

ATLANTIC SPARUS.

Sparus Atlanticus. *S. fusco-flavescens, punctis numerosis rubris.*

Yellow-brown Sparus, with numerous red specks.

Perca maculata. *Block. t. 313.*

Sparus Atlanticus. *Cepede. 4. p. 158.*

Var? *Catesb. Carol. 2. t. 14.*

COLOUR, yellowish, with the back brownish, and abdomen pale: the whole fish thickly marked on all parts with small, round red spots, with dark centres: size of the two preceding species: native of the American seas.

Of this species a supposed variety is mentioned by Cepede, from a drawing by Plumier, and is of a brown or blackish colour, each of the red spots being marked in the middle by a deeper red. It is called by Plumier *Turdus alius niger, maculis purpureis oculatus*. This is probably the fish figured by Catesby under the name of the *Hind*.

BLACK-BANDED SPARUS.

Sparus Chrysomelanos. *S. luteus, fasciis novem transversis nigricantibus.*

Yellow Sparus, with nine transverse blackish bands.

Spare chrysomelane. *Cepede. 4. p. 53.*

DESCRIBED by Cepede from a drawing by Plummer: lower jaw longer than the upper: lips thick: eyes large; all the fins marbled with pale blue and flesh-colour: length four or five decimetres: native of the American seas.

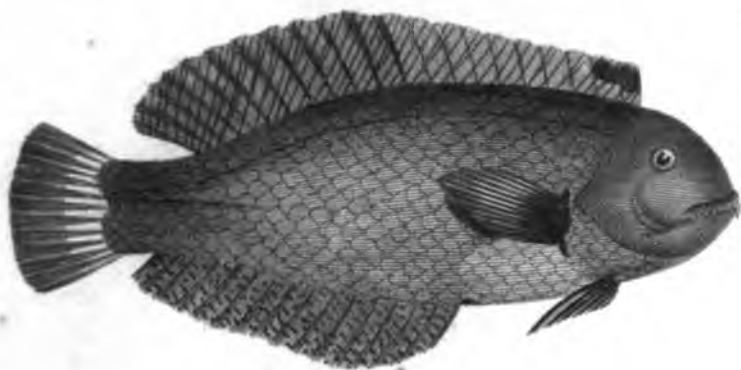
HEMISPHERIC SPARUS.

Sparus Hemisphæricus. *S. capite antrorsum hemisphærico, linea laterali duplici, pinnis pectoralibus dorsalique macula nigra.*

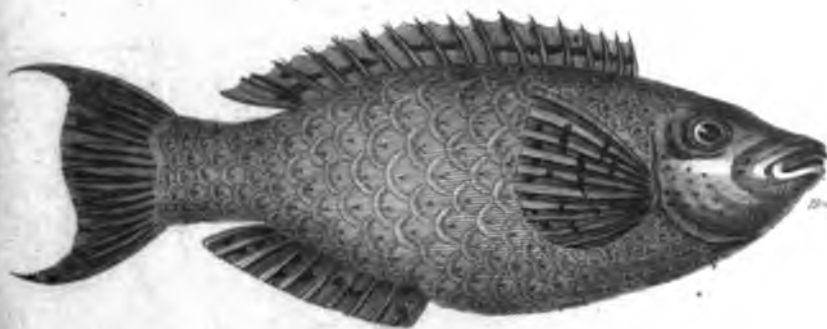
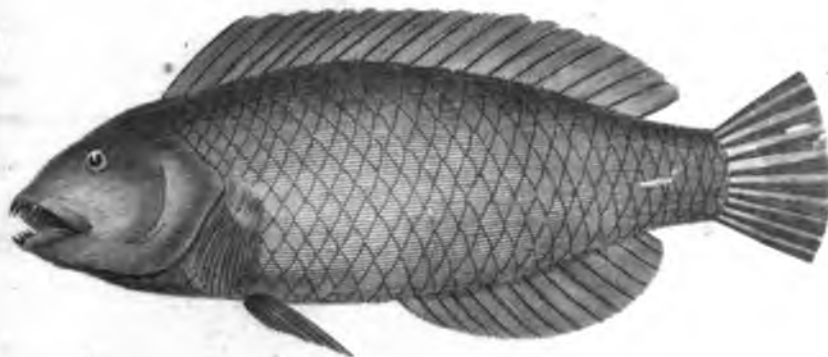
Sparus with the head hemispherical in front, double lateral line, and the dorsal and anal fin marked by a black spot.

S. Hemisphærium. Cepede. 4. p. 160.

MENTIONED by Cepede from Commerson: front-teeth in the upper jaw longer than the rest: lateral line double: at the base of the pectoral fins a black spot, and another on the fore part of the dorsal. Native of the Indian seas.



BRACHIATED SPARUS.



SPARUS AUREORUBER. *Cepede*

ACARA SPARUS.

Sparus Acara. *S. subargenteus, dorsu subfusco, macula utrinque humerali & ad basin caudæ.*

Subargenteous Sparus, with brownish back, and a black spot on each side at the shoulders and at the base of the tail.

Sparus Acara. *Cepede.* *Perca bimaculata.* *Bloch.*

Size of a small Perch: habit rather broad or deep: scales of moderate size: teeth rather small, and equal: fins brown. Native of the Brazilian seas, and in esteem as an edible fish.

NOCHUNDA SPARUS.

Sparus Nochunda. *S. argenteus, pinnis flavescentibus, linea laterali nigro-maculata.*

Silvery Sparus, with yellowish fins, and lateral line spotted with black.

Sparus Nochunda. *Cepede.* *Perca Brasiliensis.* *Bloch.*

Size of a gudgeon: shape rather slender: scales rather small than large: lateral line strait and marked from the gill-covers to the tail by seven equidistant, oval, black spots. Native of the Brazilian seas.

PANTHER SPARUS.

Sparus Pantherinus. *S. griseus, capite abdomineque nigro-punctatis.*

Grey Sparus, with the head and abdomen speckled with black.
Spare pantherin. *Cepede, 4. p. 53.*

LOWER jaw elevated against the upper, and furnished with four large teeth: head, gill-covers, and abdomen freckled with unequal, round, black spots: neck raised and rounded: native of the Indian seas: observed by Commerson.

BRACHIATED SPARE.

Sparus Brachiatus. *S. pinus ventralibus basi brachiatis.*

Sparus with the ventral fins brachiated at the base.

Spare brachion. *Cepede, 4. p. 160.*

MENTIONED by Cepede from the MSS. of Commerson, who observed it in the Indian seas: neither size nor colours specified: dorsal and anal fin very broad and long: the anal is also marked by small specks: six very large and flat teeth in front of the upper jaw, and eight in the lower: head and gill-covers without scales.

MEACO SPARUS.

Sparus Meaco. *S. fuscus, fasciis sex transversis albis, macula caudali fusca.*

Brown Sparus, with six transverse white bands, and brown caudal spot.

Sparus Meaco. *Cepede. Mullus fasciatus. Thunb. Japan.*

HEAD compressed: in each jaw two large front-teeth: scales large, oval, and striated: fins spotted with brown. Native of Japan.

DESPONTAINE'S SPARUS.

Sparus Desfontainii. *S. pinna dorsali radiis viginti tribus, anali undecim, macula operculorum nigra.*

Sparus with twenty-three rays in the dorsal fin, eleven in the anal, and a black spot on the gill-covers.

Sparus Desfontainii. *Cepede. 4. p. 161.*

INHABITS the warm waters of the town of Cassa in Tunis: these waters, in the month of January, are about thirty degrees of Reaumur's thermometer above the freezing point: they are very pure, and the only waters used for drinking by the inhabitants of Cassa: the fish is also found in the cold and brackish waters surrounding the date-plantations at Tozzar.

NORWEGIAN SPARUS.

Sparus Noryegicus. *S. flacus, dorso violaceo, corpore fusco-maculato.*

Yellow Sparus, with violet-coloured back, and the body spotted with brown.

Lutianus Norvegicus. *Bloch. 256.*

HABIT of a Carp, but the head somewhat more oblong: scales rather large for the size of the fish: dorsal fin yellowish with violet clouds: the rest pale violet: at the base of the tail a round dusky spot: eyes blue: orbit radiated by tubular pores: the pavement of grinders is in this species situated so deep as not to be visible in the mouth, being rather seated at the entrance of the stomach.

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SURINAM SPARE.

Sparus Surinamensis. *S. subruher, fasciis semidecurrentibus nigris, abdomine subalbente, macula utrinque fusca.*

Reddish Sparus, with black semidecurrent bands, and whitish abdomen with a black spot on each side.

Lutianus Surinamensis. *Bloch. t. 253.*

SIZE and shape of a Perch: fins dusky: last band on the body rather broader than the rest: upper part of the tail tinged with red: eyes blue: scales middle-sized: dorsal and anal fin scaly at the base: native of Surinam.

TEN-SPINED SPARUS.

Sparus Decacanthus. *S. fusco-flavescens, albo longitudinaliter lineatus, pinna dorsali ramentacea, radiis decem spinosis.*

Yellowish-brown Sparus, with longitudinal white lines, and ramentose dorsal fin with ten spiny rays.

Labrus striatus. *Lin. Gmel. Lutianus decacanthus. Copele.*

NATIVE of the American seas.

SCINA SPARUS.

Sparus Scina. *S. virescens, nebulis albis flavisque, oculis viridibus.*

Greenish Sparus, with white and yellow clouds, and green eyes.

Labrus Scina. *Lin. Gmel. Forsk. Arab.*

FRONT-TEETH very large: pectoral fins yellowish, and not spotted: the rest obscurely yellow, spotted with blue: inhabits the Constantinople sea.

LAPINA SPARUS.

Sparus Lapina. *S. fuscus, subtus albicans, lateribus linea rubra-punctata triplici, pinnis pectoralibus flavis, ventralibus cæruleis, cæteris violaceis.*

Brown Sparus, whitish beneath, with the sides marked by a triple red-spotted line, the pectoral fins yellow, the ventral blue, and the rest violet.

Labrus Lapina. *Lin. Gmel. Forsk. Arab.*

SHAPE ovate-oblong: head marked on the sides with red spots, and beneath the eyes with blue undulations: inhabits the seas about Constantinople.

RAMENTOSE SPARUS.

Sparus Ramentaceus. S. fusco-virescens, capite pinnisque violaceo-maculatis, pinnae dorsalis ramentis spinis longioribus.

Greenish-brown Sparus, with the head and fins spotted with violet, and the processes of the dorsal fin longer than the spines.

Labrus ramentaceus. Lin. Gmel.

SHAPE rather slender: scales large, and disposed in nine rows on each side: upper lip moveable: four large front-teeth in each jaw: native of the Arabian seas.

OCELLATED SPARUS.

Sparus Ocellatus. S. virescens, capite caeruleo-undulato, oculo postoculari coccineo.

Greenish Sparus, with head undulated with blue, and a scarlet-ringed spot behind each eye.

Labrus ocellatus. Lin. Gmel.

SHAPE subovate: on the gill-covers a large oblong blue spot edged with red: tail linear: native of the Arabian seas.

GIBBOUS SPARUS.

*Sparus Gibbus. S. caeruleo aurantiogae varius, pinna dorsali
anathique nigro-maculatis.*

Sparus with blue and orange variegations, and the dorsal and
anal fin spotted with black.

Labrus gibbus. Lin. Gmel. Gibbous Wrasse. Penn.

DESCRIBED by Mr. Pennant in the British
Zoology : shape and size of a Perch, but the back
more arched : scales large : dorsal and anal fin
sea-green spotted with black : pectoral yellow,
crossed with red at the base : ventral and anal
large, and of a pea-green colour : native of the
British seas.

OLIVACEUS SPARUS.

*Sparus Olivaceus. S. olivaceo-viridis, subtus argenteus, operculis
apice macula caerulea rubro marginata, macula caudali nigra.*

Olive-green Sparus, beneath silvery, with the gill-covers marked
at the tip by a blue spot edged with red, and a black spot on
each side the tail.

Sparus olivaceus. Lin. Gmel.

A VERY small species : front-teeth sharp : the
middle ones remote : fins of the same colour with
the body : tail rufous : native of the Mediter-
ranean.

BRUNNICH'S SPARUS.

Sparus Brunnichii. *S. fuscus, lineis maculisque cæruleis.*

Brown Sparus, with blue lines and spots.

Labrus fuscus. *Lin. Gmel.*

A SMALL species of a compressed oblong shape : head sharp : mouth small : teeth sharp : dorsal and anal fin brown, spotted with blue : pectoral rufous with blue tips : ventral red : anal rufous spotted with blue : native of the Mediterranean.

MARSEILLES SPARUS.

Sparus Massiliensis. *S. olivaceus, cæruleo longitudinaliter lineatus, macula nigra versus finem pinnae dorsalis.*

Olivaceous Sparus, lineated longitudinally with brown, and with a black spot towards the end of the dorsal fin.

Labrus unimaculatus. *Lin. Gmel.*

A SMALL species of about three inches in length : number of blue lines about ten ; a variety is mentioned by Brunnich, which is said to be reticulated as it were with dull red and silvery-green : native of the Mediterranean.

ADRIATIC SPARUS.

Sparus Adriaticus. *S. pallidus, fasciis quatuor transversis latis fuscis, pinna dorsali postice nigro-ocellata.*

Pale Sparus, with four broad transverse brown bands, and dorsal fin marked at the back part by an ocellate black spot.

Labrus Adriaticus. *Lin. Gmel.*

A SMALL species, about three inches in length : head marked by oblique fulvous stripes : teeth small : ventral and anal fin black, but the latter tipped with yellow. Native of the Mediterranean.

MAGNIFICENT SPARUS.

Sparus Magnus. *S. argenteus, fasciis octo transversis fuscis.*

Silvery Sparus, with eight transverse brown bands.

Perca nobilis. *Lin.*

COLOUR bright silver ; banded as expressed in the specific character : spiny rays of the dorsal fin silvery : native of the American seas : extremely allied to the Chætodons.

POLYMNA SPARUS.

Sparus Polymna. *S. niger, fasciis tribus transversis albis.*

Black Sparus, with three transverse white bands.

Perca Polymna. *Lin. Anthias Polymna. Bloch. t. 216. f. 1. 3.*

HABIT broad : considerably allied to the Chætodons : length about four inches : scales of mode-

rate size : the middle band runs through part of the dorsal fin : native of the American seas. Bloch mentions a variety, with white fins and tail, edged with black.

PALPEBRAL SPARUS.

Sparus Palpebratus. *S. macula palpebrali fusca, linea laterali curva.*

Sparus with a brown spot on the brows, and curved lateral line.

Perca palpebrosa. *Lin. Gmel.*

A SMALL species : native of the American seas.

BLACK SPARUS.

Sparus Atrarius. *S. corpore nigro, pinnis albido-maculatis.*

Black Sparus, with the fins spotted with white.

Perca Atraria. *Lin. Gmel.*

GILL-COVERS denticulated on the fore-part, and ciliated behind : lateral line straight : dorsal fin streaked with white lines.

GOLDEN-FINNED SPARUS.

Sparus Chrysopterus. *S. fuscus, pinnis inferioribus flavis fusco-maculatis.*

Brown Sparus, with the lower fins yellow spotted with brown.

Perca chrysoptera. *Lin. Gmel. Catesb. Car. 2. t. 2.*

BACK gibbous: upper mandible longer than the lower: ventral, anal, and caudal fins yellow spotted with brown: tail erroneously represented as forked in Catesby's plate,

MEDITERRANEAN SPARUS.

Sparus Mediterraneus. *S. viridis, supra lineam lateralem striis longitudinalibus obscuris, infra caeruleis, pinnis fulvis.*

Green Sparus, marked above the lateral line with longitudinal dusky stripes, below it with blue ones, and with fulvous fins.

Perca Mediterranea. *Lin. Gmel.*

NATIVE of the Mediterranean.

VITTATED SPARUS.

Sparus Vittatus. *S. lineis quinque transversis albis fuscisque.*

Sparus with five transverse equidistant brown and white linear bands.

Perca vittata. *Lin. Gmel.*

LENGTH about eight inches: teeth rather large: native of the American seas.

SCRIBE SPARUS.

Sparus Scriba. *S. griseus, capite scripto, corpore fasciis transversis fuscis, pinnis pectoralibus caudaque flavis.*

Greyish Sparus, with the head marked by letter-shaped characters, the body banded transversely with brown, and the pectoral fins and tail yellow.

Perca Scriba. *Lin. Gmel.*

CHINESE SPARE.

Sparus Sinensis. *S. flavescens, cauda ovati, maxilla inferiore brevior.*

Yellowish Sparus, with even tail, and lower jaw shorter than the upper.

Perca Chinensis. *Lin. Gmel.*

HABIT of a common Perch, but smaller: lateral line curved: dorsal fin extending from head to tail. Native of China.

SPEAR SPARUS.

Sparus Hasta. *S. flavescens, lineis longitudinalibus caeruleis, abdomine argenteo, pinnis pectoralibus ventralibus caudaque rubris.*

Yellowish Sparus, with longitudinal blue lines, silvery abdomen, and red pectoral, ventral fins, and tail.

Lutianus Hasta. *Block. t. 246. f. 1.*

Size and habit of a small Perch: dorsal fin pale, with two blackish stripes: scales of moderate size:

teeth rather small: second ray of the anal fin longer than the rest and very strong and sharp. Native of Japan.

SADDLED SPARUS.

Sparus Ehippium. *S. ruber, nebula magna dorsali nigra.*

Red Sparus, with a large black cloud on the back.

Lutianus Ehippium. *Bloch. t. 250. f. 2.*

LENGTH about five inches: habit broad or deep: scales middle sized: fins pale dusky grey: the dorsal and anal somewhat scaled at the base: orbits and plates of the gill-covers marked with striated denticulations: mouth small: teeth nearly equal. Native of the Indian seas.

BIDENT SPARUS.

Sparus Bidens. *S. rostrus, albelline argenteo, pinnis subcæruleis, maxilla superiore dentibus duobus.*

Rose-coloured Sparus, with silvery abdomen, blueish fins, and two teeth in the upper jaw.

Lutianus bidens. *Bloch. t. 251. f. 1.*

LENGTH about six inches: shape somewhat lengthened: at the base of the pectoral fin on each side a black spot: eyes yellow: scales rather large: an elegant species: native of the Northern parts of the Atlantic ocean.

MARKED SPARUS.

Sparus Notatus. *S. flarescens fusco maculatus, macula utrinque nigra ad basin caudæ.*

Yellowish Sparus, spotted with brown, and with a black spot on each side the base of the tail.

Lutianus notatus. *Bloch. t. 251. f. 2.*

LENGTH about five inches: scales of moderate size: orbit surrounded with tubular pores: dorsal and caudal fin striped with brown: native of the Indian seas.

LINKIAN SPARUS.

Sparus Linkii. *S. violaceus, abdomine subargenteo, rostro subelongato, pinnis pectoralibus rotundatis.*

Violaceous Sparus, with subargenteous abdomen, subelongated snout, and rounded pectoral fins.

Lutianus Linkii. *Bloch. t. 252.*

LENGTH near a foot: scales rather large: eyes blue: lips doubled: teeth small: fins pale. Native region unknown: described by Bloch from the Linkian collection.

GREENISH-FINNED SPARUS.

Sparus Virescens. *S. subflavus, lineis longitudinalibus fuscis, pinnis virescentibus, dorsali ramentacea.*

Yellowish Sparus, with longitudinal brown lines and greenish fins, the dorsal ramentose.

Lutianus virescens. Bloch. t. 254.

LENGTH about eight inches : lips doubled : teeth small : fins streaked with brown : scales middle-sized : habit, as in many others of this genus, resembling that of the Labri.

LONG-HEADED SPARUS.

Sparus Rostratus. *S. subviolaceo-flavescens, capite producto, linea laterali duplici, pinna dorsali ramentacea.*

Violaceo-flavescient Sparus, with lengthened head, double lateral line, and ramentose dorsal fin.

Lutianus rostratus. Bloch. f. 254. f. 2.

A SMALL species, scarce five inches in length : scales rather large than small : the second or lower lateral line is rather a dusky streak than a proper *linea lateralis* : eyes blue : native region unknown.

BIFASCIATED SPARUS.

Sparus Bifasciatus. *S. fuscus, fasciis duabus albis transverseis, cauda utrinque alba.*

Brown Sparus, with two white transverse bands, and the tail white on each side.

Anthias bifasciatus. *Bloch.*

A SMALL species, with the habit of a Chætodon, and allied to the *Polymna*: scales small: the second band runs through the hind-part of the dorsal fin. Native of the Indian seas, and found about the coasts of Amboina.

ARGUS SPARUS.

Sparus Argus. *S. argenteo-carylescens, maculis numerosis, ocellaribus, fuscis.*

Silvery-blueish Anthias, with numerous ocellated brown spots.

Anthias Argus. *Bloch. t. 317.*

A MOST elegant species: length about a foot: colour silvery white, tinged with fine blue on the upper parts, and marked all over with pretty numerous annular spots of brown. Native country uncertain: figured by Bloch from a specimen in the Liukian collection at Leipzig.

TRANQUEBAR SPARUS.

Sparus Tranquebaricus. *S. griseo-flavescens, dorso fasciis transversis semidecurrentibus fuscis, pinnis rubris.*

Yellowish-grey Sparus, with the back marked by transverse semidecurrent bands, and red fins.

Anthias Johnii. *Bloch, t. 318.*

HABIT of the Gilthead Spare, but somewhat less deep: back marked by dusky longitudinal lines: scales middle-sized: fins red, except the fore-part of the dorsal, which is pale. Native of Tranquebar: communicated to Bloch by a Mr. John, a missionary in that country.

TORTOISE-SHELL SPARUS.

Sparus Testudineus. *S. fusco-flavescens, squamis magnis, oculis cæruleis.*

Yellowish-brown Sparus, with large scales, and blue eyes.

Anthias testudineus. *Bloch, t. 322.*

HABIT of a Carp: colour brown, with a strong suffusion of pale yellow on the sides and head: scales paler on the margin than on the middle: mouth moderate: teeth small: dorsal and anal fin pale at the fore-part and black at the hind-part, rest of the fins brown. Native of the Indian seas.

SEMIFASCIATED SPARUS.

Sparus Semifasciatus. *S. fulvus, fasciis semidecurrentibus subnigris, imo dorso macula rotundata nigerrima, pinna rubris.*

Fulvous Sparus, with semidecurrent blackish bands, a deep-black round spot at the bottom of the back, and red fins.

Anthias Striatus. *Bloch. t. 324.*

Size and shape of a Carp: scales small: teeth rather small, and equal: eyes yellow: native of the American seas.

 TRILINEATED SPARUS.

Sparus Trilineatus. *S. subflavus corpore utrinque lineis tribus longitudinalibus maculatis fuscis, pinna dorsali nigro-maculata.*

Yellowish Sparus, with the body marked on each side by three longitudinal spotted brown lines, and dorsal fin spotted with black.

Anthias lineatus. *Bloch. t. 326. f. 1.*

A SMALL species, a few inches in length, with the habit of a Perch: scales middle-sized: fins tinged with red. Native of the Indian seas.

PATCHED SPARUS.

Sparus Maculatus. *S. griseo-flavescens, supra nigro-varius.*

Yellowish grey Sparus, variegated above with black.

Anthias maculatus. *Block. t. 326.*

LENGTH about five inches: habit of a Perch: scales middle-sized: dorsal fin reddish at the tip: back crossed by two or three blackish bands and varied by several irregular spots. Native of the Indian seas.

ORIENTAL SPARUS.

Sparus Orientalis. *S. fulvus, nigro-fusco varius.*

Fulvous Sparus, variegated with blackish-brown.

Anthias Orientalis. *Bl. h. t. 326. f. 3.*

A SMALL species about four inches in length: head and fore-parts rather deep: mouth small: scales middle-sized: dorsal, anal fin, and tail varied with brown: eyes rather large: native of Japan.

CEPEDIAN SPARUS.

Sparus Cepedianus. *S. albus, lineis utrinque longitudinalibus flavis, cauda nigra albo-marginata.*

White Sparus, with longitudinal yellow lines on each side, and black tail bordered with white.

Lutian Blancor. *Cepede. 4. p. 240.*

SIZE rather small: native of the Indian seas: described by Cepede from Commerson.

PERCULINE SPARUS.

Sparus Percula. *S. aurantius, fasciis utrinque tribus transversis subcæruleis nigro-marginatis.*

Orange-coloured Sparus, marked on each side by three transverse blueish bands bordered with black.

Lutian Perchot. *Cepede. 4. p. 240.*

A VERY small species, observed by Commerson in the Indian seas: fins yellow, except the tail, which is coloured as mentioned in the specific character: scales of a lengthened shape near the ventral fins.

SEALED SPARUS.

Sparus Sigillatus. *S. ruber, fascia utrinque longitudinali pallidioræ, ellipsi utrinque postoculari rubro-flava.*

Red Sparus, marked on each side by a longitudinal paler stripe, and a yellow-red ellipse behind each eye.

Lutian jaune-ellipse. *Cepede. 4. p. 241.*

SIZE nearly that of a Perch: near each eye an elliptic spot, red on the outside and yellow on the inside: dorsal and anal fin bright-red: pectoral and ventral pale-red: tail varied with brown, and on the hind part of the dorsal fin are a few blackish spots: beneath the throat a black line: on the gill-covers four or five deep-red spots: front-teeth rather small, standing separate, and behind them others of a smaller size. Observed by Commerson in the Indian seas.

CLIMBING SPARUS.

Sparus Scandens. *S. olivaceus, subtus flavescens, oculis aureis.*

Olive-green Sparus, with yellowish abdomen, and gold-coloured eyes.

Perca scandens. Lin. Trans. 3. p. 62.

LENGTH about a span: skin covered by a blackish mucus: dorsal fin occasionally sunk in a longitudinal fossule: it has seventeen spiny, and eight soft rays: the pectoral fins have twelve rays: the ventral six, the tail eighteen, of which ten are spiny, the rest soft.

This fish is remarkable for its power of climbing, which it performs by the assistance of the spines of its gill-covers, moving itself at pleasure up the stems of trees growing near the waters it frequents. In this situation it was observed in the month of November 1791 at Tranquebar, by Lieutenant Baldorff, who communicated its description to Sir Joseph Banks. It was seen ascending a fissure in the stem of the palm called *Borassus flabellifer*, growing near a pool of water, and was observed to move itself forwards by alternately applying the spiny sides of the gill-covers to the sides of the fissure, assisting itself at the same time by the spines on each side the tail, and had already ascended to the height of more than five feet above the water when it was first observed: it was found to be very tenacious of life, moving about on dry sand, many hours after it was taken. The spines of the gill-covers are considered by the natives as of a poisonous nature.

CHÆTODONTOID SPARUS.

Sparus Chætodontoides. S., *maculis magnis albis fusco-punctatis, labiis extensilibus carnosis.*

. Sparus, with large white spots speckled with brown, and with extensile, fleshy lips.

Lutian chætodonoide. *Cepede, 4. p. 290.*

THIS species, says *Cepede*, exhibits on its whole surface large white patches marked either by one or more small dark spots, and is described from an individual in the National Museum of France.

This fish seems in some degree allied to the *Chætodon plectorynchus*, before described by the same author.

TWO-SPINED SPARUS.

Sparus Diacanthus. S., *corpore pinnisque fusco-punctulatis pinna anali biaculeata.*

. Sparus, freckled on the body and fins with dusky specks; the caudal fin biaculeated.

Lutian diacanthæ. *Cepede, 4. p. 240.*

DESCRIBED by *Cepede* from a dried specimen in the Prince of Orange's museum: teeth rather large, curved, and distant; with smaller behind. dorsal fin with eleven spiny and twenty-two soft rays: anal with two spiny and seven soft: pectoral with nineteen rays: ventral with one spiny and five soft: tail with eighteen rays.

CAYENNE SPARUS.

Sparus Cayanensis.

Lutian Cayenne. *Cepede. 4. p. 196.*

No mention is made of the size or colour of this fish by the Count de Cepede: in the dorsal fin are eleven spiny and nineteen soft rays: in the ventral one spiny and five soft: in the anal two spiny and seven soft: teeth equal and close: lower jaw rather longer than the upper. Native of Cayenne.

 TRIDENT SPARE.

Sparus Tridens. S. griseus, fasciis septem transversis caeruleis, cauda trifida.

Greyish Sparus, with seven transverse blue bands, and trifold tail.

Lutianus tridens. Cepede. 4. p. 246. Perca trifurca. Lin. Gmel.

NATIVE of the American seas: head beautifully variegated: third and fourth rays of the dorsal fin spiny, and lengthened by a setaceous filament.

TRILOBATE SPARE..

Sparus Trilobatus.. *S. operculis elongatis, cauda triloba.*

Sparus with elongated gill-covers, and trilobate tail.

Spare trilobé. *Cepede. 4. p. 196.*

TEETH small and equal: neck rising: lateral line imperceptible: dorsal fin marked by several unequal and irregular streaks situated between the rays: native country unknown: described by Cepede from a specimen in the Paris Museum.

A GENERAL apology must here be made for any inaccuracies which in a tribe so numerous as the present may occasionally have crept into the descriptions; and it is by no means improbable that some of these fishes may in reality be rather varieties than species truly distinct. Some of those observed by Commerson, and described by the Count de Cepede seem scarcely distinguished with sufficient accuracy, and indeed the specific characters in general, though composed with every possible attention to precision, must be regarded with a proper degree of indulgence. It is necessary to observe that in the present arrangement are included the genera of *Lutianus* and *Anchias*, as well as some of the Blochian Labri.

BLACK GOMPHOSUS.



VARIEGATED GOMPHOSUS.



GOMPHOSUS. GOMPHIOSUS.

Generic Character.

<i>Maxillæ</i> productæ in rostrum truncatum.	<i>Jaws</i> lengthened into a tubular snout.
<i>Dentes</i> minuti, anterioribus majoribus,	<i>Teeth</i> small: those in front larger.

THE genus *Gomphosus* instituted by the Count de Cépède, from the MSS. of Commerson, contains two species, both natives of the Indian seas, and both agreeing in the remarkable form of the mouth, which consists of a tubular process, somewhat truncated at the tip.

BLUE GOMPHOSUS.

Gomphosus Cæruleus. *G. totus cæruleus.*

Gomphosus entirely of a blue colour.

Le Gomphose bleu. *Cépède*. 3. p. 101.

THIS species is about the size of a tench, and entirely of a deep blue, with a blackish cast on the pectoral fins: the body is slightly arched above, and much more so beneath: the head is of moderate size, and is terminated by a lengthened snout, equal to about one seventh of the whole animal, and which bears some resemblance to that of a

bear: the upper jaw is somewhat extensile, and rather longer than the lower: each jaw is composed of a bone furnished with a single row of very small and close-set teeth, and the two front teeth in the upper jaw are larger than the rest: the inside of the month is smooth and blue: the head and gill-covers are plain: the rest of the body covered with large scales: the fins are of moderate size, and the tail crescent-shaped: the lateral line follows the flexure of the back as far as the dorsal fin, and from thence bending downwards runs strait to the tail: throughout its whole course it is marked with small streaks resembling Chinese characters. Native of the Indian seas.

VARIEGATED GOMPHOSUS.

Gomphosus Variegatus. *G. rubro flavo caeruleoque varius.*

Gomphose variegated with red, yellow, and blue.

Le Gomphose varié. *Cepedc.* 3. p. 104.

THIS, which is smaller than the former, was observed by Commerson about the coasts of Otaheitee, and is a very beautiful fish, exhibiting an elegant mixture of red, yellow, and blue, in which the yellow predominates, though the blue is sufficient to shew its alliance to the preceding species.

LABRUS. LABRUS.

Generic Character.

<i>Dentes</i> robusti, subacuti ; molares interdum, ut in Sparis, conferti, convexi: <i>labia</i> crassa, duplicata : <i>pinnæ dorsalis</i> radii in certis speciebus ramento elongati.	<i>Teeth</i> strong and subacute : the grinders sometimes, as in the Spari, convex and crowded : <i>lips</i> thick and doubled : rays of the <i>dorsal</i> <i>fin</i> , in some species, elon- gated into soft processes.
<i>Opercula</i> mutica, squamosa.	<i>Gill-covers</i> unarmed and scaly.

With divided or forked tail.

HEPAT LABRUS.

Labrus Hepatus. *L. rufescens, lineis transversis nigris, maxilla inferiore longiore, pinna dorsali macula nigra.*

Rufescent Labrus, with transverse black lines, lower jaw longer than the upper, and dorsal fin marked by a black spot.

Labrus Hepatus. *Lin.*

SNOOUT rather pointed : teeth small : palate furnished with a rough bone. Native of the Mediterranean, sometimes wandering into rivers.

EARED LABRUS.

Labrus Auritus. *L. griseus, subtilis luteus, operculis pinniformibus fusco-striatis, macula rubro-nigra terminatis.*

Grey Labrus, yellow beneath, with pinniform gill-covers marked by a black-and-red spot.

Labrus auritus. *Lin.*

SIZE and habit of a small Perch: gill-covers produced at the back part into a membranaceous tip: native of the Indian and American seas.

OYENA LABRUS.

Labrus Oyena. *L. oblongus argenteus (interdum rubro interrupte vittatus) squamis latis, pinnis glaucis.*

Oblong silvery Labrus (sometimes marked by interrupted red bands), with broad scales, and glaucous fins.

Labrus Oyena. *Lin. Gmel.*

LENGTH about six inches: teeth small and numerous: lips protractile: scales striated: native of the Arabian seas.

FALCATED LABRUS.

Labrus Falcatus. *L. argenteus, pinna dorsali analique falcatis.*

Silvery Labrus, with falcated dorsal and anal fin.

Labrus falcatus. *Lin. Gmel.*

HABIT of a Carp; or rather of a Bream: the five first soft rays both of the dorsal and anal fin elongated, giving those fins a falcated appearance: the spiny rays of the dorsal fin seven in number: teeth small and sharp: native of the American seas.

OPERCULATED LABRUS.

Labrus Operculatus. *L. griseus, fasciis decem transversis maculaque operculari fuscis.*

Grey Labrus, with ten brown dusky transverse bands and spot on the gill-covers.

Labrus operculatus. Lin. Gmel.

In the dorsal fin are thirteen spiny and seven soft rays : native of the Indian seas.

CEYLONESE LABRUS.

Labrus Zeylanicus. *L. viridis, subtus purpurascens, capite cæruleo, operculis purpureo-varitis.*

Green Labrus, purplish beneath, with blue head, and gill-covers variegated with purple.

Zeylon Wrasse. Pennant Ind. Zool. t. 13. f. 3.

A BEAUTIFUL species : length about eighteen inches : pectoral fins edged with blue, and marked in the middle by a purple spot : ventral fins blue : dorsal and anal blueish purple, with green edges : tail blue at the base, yellow in the middle, and striped on each side with red : native of Ceylon, where it is numbered among esculent fish.

RUFOUS LABRUS.

Labrus Rufus. *L. totus fulvus, squamis magnis, labiis duplicatis, cauda lunata.*

Fulvous Labrus, with large scales, doubled lips, and lunated tail.

Labrus rufus. *Lin. Gmel. IIog-Fish. Catesb. 2. t. 11. f. 1.*

GROWS to the length of about two feet: front teeth both above and below considerably larger than the rest, and sharp-pointed: colour of the whole fish rufous or orange-tawny. Native of the American seas.

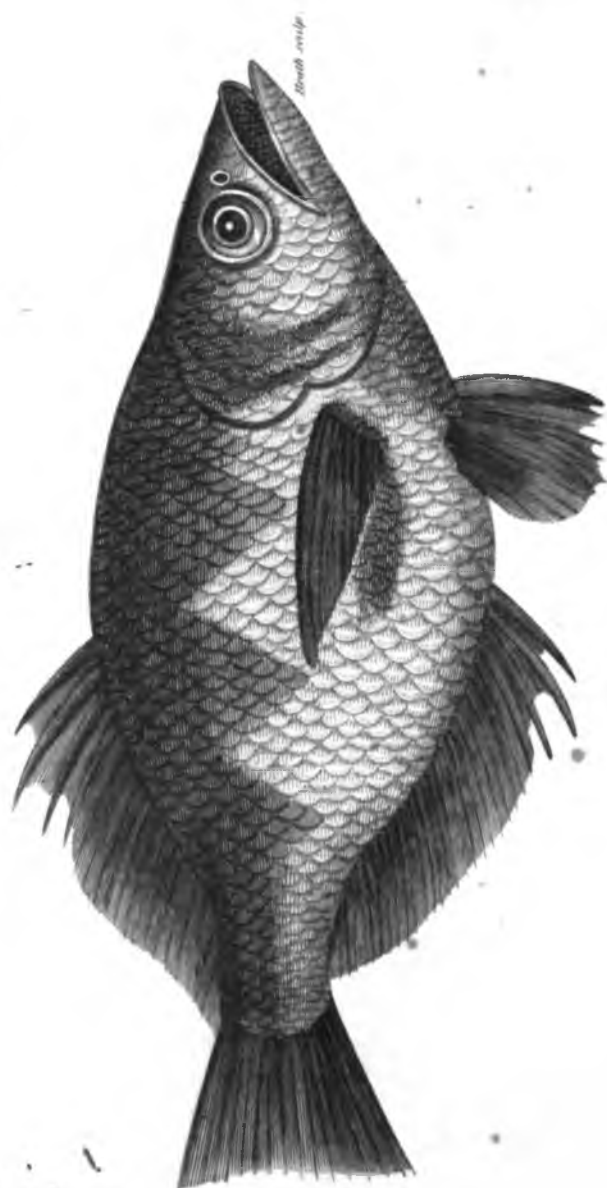
GREY LABRUS.

Labrus Griseus. *L. fusco-griseus, squamis magnis, dentibus primoribus majoribus, cauda lunata.*

Brownish-grey Labrus, with large scales, front teeth larger than the rest, and lunated tail.

Labrus griseus. *Lin. Gmel. p. 1283.*

LENGTH about fifteen inches: colour subferruginous or brownish grey: in each jaw two pretty strong and sharp-pointed front teeth: irides red: native of the American seas, and according to Catesby esteemed a pretty good food. Catesby, who has figured it under the name of the Mangrove Snapper, has (probably through oversight) represented it without pectoral fins.



JACULATOR LABRUS.

1803. July 1. Linnæus. Published by G. Barclay, Alder Street.

JACULATOR LABRUS.

Labrus Jaculator. *L. griseus flavo nebulosus, fasciis quinque transversis fuscis, maxilla inferiore longiore.*

Grey Labrus, clouded with yellow, with five transverse dusky bands, and lower jaw longer than the upper.

Labrus jaculatrix. *Phil. Trans. vol. 56. p. 187.*

Sciæna jaculatrix. *Lin. Gmel.*

Size of a Roach: mouth wide: scales middle-sized: first spines of the dorsal, anal, and ventral fin very strong: eyes rather large: nostrils placed pretty near the eyes: native of the Indian seas, preying on insects in the same manner as the *Chætodon Jaculator*.

LUNAR LABRUS.

Labrus Lunaris. *L. griseus violaceo tinctus, labiis plicatis, pinna caudali medio truncata, dorsali analique linea purpurea.*

Grey Labrus, tinged with violet, with plaited lips, caudal fin truncated in the middle, and dorsal and anal fin marked by a purple line.

Labrus lunaris. *Lin. Gmel.*

NATIVE of the American and Indian seas.

LONG-SNOURED LABRUS.

Labrus Longirostris. *L. griseus, lineis longitudinalibus strisque maculatis fuscis, rostro elongato.*

Grey Labrus, with brown longitudinal lines, spotted streaks, and elongated snout.

Labre long-museau. *Cepede. 3. p. 427.*

MENTIONED by Cepede from Commerson; native of the Indian seas.

HOOPED LABRUS.

Labrus Doliatus. *L. griseus, fasciis viginti-tribus transversis fuscis.*

Grey Labrus, with twenty-three transverse brown bands.

Labre cerclé. *Cep. 3. p. 429.*

MENTIONED by Cepede from Commerson; native of the Indian seas.

HIRSUTE LABRUS.

Labrus Hirsutus. *L. linea laterali spinosa.*

Labrus with lateral line roughened by spines.

Labre herissé. *Cepede.*

NATIVE of the Indian seas: observed by Commerson.

HALF-RED LABRUS.

Labrus Semiruber. *L. antice ruber, postice flavus.*

Red Labrus, with the hind part yellow.

Demi-rouge. *Cepede.*

MOUTH furnished with four teeth larger than the rest in the upper jaw: the sixteenth soft ray of the dorsal fin longer than the rest: dorsal and anal fin scaly at the base: native of the Indian and American seas: observed by Commerson.

 TRILOBATE LABRUS.

✓ Labrus Trilobatus. *L. lividus, capite maculato, cauda triloba, basi squamosa.*

Livid Labrus, with spotted head, and trilobate tail scaly at the base.

Cheiline trilobé. *Cepede.*

SIZE of a Carp: general colour blueish brown, the head and gill-covers marked with red and yellow specks: pectoral fins yellow: ventral varied with red: tail furnished on each side with three-or four nearly membranaceous appendages composed of a kind of lengthened floating scales: native of the African seas: observed by Commerson.

SCARE LABRUS.

Labrus Scarus. *L. albidus rubro mixtus, appendicibus transversis ad caudæ latera.*

Whitish Labrus mixed with red, with transverse appendages on each side the tail.

Labrus Scarus. *Lin. Gmel.* Cheiline Scare. *Cepede.*

LENGTH about twelve inches: scales large and thin: front teeth broad and blunt, resembling in some degree those of quadrupeds: native of the Mediterranean, swimming in shoals, and feeding principally on various kinds of fuci; in high esteem with the ancients as a food, and considered by the Romans as one of the principal delicacies of the table.

 CHAIN LABRUS.

Labrus Catenula. *L. albidus, capite fasciis duabus transversis nigris, corpore lineis utrinque octo fusco-maculatis.*

Whitish Labrus, with two black transverse bands on the head, and eight brown-spotted bands on each side the body.

L. Chapelet. Cepede.

COLOUR pale; in the upper jaw six large teeth: on the head two black transverse bands, and along each side the body eight rows of small dusky spots: back considerably arched. Native region uncertain: described by *Cepede.*

BLACK-BELLIED LABRUS.

Labrus Melagaster. *L. rufescens, pectore abdomine pinnisque nigricantibus.*

Rufescent Labrus, with the breast, abdomen, and fins black.

Labrus melagaster. *Bloch. t. 296.*

LENGTH about eight inches: scales large: pectoral and ventral fins lanceolate: dorsal ramentose on the fore part: mouth and teeth small: eyes yellow: native of the American seas.

BIFASCIATED LABRUS.

Labrus Bifasciatus. *L. glaucus, capite rufo, corpore antice fasciis duabus transversis fuscis, cauda fusco arcuata.*

Glaucous Labrus, with rufous head, body marked by two transverse brown bands, and tail by a brown crescent.

Labrus bifasciatus. *Bloch. t. 383.*

LENGTH about ten inches: shape elegant: scales large: dorsal and anal fin tinged with pale red: tail deeply lunated. Native of the Indian seas.

FOUR-SPINED LABRUS.

Labrus albidus, corpore utrinque macularum subrotundarum fuscarum seriebus quatuor.

Whitish Labrus, marked on each side with four rows of roundish brown spots.

Le tetracanthé. Cope.

SIZE not mentioned : tail freckled with ~~black~~ points : dorsal fin furnished with four spiny and twenty-one soft rays : native of the Indian seas ? mentioned by Cope.

DEMIDISC LABRUS.

Labrus Semidiscus. L. pallidus, fasciis novendecim transverse nigris, cauda lunula terminali pallida.

Pale Labrus, with nineteen transverse black bands, and tail marked by a pale terminal crescent.

Le demidisque. Cope.

MENTIONED by Cope from Commerson : native of the Indian seas.

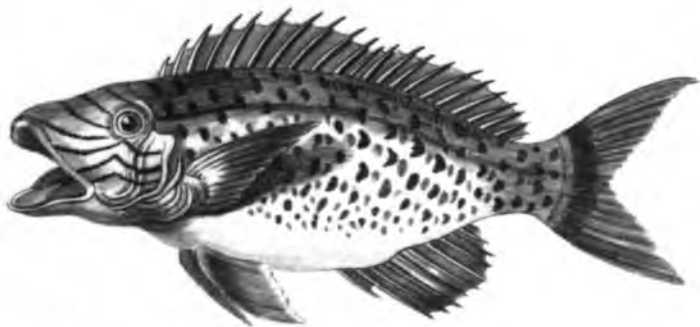
FORKED LABRUS.

Labrus Furcatus. L. maxilla inferiore longiore, radio ultimo pinnae dorsalis analisque elongato, cauda longa forficata.

Labrus with the lower jaw longer than the upper, the last ray of the dorsal and anal fin elongated, and long forked tail.

L. fourché. Cope.

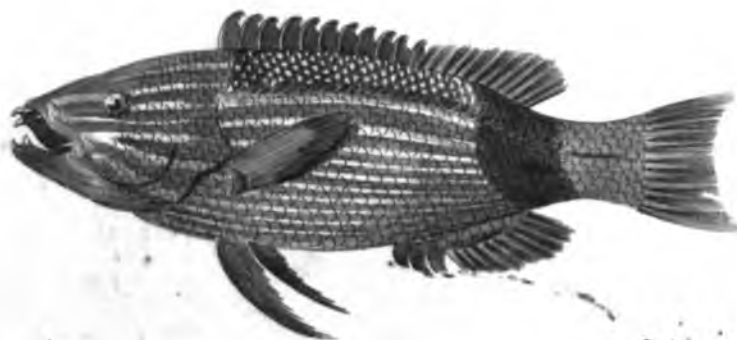
NATIVE of the Indian seas : observed by Commerson.



PLUMIER'S LABRUS



DEMIDISC LABRUS



HIRSUTE LABRUS.

SIX-BANDED LABRUS.

Labrus Sexfasciatus. *L. ore parvo, corpore fasciis sex transversis fuscis, cauda furcata.*

Labrus with small mouth, body marked by six transverse bands, and forked tail.

L. six-bandes. Cepede.

SNOUT lengthened : mouth small : lower jaw longer than the upper : six transverse bands across the body : native of the Indian seas : observed by Commerson.

BELLIED LABRUS.

Labrus Macrogaster. *L. corpore fasciis sex transversis, abdomine descendente, cauda furcata.*

L. with six transverse bands on the body, descending abdomen, and forked tail.

L. macrogastere. Cepede.

NATIVE of the Indian seas : observed by Commerson.

FILAMENTOUS LABRUS.

Labrus Filamentosus. *L. dorso fasciis quinque transversis, pinnæ dorsalis radiis quindecim spinosis ramentaceis.*

Labrus with five transverse dorsal bands, and fifteen spiny rays of the dorsal fin ramentose.

L. filamenteux. Cepede.

NATIVE of the Indian seas : observed by Commerson.

ANGULAR LABRUS.

Labrus , *corpore utrinque lincis fusco-punctatis, operculis angulosis, labiis tumidis, pinna dorsali postice dilatata.*

. . . . Labrus, marked on each side by brown-spotted lines, with tumid lips, angular gill-covers, and dorsal fin dilated behind.

L. anguleux. *Cepede.*

NATIVE of the Indian seas: observed by Commerson.

EIGHT-STRIPED LABRUS.

Labrus Octo-vittatus. *L. corpore fasciis utrinque quatuor subobliquis fuscis, dentibus superioribus majoribus.*

Labrus with the body marked on each side by five suboblique brown bands, and the upper teeth largest.

L. Huit-raies. *Cepede.*

NATIVE of the Indian seas: observed by Commerson.

PUNCTULATED LABRUS.

Labrus Punctulatus. *L., undique fusco punctulatus, ore magno, dentibus elongatis, maxilla inferiore longiore.*

. Labrus, spotted on all parts with brown points, with wide mouth, elongated teeth, and lower jaw longer than the upper.

L. moucheté. *Cepede.*

NATIVE of the Indian seas: observed by Commerson.

COMMERSONIAN LABRUS.

Labrus, *supra fusco-punctatus, dentibus fere aequalibus.*
 Labrus, spotted above with brown, and with nearly
 equal teeth.

L. Commersonien. *Cepede.*

UPPER parts marked with small round equal-sized black spots: teeth of both jaws nearly equal: in the dorsal fin nine spiny and sixteen soft rays: in the anal one spiny and seventeen soft: native of the Indian seas: observed by Commerson.

SMOOTH LABRUS.

Labrus Lævis. *L. squamis minutis, dentibus magnis curvis, maxilla inferiore longiore.*

Labrus with very small scales, large curved teeth, and lower jaw longer than the upper.

L. lisse. *Cepede.*

BODY covered with scales so small as to be very difficultly distinguished: lower jaw longer than the upper: teeth large, crooked, and of equal size: tail slightly lunated. Native of the Indian seas: observed by Commerson.

LARGE-FINNED LABRUS.

Labrus Macropterus. L. . . . , *pinna dorsali analique magnis ramentaceis.*

Labrus with large, ramentaceous dorsal and anal fin.

L. macroptere. *Cepede.*

TAIL slightly lunated : behind the gill-covers, on each side, a round black spot. Native of the Indian seas : observed by Commerson.

FIFTEEN-SPINED LABRUS.

Labrus Quindecim-aculeatus. L. . . . , *corpore supra fasciis sex transversis fuscis, pinna dorsali radiis quindecim aculeatis.*

Labrus marked above by six transverse brown bands, and with fifteen spiny rays in the dorsal fin.

L. Quinze-epines. *Cepede.*

UPPER jaw longer than the lower : teeth small and equal : six transverse bands over the neck and back.

GREAT-HEADED LABRUS.

Labrus Macrocephalus. L. *capite grandi, dentibus distinctis, pinnis pectoralibus trapeziformibus.*

Labrus with large head, distinct teeth, and trapeziform pectoral fins.

Le Macrocephale. *Cepede. 3. p. 432.*

HEAD large and greatly arched upwards from the mouth into the curvature of the back : lower

jaw rather longer than the upper: teeth curved, equal, and distant: pectoral fins trapeziform: native of the Indian seas: observed by Commer-son.

PLUMIER'S LABRUS.

Labrus Plumieri. *L. ceruleo luteoque maculatus, pinnis luteis.*

Labrus spotted with blue and yellow, with yellow fins.

L. Plumerien. *Cepede. 3. p. 432.*

MENTIONED by Cepede from a drawing by Plumier: native of the American seas.

GOUAN'S LABRUS.

Labrus Gouanii. *L., linea laterali inconspicua, appendice thoracica subacuta.*

. Labrus, with inconspicuous lateral line, and subacute thoracic appendage.

L. Gouan. *Cepede. 3. p. 433.*

NINE-SPINED LABRUS.

Labrus Enneacanthus. *L., squamis magnis, corpore fasciis sex transversis, cauda duabus.*

. Labrus, with large scales, six transverse bands on the body, and two on the tail.

L. enneacanthus. *Cepede.*

In front of each jaw four large curved teeth: lateral line interrupted: nine sharp, and ten soft

rays in the dorsal fin : native region unknown : mentioned by Cope from a specimen in the Prince of Orange's collection.

RED-LINED LABRUS.

L. subfuscus, lineis utrinque duodecim longitudinalibus rubris, macula ocellata in pinna dorsali.

Brownish Labrus, with twelve longitudinal red lines on each side, and an ocellate spot on the dorsal fin.

L. rouge-raies. Cope.

BROAD-STRIPED LABRUS.

Labrus Latovittatus. *L. subfuscus?* vitta utrinque longitudinali lata.

Brownish ? Labrus, marked on each side by a broad longitudinal stripe.

L. large-raie. Cope.

NATIVE of the Indian seas : observed by Commerson.

UNDULATED LABRUS.

Labrus Undulatus. *L. viridis*, lineis flavescentibus transversim undulatus, abdomine capiteque flavis viridi-striatis.

Green Labrus undulated with transverse yellow lines, with the head and abdomen yellow striped with green.

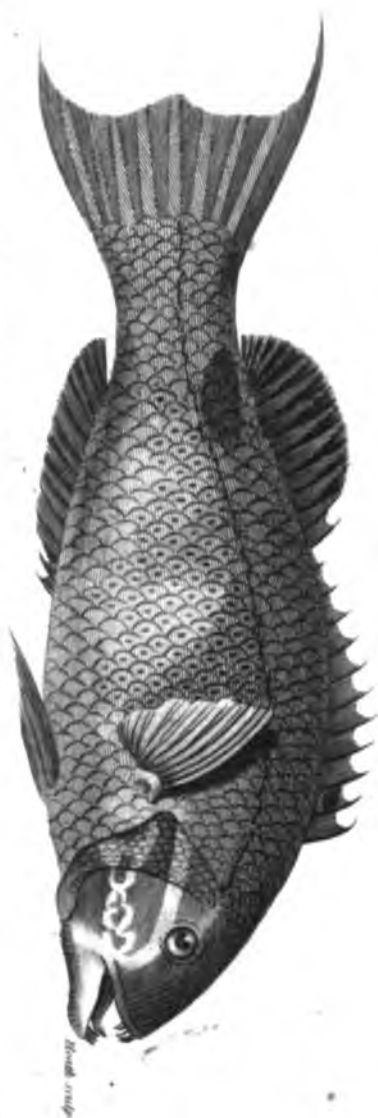
Labrus viridis. Bloch. t. 282.

LENGTH about twelve inches : habit rather slender : colour deep green, scales large, and edged

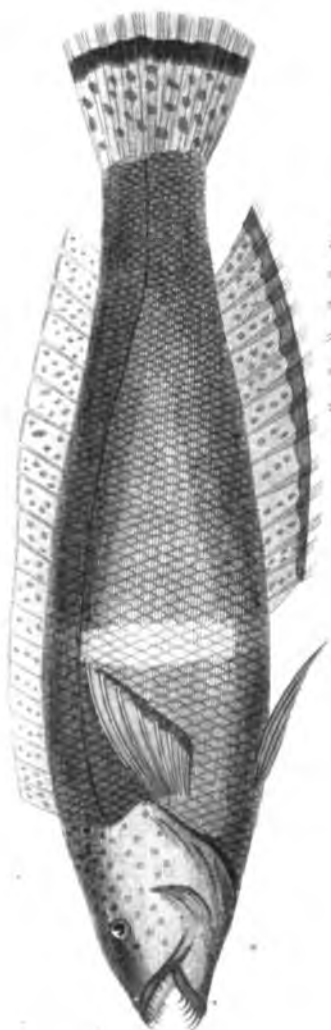
BROAD-STRIPED LABRIS



LABRIS LACINIOSA (Forsk.)



mouth open

LURE FISH, *Urophycis*

Head only.

ANATED LABRUS

with yellow; so as to form numerous obliquely transverse undulations over the whole body: head pale yellow, and marked on each side by green stripes, one or two of which are continued down the fore part of the abdomen: dorsal and anal fin yellow, edged with green: tail obscurely trilobate, with long forks. Native of Japan.

 ANNULATED LABRUS.

Labrus Annulatus. L., *squamis minutis, fuscis utrinque novendecim fuscis, cauda subtriloba.*

. Labrus, with minute scales, subtrilobate tail, and body surrounded by nineteen dusky bands.

L. annelé. Cope.

NATIVE of the Indian seas: observed by Com-merson.

 BRASILIAN LABRUS.

Labrus Brasiliensis. L. flatus, dorso lunulis cæruleis, pinna dorsali analique cæruleo striatis.

Yellow Labrus, with the back marked by blue crescents, and the dorsal and anal fin with blue stripes.

Labrus Brasiliensis. Bloch. t. 230.

LENGTH about twelve inches: habit that of a tench: colour beautiful yellow, the scales on the back being edged with blue, thus giving the appearance of numerous blue crescents on that part: pectoral, ventral fins, and tail blue: the latter

slightly trilobate : dorsal and anal fin yellow, with two blue stripes across the whole length of each : native of Brasil.

With strait or rounded tails.

PEACOCK LABRUS.

Labrus Pavo. *L. viridi, cæruleo, rubro, flavoque varius.*

Labrus variegated with green, blue, red, and yellow.

Labrus Pavo. *Lin. Gmel. Pavo. Salvian. Turdus perbella dictus. Will. p. 322. t. X. 3.*

LENGTH about twelve inches : body and tail green mixed with yellow, and beset, as well as the gill-covers, with red and blue spots : a large brown spot near each pectoral fin, and a similar one on each side the tail. Native of the Mediterranean, as well as of the Indian seas.

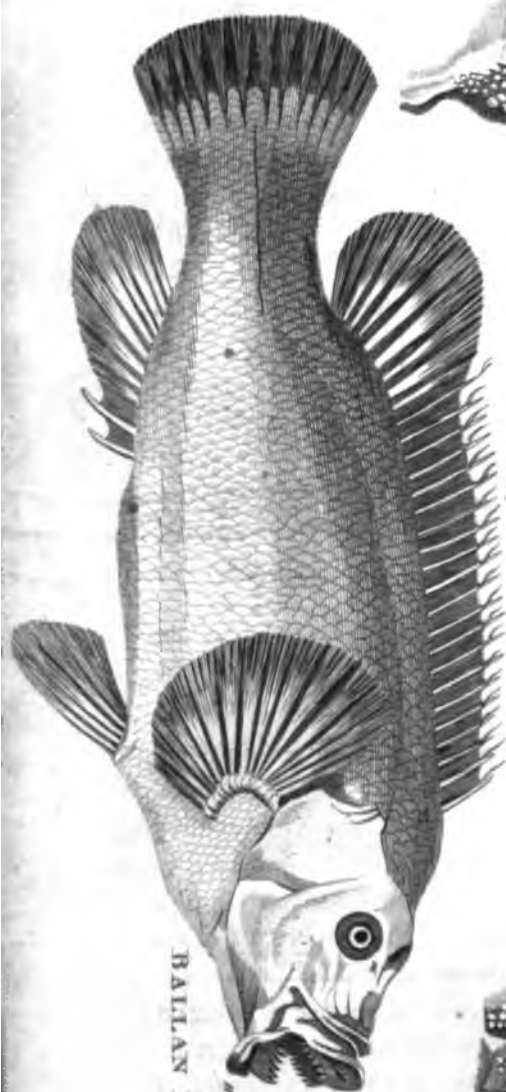
BALLAN LABRUS.

Labrus Ballanus. *L. flavus, fulvo-maculatus, labiis reflexis, pinna dorsali ramentacea.*

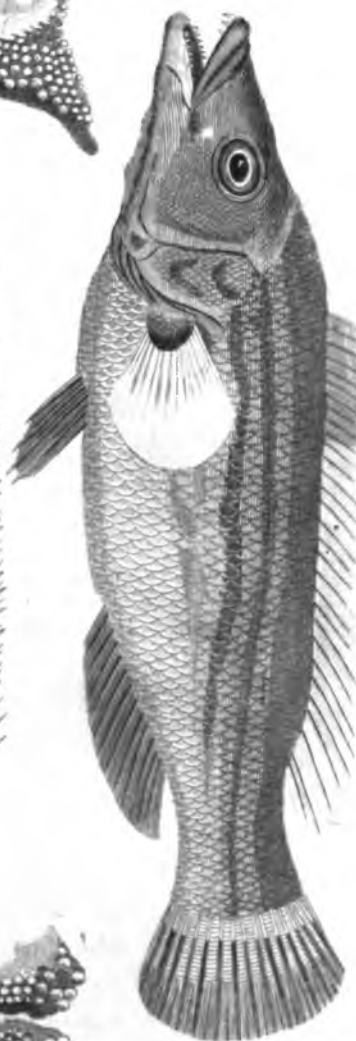
Yellow Labrus, with fulvous spots, reflex lips, and ramentose dorsal fin.

Ballan Wrasse. *Penn. Brit. Zool.*

THE weight of this species, according to Mr. Pennant, is about five pounds : form rather broad : between the dorsal fin and tail a considerable depression : above the nose a deep furrow ; and on



BALLAN LABRUS.

with scales

STRIPED LABRUS.



the gill-covers a radiated depression : the dorsal fin has twenty spiny, and ten soft rays : the pectoral fourteen rays : the ventral six, of which the first is short and spiny : the anal twelve, of which the three first are spiny : the tail is marked between each ray with a row of scales reaching about a third part of the tail : the general colour of the fish is yellow, spotted and marked with orange. This species, according to Mr. Pennant, appears annually in great shoals off Filey bridge near Scarborough.

 ANCIENT LABRUS.

Labrus Tinca. L. rubens (sæpe caruleo, rubro, flavoque varius), pinna dorsali ramentacea, labiis reflexis.

Reddish Labrus (often varied with blue, red, and yellow), with ramentaceous dorsal fin, and reflex lips.

Labrus Tinca. Lin. Turdus vulgatissimus. Will. p. 319.
 Ancient Wrasse. Penn. Brit. Zool.

Size and habit of a Carp or rather of a Tench : scales large : nose prominent : lips large, doubled, fleshy, reflex, and retractile : eyes red : teeth disposed in two rows, the first being conic, the second very minute, and as if designed for supporters to the rest : in the throat three tuberculated bones, two above, and one below : these serve to comminute the testaceous food on which the animal chiefly lives : general colour red, more or less tinged either with orange or brown, but sometimes elegantly varied with blue, red, and yellow : pectoral fins large and rounded : native of the European seas, and usually found in deep waters about rocky coasts.

VAR. ?

THE variety described in the eleventh volume of the Naturalist's Miscellany was of a whitish colour, with a dusky blueish tinge on the back: the whole body variegated with irregular orange-red spots and streaks, those about the gill-covers and abdomen flexuous: all the fins red; spotted and streaked with blue.

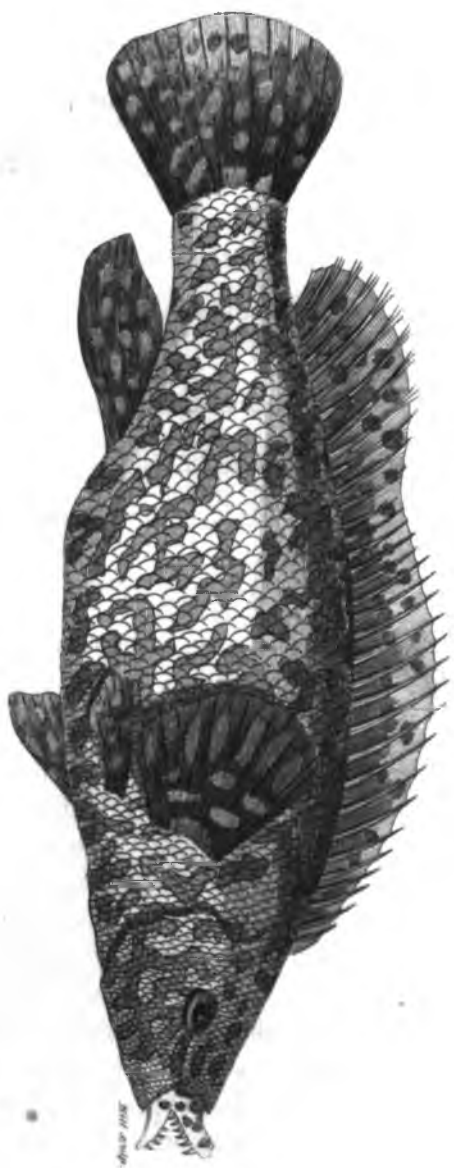
 VARYING LABRUS.

Labrus Turdus. *L. viridis, albo, luteo, vel rubro variatus.*

Green Labrus, with white, yellow, or red variegations.

Labrus Turdus. *Linn. Gmel. Turdus viridis major. Will. p. 322. ?*

LENGTH about ten or twelve inches: front teeth larger than the rest: general colour yellowish green, often varied with white or whitish spots and streaks; and sometimes with orange or red, with the abdomen silvery. It is said to admit of three principal varieties, viz. 1. yellow, with white spots, accompanied by some black ones above, and some red streaks on the sides, the abdomen silvery, streaked with red, and the fins red, spotted with white: 2. green, with the pectoral fins yellow, and the ventral blueish: 3. green, above, with gold-coloured spots about the mouth, and the abdomen yellow, with irregular white spots bordered with red; the lateral line being marked by a row of white spots. Native of the Mediterranean.



ANCIENT LABRUS, *var. v.*

From the collection of the British Museum, London.

GREEN LABRUS.

Labrus Viridis. *L. viridis, subtus flavescentes, corpore utrinque fascia longitudinali caerulea.*

Green Labrus, yellowish beneath, with a longitudinal blue stripe on each side the body.

Labrus viridis. *Lin. Gmel. L. Psittacus. Cope.*

Turdus viridis, seu decimus Bondeletii. Will. p. 320.?

Native of the Mediterranean: said to vary occasionally in its colours.

 STRIPED LABRUS.

Labrus variegatus. L. ruber, atris utrinque longitudinalibus quatuor olivaceis, totidemque caeruleis.

Red Labrus, longitudinally marked on each side with four olive and four blue stripes.

Labrus variegatus. Lin. Gmel. Striped Wrasse. Penn. Brit. Zool.

GENERAL shape resembling the rest of the oblong Labri: length about ten inches: beginning of the back a little arched: lips large, double, and reflex: back and abdomen red: sides marked with four parallel olive-green, and as many bright-blue stripes: at the base of the pectoral fins a dark-olive spot: dorsal fin marked at the beginning with a broad band of rich blue; the middle part white, the rest red: tail blue at the upper, and yellow at the lower half. Native of the European seas; the specimen described in the British Zoology was taken off the *Skerry Isles*, on the coast of *Anglesea*.

BIMACULATED LABRUS.

Labrus Bimaculatus. L. griseus, macula atrinque media rotundata fusca, alteraque ad caudam.

Grey Labrus, marked on each side by a spot on the middle of the body, and a second near the tail.

Labrus bimaculatus. Lin. Gmel. Sciaena, &c. Lin. Mus. Ad. Frid. p. 66. Bimaculated Wrasse. Penn. Brit. Zool.

BODY pretty deep, and of a light colour, with two brown spots on each side, as mentioned in the specific character. Native of the European seas: found about the coasts of Cornwall.

 TRIMACULATED LABRUS.

Labrus Trimaculatus. L. ruber, squamis magnis, maculis tribus nigris ad finem dorsi.

Red Labrus, with large scales, and three black spots towards the end of the back.

Labrus trimaculatus. Lin. Gmel. Labrus carneus. Bloch. t. 289.

Labrus ruber. Ascan. No. 2. t. 13. Trimaculated Wrasse. Penn. Brit. Zool.

SHAPE oblong: length about ten inches: teeth rather slender: fore-teeth much longer than the rest: colour rose-red: scales large: fins, except the pectoral and ventral, edged with blue. Native of the European seas: that described by Mr. Pennant taken off the coast of Anglesea.

COMBER LABRUS.

Labrus Comber. *L. gracilis miniatus, subtus flavus, fuscia utrinque longitudinali argentea.*

Slender red Labrus, yellow beneath, with a longitudinal silvery streak on each side.

Comber Wrasse. *Penn. Brit. Zool.*

BACK, fins, and tail red; belly yellow, and on each side the body, beneath the lateral line, a silvery streak from gills to tail. Native of the British seas: observed by Mr. Jago about the coasts of Cornwall, and received by Mr. Pennant from the same parts.

COOK LABRUS.

Labrus Coquus. *L. gracilis purpureus et obscure cæruleus, abdomine flavo.*

Slender Labrus of a purple and dark-blue colour with yellow abdomen.

Labrus Coquus. *Lin. Gmel. Cook Wrasse. Penn. Brit. Zool.*

SHAPE similar to that of the Comber: back purple and dark-blue: belly yellow: inhabits the coasts of Cornwall.

CORNUBIAN LABRUS.

Labrus Cornubicus. L. rubens, pinnis flavis, radiis pinnae dorsalis nigris, maculaque utrinque nigra ad caudam.

Reddish Labrus, with yellow fins, the rays of the dorsal fin black, and a black spot on each side near the tail.

Labrus Cornubicus. Lin. Gmel. Gold-Finny. Penn. Brit. Zool.

ALLIED in habit to the *L. Tinca*, being similar in the form of the body, teeth, lips, and fins, but is said never to exceed a palm in length: near the tail a black spot, and the first rays of the dorsal fin tinged with black: mentioned by Mr. Pennant from Mr. Jago, who observed it about the coast of Cornwall: the colours are not particularly specified, but from its being compared to the *L. Tinca* we may suppose them nearly the same, and from the name *Gold-finny* it should seem that the fins are yellow.

LEOPARD LABRUS.

Labrus Leopardus. L. fusco-punctatus, squamis inconspicuis, linea nigra ab oculis super opercula.

. Labrus, speckled with brown, with inconspicuous scales, and a dark line from the eyes over the gill-covers.

L. Leopardus. Cope.

HEAD, body, dorsal, and anal fin, and tail marked with dark spots composed of smaller ones: tail marked by a deep-black band: two teeth larger than the rest in front of each jaw. Native of the Indian seas: observed by Commerson.

MARGINAL LABRUS.

Labrus Marginalis. *L. fuscus, pinna dorsali analique rufo marginatis.*

Brown Labrus, with the dorsal and anal fin bordered with rufous : native of the Indian seas.

OCELLATE LABRUS.

Labrus Ocellaris. *L. pinna dorsali ramentacea, oculo in medio ad basin caudæ.*

Labrus with the dorsal fin ramentose, and marked by an ocellate spot near the base of the tail.

L. ocellaris. Lin. Gmel.

BLACK-EYED LABRUS.

Labrus Melops. *L. pinna dorsali ramentacea anique variegata, lunula fusca pone oculos. Lin. Gmel.*

Labrus with the ramentose dorsal fin and tail variegated, and a dusky crescent behind the eyes.

DESCRIBED by Linnæus in the second part of the *Mus. Ad. Frid.* Native of the European seas.

NILOTIC LABRUS.

Labrus Niloticus. *L. albidus, pinna dorsali anali caudalique nebulatis.*

Whitish Labrus, with the dorsal, anal, and caudal fins clouded.

Labrus Niloticus. *Lin. Gmel.*

DESCRIBED by Linnæus in the second part of the *M. A. F.* Native of the Nile.

BROWED LABRUS.

Labrus Luscus. *L. flavescens, pinnis luteis, palpebra superiore nigra.*

Yellowish Labrus, with deep-yellow fins, and black upper eye-lids.

L. luscus. Lin. Gmel.

MENTIONED by Linnæus in the second part of the *M. A. F.* Native regions unknown.

CINEREOUS LABRUS.

Labrus Cinereus. *L. griseus, obscurius punctatus, pinnis rubris, macula ad basin caudæ nigra.*

Grey Labrus, with dusky specks, red fins, and black spot at the base of the tail.

L. griseus. Lin. Gmel. p. 1296.

A SMALL species: length about three inches: shape oblong and compressed: eyes green: cheeks marked by a few blue lines. Native of the Mediterranean.

MIXED LABRUS.

Labrus Mixtus. *L. e flavo cæruleoque varius, dentibus anterioribus majoribus.* *Lin. Gmel. p. 1297.*

Labrus varied with a mixture of blue and yellow, with the front teeth larger than the rest.

UPPER parts blue, lower yellow, clouded with brown variegations: front teeth larger than the others: native of the Mediterranean: suspected by Gmelin to be a variety of the *L. Pavo*.

 FULVOUS LABRUS.

Labrus Fulvus. *L. fulvus, rictu amplo, maxilla inferiore longiore.*

Fulvous Labrus, with wide mouth, and lower jaw longer than the upper.

L. fulvus. Lin. Gmel. Yellow-Fish. Catesb. Car. 2. t. 10.

LENGTH about ten inches: native of the American seas.

 DARK LABRUS.

Labrus Merula. *L. nigro-cæruleus, squamis magnis, dentibus curvis.*

Blackish-blue Labrus, with large scales, and curved teeth.

L. Merula. Lin. Gmel. Aldrov. p. 35. ? ?

LENGTH about twelve inches: eyes red. Native of the European seas: said to vary sometimes into whiteness.

FULIGINOUS LABRUS.

Labrus Fuliginosus. *L. capite viridi rubro luteoque vario, corpore fasciis transversis quatuor vel quinque fuscis.*

Labrus with head varied with green, red, and yellow, and body marked by four or five transverse dusky bands.

L. fuliginosus. Cope.

MENTIONED by Cope from Commerson: native of the Indian seas.

FUSCOUS LABRUS.

Labrus Fuscus. *L. fuscus, fasciis utrinque duabus longitudinalibus viridibus.*

Brown Labrus, with two longitudinal green bands on each side.

L. brun. Cope. 3. p. 437.

THE two front teeth in each jaw longer than the rest: dorsal and anal fin bordered with green: pectoral light green: ventral yellow at the base, and brown at the tips: lateral line branched. Described by Cope from Commerson: native of the Indian seas.

MARbled LABRUS.

Labrus Marmoratus. *L. maculis fuscis albidisque marmoratus.*

Labrus marbled with brown and whitish variegations.

L. marbré. Cope.

ALMOST the whole surface of the animal scattered over with small dark spots, accompanied by larger whitish ones, so as to appear marbled: teeth equal and distinct: native of the Indian seas: observed by Commerson.

LARGE-TAILED LABRUS.

Labrus, *supra striis plurimis longitudinalibus fuscis, cauda magna nigricante.*

Labrus marked above by numerous longitudinal brown streaks, with large dusky tail.

L. large-queue. Cope.

DORSAL fin dusky on the back-part, and marked in front by a dusky spot: anal fin dusky: mouth small: teeth strong and triangular: native of the Indian seas: observed by Commerson.

CRENULATED LABRUS.

Labrus Crenulatus. *L. flavus, dorso purpureo, pinnæ a capite ad caudam continuata, dentibus crenulatis.*

Yellow Labrus, with purple back, dorsal fin continued to the tail, and crenulated teeth.

L. Cinædus. Lin. Gmel.

NATIVE of the Mediterranean: esteemed as an edible fish.

PARTERRE LABRUS.

Labrus Hortulanus. L. corpore caudaque striis decussatis, macula inter singulas areolas.

Labrus with body and tail marked by decussating stripes, and a spot in each division.

L. Parterre. Cope.

MENTIONED by Cope from Commerson, who observed it in the Indian seas.

PARRAKEET LABRUS.

Labrus Psittaculus. L. viridis, fasciis utrinque tribus longitudinalibus rubris, pinna dorsali flava, fascia longitudinali rubra.

Green Labrus, with three longitudinal red stripes on each side, and yellow dorsal fin marked by a longitudinal red band.

L. Perruche. Cope.

A BEAUTIFUL species: over each eye a black streak, and a red band bordered with blue from the eye to the beginning of the dorsal fin, and along the edges of the gill-covers: anal fin yellow, with a red border: tail yellow, with four or five curved transverse bands of red and blue: native of the American seas: described by Cope from a drawing by Plumier.



TRIOBATE LABRUS.

From the collection of the British Museum.



LABRIDAE LABRUS.

From the collection of the British Museum.

BLOOD-SPOTTED LABRUS.

Labrus Cruentatus. *L. argenteus, maculis magnis irregularibus sanguineis tessellatus, pinnis flavis.*

Silvery Labrus, tessellated with large irregular blood-red spots, with yellow fins.

L. ensanguiné. Cope.

TEETH small, short, and separate: eyes very large: lateral line near the back: end of the tail of smaller diameter than the base: described by Cope from a drawing by Plunier: native of the American seas.

FULL-EYED LABRUS.

Labrus Calops. *L. argenteus, dorso fusco, squamis magnis, oculis grandibus nigris.*

Silvery Labrus, with dusky back, large scales, and very large black eyes.

L. Calops. Cope.

NATIVE of the Mediterranean, near the mouths of the rivers of the ancient *Neustria**: a large dusky patch over the base of each of the pectoral fins.

* Comprehending Normandy, &c.

ASCANIAN LABRUS.

Labrus Ascanii. *L. supra ruber, maculis striisque viridibus, subtilus flavescens punctis rubris.*

Labrus with the upper parts red, varied by green spots and streaks, and the under parts yellowish specked with red.

L. rone. *Cepede.* *Le Rone. Ascan. t. 14.*

LENGTH about seven inches: dorsal and anal fin red, with two or three green stripes: tail green, tipped with red. Native of the Northern seas.

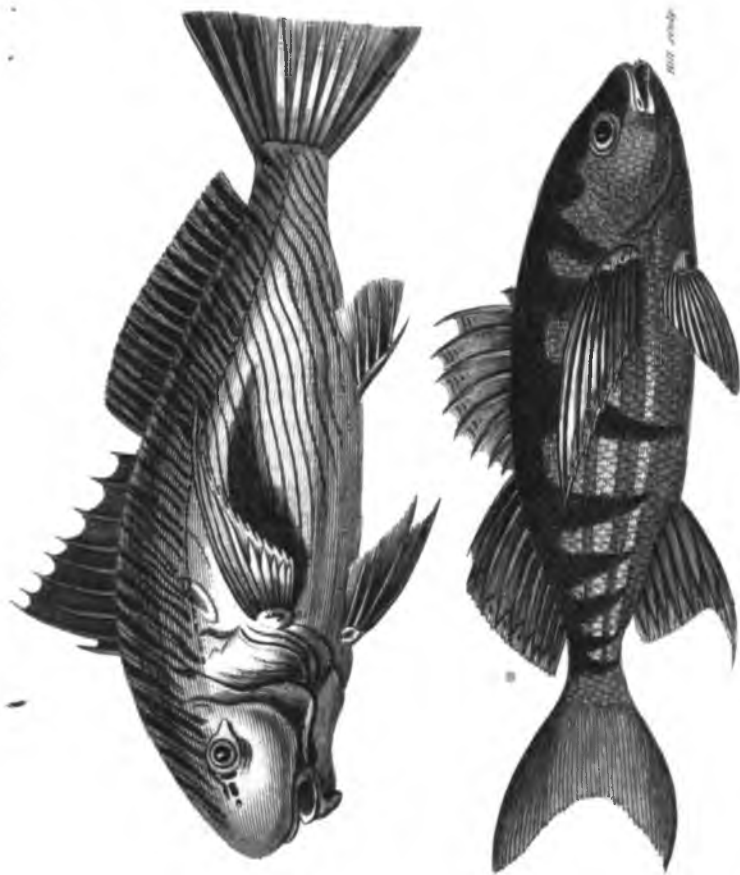
 BEAUTIFUL LABRUS.

Labrus Formosus. *L. ruber, striis longitudinalibus flexuosis interruptis cæruleis, pinnis cæruleo marginatis.*

Red Labrus, with longitudinal, interrupted, flexuous blue streaks, and fins edged with blue.

Paon bleu. *Ascan. t. 12.* *Sparus formosus.* *Nat. Misc. 1. pl. 31.*

LENGTH about twelve inches: back of a deep, purplish red: belly inclining to yellow: dorsal fin marked at its origin by a broad patch of blue: gill-covers varied with blue streaks: scales rather large than small: a very beautiful species: allied to the *Striped Labrus*: extremely well figured both in the work of *Ascanius*, and in the *Naturalist's Miscellany*; the latter figure being taken from a specimen in the *Leverian Museum*.



CHEILODIPTERE CHRYSOPTERE. *tipula*

W. H. H. 1854. London. Published by G. Knapp, Fleet Street.

BULL-EYED LABRUS.

Labrus Boops. *L. maxilla inferiore longiore, oculis permagnis, pinnis dorsalibus duabus.*

Labrus with the lower jaw longer than the upper, very large eyes, and two dorsal fins.

Labrus Boops. *Lin. Gmel.*

— TEETH in the lower jaw large and sharp : eyes extremely large : native of Japan.

BLUE-FINNED LABRUS.

Labrus Cyanopterus. *L. supra rubro flavo viridique varius, subtus viride fuscoque, pinnis caeruleis.*

Labrus varied above with red, yellow, and green, beneath with green and brown, with blue fins.

Cheilodiptere cyanoptere. *Cepede.*

A BEAUTIFUL species : body above the lateral line varied with undulated oblique stripes of yellow, green, and red ; below the lateral line with brown and green : pectoral, ventral and anal fins yellow, the dorsal fins and tail blue : beneath the lower jaw a short cirrus : native of the American seas : described by Cepede from a drawing by Plumier : perhaps more properly belonging to the genus *Sciæna* than *Labrus*.

CHEQUERED LABRUS.

Labrus Centiquadrus. *L. albido purpurcoque tessellatus.*

Labrus tessellated with alternate purple and whitish marks.

L. echiquier. Cope.

HEAD and fins varied with red: whole body tessellated with blackish-purple and whitish areolæ: a black spot on each of the pectoral fins: tail yellow: size not mentioned: native of the Indian seas: observed by Commerson.

SMALL-SCALED LABRUS.

Labrus Microlepidotus. *L. argenteus, dorso subfusco, pinnis albis.*

Silvery Labrus, with brownish back and white fins.

L. microlepidotus. Bloch. t. 292.

LENGTH about twelve inches: colour silvery, tinged with yellowish brown on the back, and dorsal fin: rest of the fins white: scales rather small for the size of the fish. Native regions unknown: described by Dr. Bloch from a specimen in the Linkian collection at Leipzig.

GIRDLED LABRUS.

Labrus Cingulum. *L. antice lividus, postice fuscus, cingulo intermedio albedo, capite punctis atropurpureis.*

Labrus with the fore-parts livid, the hind-parts brown, with an intermediate white girdle.

L. Cingulum. Cepede.

DORSAL fin edged with white: at the tip of the gill-covers a black spot edged with white. Native of the Indian seas: observed by Commerson.

DIANA LABRUS.

Labrus Diana. *L., lunulis fuscis maculatus.*

. Labrus, spotted with brown crescents.

L. Diane. Cepede.

MENTIONED by Cepede from Commerson: native of the Indian seas: in the upper jaw are four large teeth, and in the lower two.

GREAT-TOOTHED LABRUS.

Labrus Macrodon. *L. dentibus quatuor magnis curvis.*

Labrus with four large curved teeth.

L. Macrodon. Cepede.

SCALES rather large: hind part of the head ascending: four strong curved teeth at the tip of each jaw, and one on each side the corners of the mouth: native regions unknown.

NEUSTRIAN LABRUS.

Labrus Neustriæ. *L. dorso fusco luteo et subviridi, lateribus fusco luteo alboque marmoratis.*

Labrus with the back varied with brown, yellow, and greenish, the sides marbled with brown, yellow, and white.

L. Neustriæ. *Cepede.*

TEETH equal, strong, and separate: dorsal fin marked with the same colours as the sides: pectoral, ventral, anal, and caudal of the same colour with the back: inhabits the Mediterranean.

 PERDIC LABRUS.

Labrus Perdica. *L. dorso recto, vittis utrinque longitudinalibus undulatis subflavis, pinnis pectoralibus basi macula cærulea.*

Labrus with straight back, marked on each side with longitudinal, undulated, yellowish stripes, and a black spot at the base of the pectoral fins.

L. Perdica. *Cepede.*

HEAD brown: dorsal and anal fin red: native of the Arabian seas: described by Forskal.

SOFT-BACKED LABRUS.

Labrus Malapteronotus. *L.* , *maxilla inferiore longiore, fasciis utrinque longitudinalibus * albidis, pinna dorsali molli**.

. *Labrus*, with the lower jaw longer than the upper, longitudinal? whitish bands on each side, and soft dorsal fin.

L. Malapteronote. *Cepede*.

FRONT teeth in the lower jaw inclining forwards: head and gill-covers destitute of scales: gill-covers terminated by a dark-coloured spot: dorsal fin furnished with soft rays only: native of the Indian seas.



GUAZA LABRUS.

Labrus Guaza. *L. fuscus, cauda rotundata ramentacea.*

Brown Labrus, with rounded ramentose tail.

L. Guaza. *Cepede*.

OBSERVED by Leoffling: native of the European seas.

* Many of the specific characters affixed to the Labri must be received with proper latitude, and are by no means to be regarded as absolutely decisive, it being hardly possible to form such.

 OBSCURE LABRUS.

Labrus Exoletus. *L. corpore lineis longitudinalibus cæruleis, pinna dorsali ramentacea.*

L. with blue longitudinal lines on the body, and ramentose dorsal fin.

L. exoletus. Lin. Gmel. Cinque-Epries. Cope.

ANAL fin furnished with five sharp rays and eight soft: native of the Mediterranean and Northern seas.

 CHINESE LABRUS.

Labrus Chinensis. *L. pinna dorsali ramentacea, corpore livido, vertice retuso. Lin. Gmel. p. 1291.*

Livid Labrus with retuse head, and ramentose dorsal fin.

DESCRIBED in the above specific character by Dr. Gmelin: native of China.

 JAPANESE LABRUS.

Labrus Japonicus. *L. totus flavissimus.*

Labrus entirely of a deep yellow.

L. Japonicus. Lin. Gmel.

DESCRIBED by Houttyn in the 20th vol. of the Haarlem Transactions: length six inches: teeth small: colour of the whole fish deep yellow.

LINEAR LABRUS.

Labrus Linearis. *L. oblongus albidus, pinnae dorsalis radio ultimo inermi.*

Oblong Labrus, with the last ray of the dorsal fin soft.

L. linearis. Lin. Gmel.

BODY of an elongated form: head compressed: dorsal fin very long, with twenty sharp rays and one soft: described by Linnæus in the first volume of the *Amœnitates Academicæ*. Native of the American and Indian seas.

 LUNULATED LABRUS.

Labrus Lunulatus. *L. fusco-virescens, squamis singulis fascia ferruginea, capite pectoreque rubro guttatis.*

Greenish-brown Labrus, with each scale marked by a ferruginous band, and the head and breast spotted with red.

L. lunulatus. Lin. Gmel. Forsk. Arab.

LENGTH about twelve inches: scales broad and striated: eyes brownish-green: gill-covers commonly marked at the hinder edge with a fulvous crescent bordered with black: native of the Arabian seas: observed by Forskal.

RETICULATED LABRUS.

Labrus Reticulatus. *L. viridis, rubro reticulatus, macula operculorum pinnæque dorsalis nigra.*

Green Labrus, reticulated with brown, and with a black spot on the gill-covers and dorsal fin.

L. venosus. Lin. Gmel.

A SMALL species: length three inches: shape ovate: dorsal fin ramentose and marked with a red band: native of the Mediterranean.

GUTTATED LABRUS.

Labrus Guttatus. *L. rubescens, nigro punctis, punctis seriatis albis.*

Reddish Labrus, with black variegations and white spots disposed in a row.

L. guttatus. Lin. Gmel.

LENGTH three inches: under each eye two oblique black streaks: fins reddish; anal marked with white spots: native of the Mediterranean.

GUTTULATED LABRUS.

Labrus Guttulatus. *L. albo confertim guttatus, dorso subfusco, squamis minutis.*

Labrus thickly marked with round white spots, with brownish back and minute scales.

L. guttatus. Bloch. t. 287.

A BEAUTIFUL species: length about five inches: colour blueish with a cast of brown on the back: the whole fish beautifully and thickly marked with small, round, white or silvery spots: those on the back fin yellowish, and on each side the back an undulated silvery line: scales very small: native regions unknown.

BERGYLT LABRUS.

Labrus Bergylta. *L. fusco-flavescens, lateribus subfasciatis, pinnis maculatis.*

Brownish-yellow Labrus, with subfasciated sides, and spotted dorsal fin.

L. maculatus. Bloch. t. 294.

LENGTH about a foot: scales large: lips reflex: dorsal fin ramentose: all the fins spotted with brown: native of the European seas.

CARINATED LABRUS.

Labrus Carinatus. *L. squamis bicarinatis.*

Labrus with bicarinated scales.

L. aristatus. *Cepede.*

SHAPE oval: teeth separate: the two front teeth in the lower jaw longer than the rest: native of the fresh waters of China.

WHITE-BANDED LABRUS.

Labrus Albovittatus. *L. subflavus, fasciis utrinque tribus longitudinalibus albis.*

Yellowish Labrus, with three longitudinal white bands on each side.

L. albovittatus. *Cepede.*

NATIVE of the Northern seas?

PUNCTATED LABRUS.

Labrus Punctatus. *L. subfuscus, lineis longitudinalibus plurimis fusco-punctatis, pinna dorsali ramentacea.*

Brownish Labrus, with many longitudinal brown-spotted lines, and ramentose dorsal fin.

L. punctatus. *Lin. Gmel. Bloch. t. 295.*

LENGTH about five inches: colour whitish, with the back brown: scales large: body marked by several rows of dusky spots; owing to a spot at the base of each scale: dorsal fin produced in a

falciform manner at its extremity: anal fin the same: both, as well as the tail, marked by rows of blackish spots: pectoral and ventral fins long and dusky: on each side the body three black spots; one on the gill-covers, another in the middle, and a third near the tail: habit broad, like a bream: native of Surinam, inhabiting rivers.

PLEAT-LIPPED LABRUS.

Labrus Ossifagus. L., *labiis plicatis, pinna dorsali radiis triginta.* Lin. Gmel. p. 1290.

. *Labrus*, with pleated lips, and thirty rays in the dorsal fin.

INTRODUCED by Dr. Gmelin into his edition of the *Systema Naturæ*, but no mention made of any farther particulars than those announced in the specific character, except that it is a native of Europe.

ONITE LABRUS.

Labrus Onitis. L. *fuscus, subtus albido-maculatus, pinna dorsali ramentacea.*

Brown *Labrus*, spotted with white beneath, and with ramentose dorsal fin.

L. Onitis. Lin. Gmel.

DESCRIBED by Linnæus in the second part of the *Mus*: Ad: Frid: native regions unknown.

ANILE LABRUS.

Labrus Vetula. *L. flavescens, capite caudaque carneis, corpore fusco variato, pinnis ventralibus anali caudalique nigro marginatis.*

Yellowish Labrus, with flesh-coloured head and tail, body varied with brown, and ventral, anal, and caudal fins edged with black.

L. Vetula. *Block. t. 293.*

HABIT that of *L. maculatus*: fins pale: dorsal and anal spotted with black along the base: tail marked by a transverse row of spots: lips reflex: irides blue. Native of the Mediterranean and Northern seas: esteemed as an edible fish.

NORWEGIAN LABRUS.

Labrus Snillus. *L. pinna dorsali ramentacea, macula nigra supra caudam, spinis dorsalibus novem. Lin. Gmel.*

Labrus with ramentose dorsal fin, black spot above the tail, and nine dorsal spines.

Bergsnylstra. *Lin. Faun. Succ. 330.*

NATIVE of the Northern seas; observed about the coasts of Norway.

IURELLA LABRUS.

Labrus Julis. *L. lateribus cærulescentibus, vitta longitudinali
fulva utrinque dentata.* Lin. Gmel.

Labrus with blueish sides, marked by a longitudinal, fulvous,
dentated or undulated band.

L. Julis. *Lin. Syst. Nat. p. 476. Mus. Ad. Frid. 2. p. 75.
Bloch. t. 287. f. 1.*

LENGTH about eight inches : form rather length-
ened : general colour blueish or violet on the upper
parts, with an undulating yellow stripe on each side
towards the back : abdomen whitish : pectoral,
ventral fins, and tail pale : dorsal fin fulvous or
orange-coloured at its origin, and marked along
the base by a brown or purplish stripe : scales
small : lateral line placed pretty near the back,
and descending suddenly at a small distance from
the tail. Native of the Mediterranean, generally
swimming in small shoals : the male is said to be
distinguished from the female by having the back
of a green colour. By the more ancient ichthy-
ologists this species seems to have been considered
as the most beautiful of the finny race, but this
must have been owing to the very confined state
of natural history at the time those authors lived.
It has also been regarded as a poisonous fish, and
capable of inflicting a dangerous wound, but this,
like many other errors of antiquity, is now entirely
exploded.

PARROT LABRUS.

Labrus Paroticus. *L. griseus, subtus albidus, linea laterali curva, pinnis rufis, operculis cyaneis.*

Grey Labrus, whitish beneath, with curved lateral line, and blue gill-covers.

L. paroticus. Lin. Syst. Nat. p. 476. Mus. Ad. Frid. 2. p. 76.

NATIVE of the Indian seas.

KARUT LABRUS.

Labrus Karuta. *L. supra nigricans, stria utrinque longitudinali flava, subtus flavescens pinnis rufis.*

Labrus with the body blackish above with a longitudinal yellow stripe on each side, and beneath yellowish with rufous fins.

Johnius Karutta. Bloch. t. 356.

Labre Karut. *Cepede.*

LENGTH about twelve inches : form oblong : upper jaw very obtuse, the mouth being situated beneath it : dorsal fins two, the former triangular, the latter of moderate width and continued to the tail : both these fins as well as the tail, which is slightly rounded, are of a blackish colour : the other fins reddish : scales rather large : irides red : teeth small.

By Dr. Bloch this and the succeeding species are stationed in a distinct genus under the title of *Johnius*, so named from a correspondent of Dr. Bloch's to whom he was obliged for specimens of the fish, which is a native of the Indian seas.



KARUT LABRUS.

CUPREOUS LABRUS.

Labrus Cupreus. *L. subargenteus*, capite dorso pinnisque subcupreis.

Subargenteous Labrus, with head, back, and fins tinged with copper-colour.

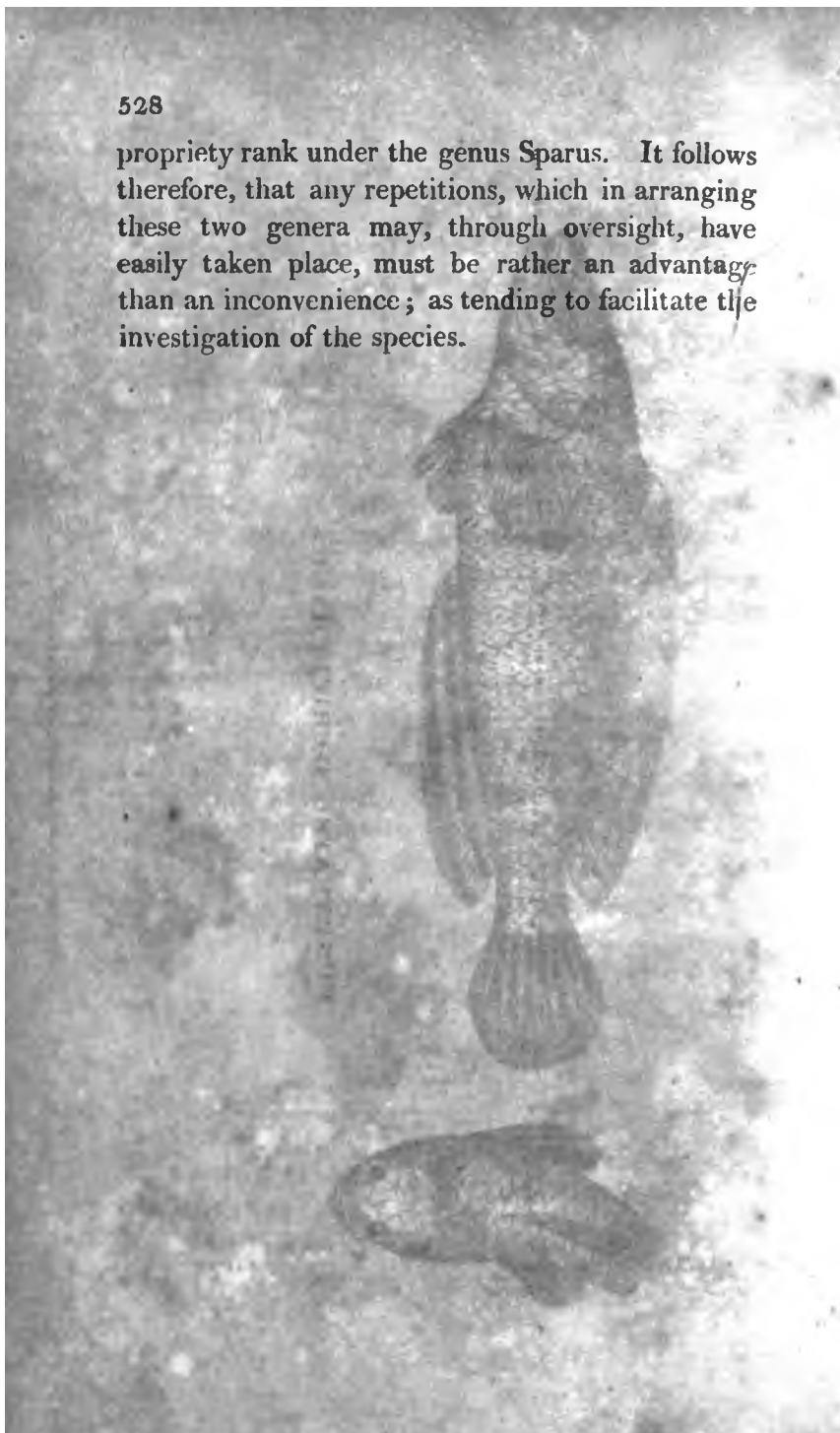
Johnius Aneus. Bloch. t. 357.

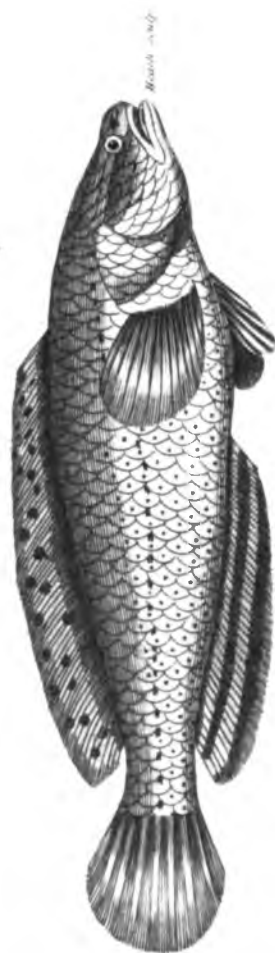
GENERAL habit that of the former species, but rather broader: lower jaw rather longer than the upper: teeth sharp, and of moderate size: scales rather large: back, dorsal fins, and tail of a dusky tinge, but with a strong cast of coppery red towards the base, pectoral and ventral fins bright copper-red, and, as in the former species, of a lanceolate shape. Native of the Indian seas, and called by the natives of Malabar by the name of *Anei Kattalci*.

These fishes seem equally allied to the Labri and the *Sciænae*, and might perhaps be arranged with equal propriety under the latter genus, with which they agree in many particulars relative to habit or general appearance.

THE same apology must be made for the history of this genus as of the preceding; the species being extremely numerous and very little understood. It is by no means improbable that many of the Labri may be rather varieties than species truly distinct; and it may be added, that several may with equal

propriety rank under the genus *Sparus*. It follows therefore, that any repetitions, which in arranging these two genera may, through oversight, have easily taken place, must be rather an advantage than an inconvenience; as tending to facilitate the investigation of the species.





PUNCTATUS OFFICINALIS



Punctatus officinalis (L.) (Zoaridae) (Pisces)

OPHICEPHALUS. OPHICEPHALUS.

Generic Character.

<i>Caput</i> squamis difformibus tectum.	<i>Head</i> coated with dissimilar scales.
<i>Corpus</i> elongatum.	<i>Body</i> elongated.

PUNCTATED OPHICEPHALUS.

Ophicephalus Punctatus. O. nigricans, subtus pallidior, capite poroso, corpore nigro-punctulato.

Dusky *Ophicephalus*, paler beneath, with the head pierced by pores, and the body speckled with black points.

Ophicephalus punctatus. Bloch. t. 358.

LENGTH about ten inches: dorsal fin commencing at no great distance from the head, and continued nearly to the tail: it is of moderate breadth, and of a dusky colour spotted with black; anal fin of similar shape and colour: tail rounded: pectoral fins rounded, and of moderate size: ventral smaller: scales rather large; those on the head dissimilar, viz. on the upper part angular, as in snakes: on the sides ovate or rounded: lateral line nearly strait. Native of India, inhabiting rivers and lakes, and is considered as a delicate and wholesome food.

STRIATED OPHICEPHALUS.

Ophicephalus Striatus. *O. nigricans*, abdomine pinnisque albidis fuscoque striatis.

Dusky Ophicephalus, with the abdomen and fins striated with dusky and whitish variegations.

Ophicephalus striatus. *Bloch. t. 359.*

LENGTH about twelve inches: shape rather longer than that of the preceding species: abdomen whitish, varied with obliquely transverse dusky blotches or streaks: dorsal and anal fin of similar proportions to those of the former species, and of a pale colour, marked by numerous obliquely transverse narrow dusky stripes: tail, pectoral and ventral fins rounded: scales rather large: teeth rather small, sharp, and of equal size. Native of India, inhabiting lakes, where it often grows to a much larger size than first mentioned: it is in equal esteem as a food with the former species, and even recommended as a proper diet for convalescents: native name *Wrahl*.



Rock wrasse.

BEARDED LONGHORN

LONCHURUS. LONCHURUS.

Generic Character.

Caput squamosum.

Pinnæ ventrales discretæ.

Cauda lanceolata.

Head scaly.

Ventral fins separate.

Tail lanceolate.

BEARDED LONCHURUS.

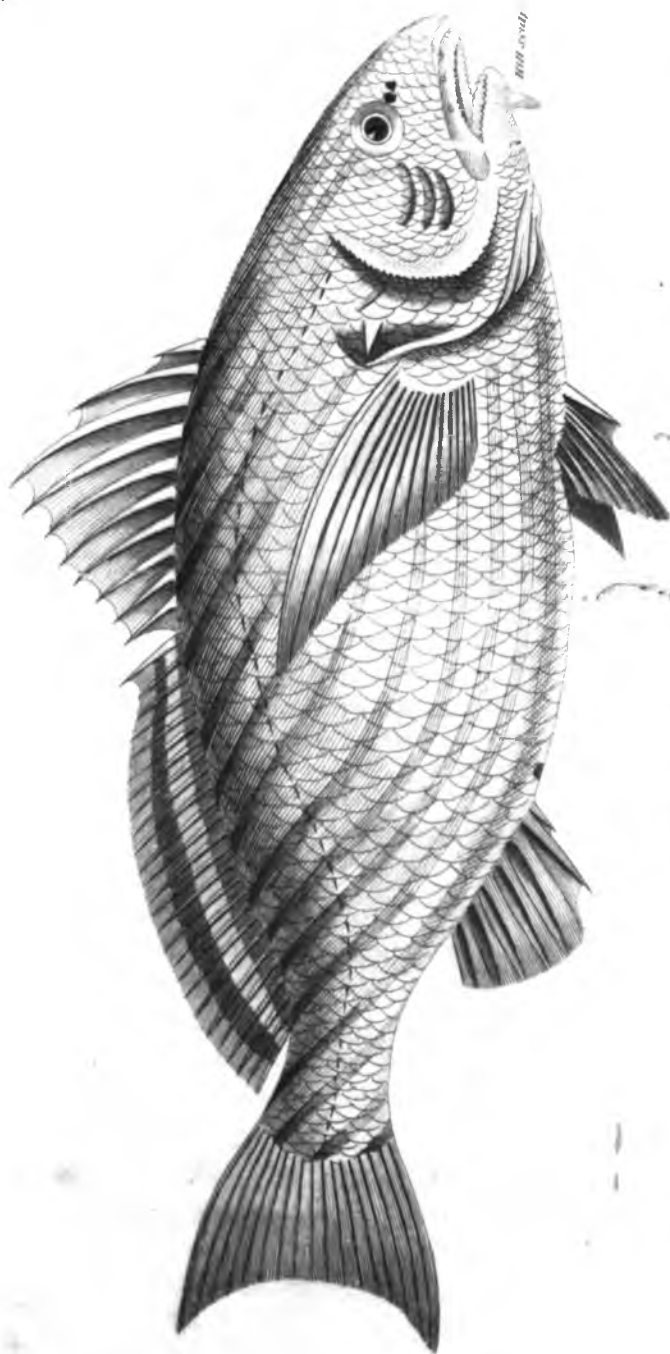
Lonchurus Barbatus. L. fusco-ferrugineus, naso subproducto, maxilla inferiore bicirrata, pinnarum ventralium radio primo elongato setaceo.

Ferruginous-brown *Lonchurus*, with slightly lengthened nose, two beards at the lower jaw, and the first ray of the ventral fins elongated into a bristle.

Lonchurus barbatus. Bloch. t. 360.

LENGTH about twelve inches: shape somewhat lengthened tapering gradually to the tail, which is of a lanceolate form: scales middle-sized: pectoral fins long, narrow, and sharp: ventral fins sharp, and placed at some distance from each other: dorsal fin double, or at least so deeply divided as to appear two: the former triangular, the latter of moderate width, and continued nearly to the tail: nose or upper lip produced into an obtuse short snout, so as to cause the mouth to appear as if placed somewhat beneath: teeth small: beneath the tip of the lower jaw two small short beards. Native of Surinam.

THE two preceding genera of *Ophicephalus* and *Lonchurus*, considered in point of natural arrangement, seem to have a greater affinity to the genus *Sciæna* than to any other : both were instituted by Dr. Bloch.



BEARDED SCORPION

Scorpaenopsis barbata (Pisces, Scorpaenidae)

SCIÆNA. SCIÆNA.

Generic Character.

Caput squamosum.

*Pinnæ dorsales duæ, in
fossula recondendæ.*

Head scaly.

*Dorsal fins two, seated in a
furrow*, into which they
may occasionally with-
draw.*

Membr. branch. radiis sex.

Gill-membrane six-rayed.

With divided or lunated tail.

BEARDED SCIÆNA.

*Sciæna Cirrosa. S. flavescens, subtus subargentea, lineis longi-
tudinalibus obliquis nigricantibus, mento barbato.*

*Yellowish Sciæna, subargenteous beneath, with obliquely longi-
tudinal dusky lines, and a beard on the lower jaw.*

Sciæna cirrosa. Lén. Gmel. Bloch.

Σκιάνα. Arist. Aelian, &c. Umbra. Rondel, &c.

HABIT that of a Carp: length from one to two feet: colour pale yellow, brownish on the back, and marked on each side by many obliquely longitudinal dusky-blue lines, which assume a slightly silvery cast towards the abdomen: upper lip obtuse,

* This is not equally conspicuous in all the *Sciænæ*, nor con-
spicuous in this genus; occurring in some of the *Spari*, *Perca*, &c.

and longer than the lower: teeth small: first dorsal fin triangular, and pale brown; the second white with a brown stripe: pectoral, ventral, and caudal, dusky; anal red: tail slightly lunated: at the base of the gill-covers a black spot, and beneath the chin a short fleshy beard: native of the Mediterranean and other seas: known to the ancient Greeks and Romans, by whom it was held in considerable estimation as a food.

BASSE SCIÆNA.

Sciæna Labrax. *S. subargentea*, dorso fusco, pinnis flavo-rubentibus, cauduli fusca.

Subargenteous Sciæna, with brown back, yellowish-red fins, and dusky tail.

Sciæna Labrax. Bloch. Perca Labrax. Lin.

Basse. Penn. Brit. Zool.

HABIT of a Salmon: size considerable, growing, according to some authors, to the length of several feet: colour blueish silvery, with a dusky cast on the back: scales rather small: eyes reddish: mouth and gill-covers tinged with pale red: tail slightly forked: lateral line nearly strait: native of the Mediterranean and Northern seas, and often entering rivers: known to the ancients by the names of *Labrax* and *Iupus*, and much esteemed as a food, particularly by the Romans.

TWO-SPINED SCIÆNA.

Sciæna Diacantha. *S. subargentea, lineis longitudinalibus flavis, dorso glauco, operculis bispinosus.*

Subargenteous *Sciæna*, with longitudinal yellow lines, and two-spined gill-covers.

Sciæna diacantha. *Bloch.*

LENGTH about twelve inches: habit allied to that of *S. Labrax*: fins glaucous, but the pectoral, ventral fins, and tail, reddish at the base: tail slightly lunated: eyes yellow: scales rather large: native of the Mediterranean.

PIKE-HEADED SCIÆNA.

Sciæna Undecimalis. *S. rubescens, abdomine argenteo, pinnis dorsalibus caudaque subfuscis.*

Reddish *Sciæna*, with silvery abdomen, and brownish dorsal fins and tail.

Sciæna undecimalis. *Bloch.*

LENGTH about twelve inches: habit somewhat resembling that of a Pike, the shape of the head being greatly similar, and the lower jaw longer than the upper: teeth small: back rising pretty suddenly from the eyes: scales middle-sized: lateral line blackish and very distinct: tail slightly forked: native of the American seas, and said to be common about the coasts of Jamaica. In the second dorsal fin are eleven rays, from which circumstance is derived the trivial name applied to this species by Dr. Bloch.

LINEATED SCIÆNA.

Sciæna Lineata. *S. argentea, lineis longitudinalibus flavis, dorso violaceo, pinnis subflaventibus.*

Silvery Sciæna, with longitudinal yellow lines, violaceous back, and yellowish fins.

Sciæna lineata. *Bloch.*

LENGTH about a foot: habit of a Trout: lower jaw rather longer than the upper: scales middle-sized: eyes yellow: native of the Mediterranean.

PUNCTATED SCIÆNA.

Sciæna Punctata. *S. subargentea, dorso subviolaceo punctato.*

Subargenteous Sciæna, with subviolaceous back, spotted with black points.

Sciæna punctata. *Bloch.*

LENGTH about twelve inches: habit that of a Trout: head short and thick: gill-covers tinged with violet; head with yellow: dorsal fins glaucous: pectoral and ventral pale red: anal and tail glaucous with pale red base: scales middle-sized: eyes yellow: native of the Mediterranean.

PLUMIER'S SCIÆNA.

Sciæna Plumieri. *S. subviolacea, fasciis transversis fuscis, lineis longitudinalibus pinnisque flavis.*

Subviolaceous Sciæna, with transverse brown bands, and yellow longitudinal lines and fins.

Sciæna Plumieri. *Bloch.*

HABIT that of a Perch: head very short: scales middle-sized: eyes yellow: teeth small: pectoral fins lanceolate: tail large and slightly lunated: native of the American seas: described by Bloch from a drawing by Plumier.

MAURITIAN SCIÆNA.

Sciæna Mauriti. *S. argentea, dorso subfusco, pinna dorsali prima spinosa, radiis novem.*

Silvery Sciæna, with brownish back, and the first dorsal fin spiny, with nine rays.

Sciæna Mauriti. *Bloch.*

LENGTH about six inches, but said to grow to the size of a Perch: habit that of a Salmon, and extremely resembling, except in size, the *S. Labrax*, but the scales are larger in proportion: colour silvery, with a slight dusky tinge on the back, and the fins pale: tail slightly lunated, yellowish at the base, and dusky towards the end: native of Brasil: described by Bloch from a drawing by Prince Maurice.

 CORO SCIÆNA.

Sciæna Coro. *S. argenteo-ærulescens, dorso subfusco, corpore utroque striis octo transversis fuscis.*

Silvery-blueish Sciæna, with brownish back, and body marked on each side with eight transverse brown bands.

Sciæna Coro. Bloch.

LENGTH from six to twelve inches : habit that of *S. Mauritiæ* : scales middle-sized : fins pale : tail slightly forked, yellowish at the base, and dusky at the end. Native of the Brazilian seas.

 CILIATED SCIÆNA.

Sciæna Ciliata. *S. squamis trapeziformibus, transversim carinatis, ciliatis,*

Sciæna with trapezoid, transversely ciliated scales.

Sciene ciliée. Cope.

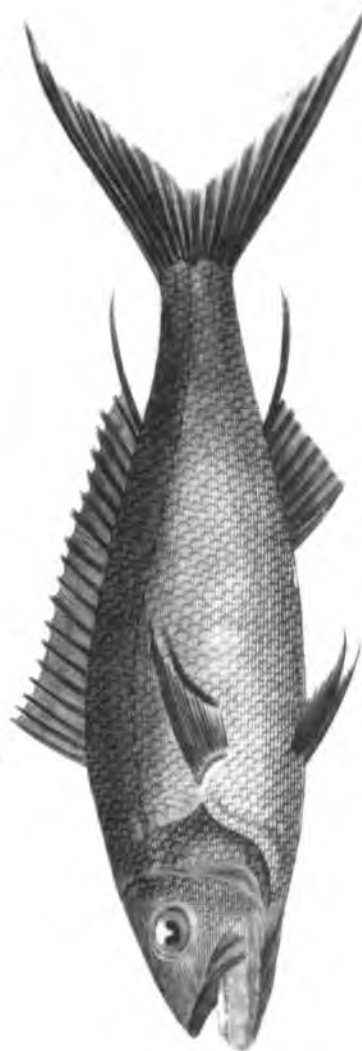
MENTIONED by Cope from a specimen in the Prince of Orange's Museum, but neither size, colours, nor native region, particularized.

 CAPPA SCIÆNA.

Sciæna Cappa. *S. capitis lateribus squamarum ordine duplici.*
Lin. Syst. Nat. p. 480. Mus. Ad. Frid. 2. p. 81.

Sciæna with a double row of scales on each side the head.

NATIVE of the Mediterranean : mentioned by Linnæus in the second part of the Museum Adolphi Friderici.



FORKED LABRUS.

Both sides.

SCALE-BACKED SCIÆNA.

Sciæna Lepisma. *S. pinna dorsali intra duo folia squamea recondenda.* *Lin. Syst. Nat. p. 480.*

Sciæna with the dorsal fin retractile between two scaly leaves.

NATIVE of the Mediterranean?

SINGLE-SPOTTED SCIÆNA.

Sciæna Unimaculata. *S. macula fusca in medio utriusque lateris.*
Lin. Syst. Nat. p. 480.

Sciæna with a brown spot on each side the middle of the body.

NATIVE of the Mediterranean.

BOHAR SCIÆNA.

Sciæna Bohar. *S. oblonga rubescens, lincis nebulisque albescentibus.*

Oblong, reddish Sciæna, with whitish lines and clouds,

Sciæna Bohar. *Forsk. arab.*

NATIVE of the Arabian seas.

GIBBOUS SCIÆNA.

Sciæna Gibbosa. *S. rubescens, albo-punctata, dorso gibbo.*

Reddish Sciæna, with white specks and gibbous back.

Sciæna gibba. *Forsk. arab.*

NATIVE of the Arabian seas: body oval: scales red, tipped with white: greatly allied to *S. Bohar*.

SILVER-SPOTTED SCIÆNA.

Sciæna Argentata. *S. fusca, argenteo-maculata.*

Brown Sciæna, with silvery spots.

Sciæna argenteo-maculata. *Forsk. arab.*

Much allied to *S. Bohar* : lower lip longer than the upper : from each eye to the mouth a curved blue streak : colour of the scales on the upper parts blackish, with silvery margins and tips : on the abdomen rufescent, with pale margins : fins dusky rufous : the dorsal fin glaucous. Native of the Arabian seas.

RED SCIÆNA.

Sciæna Rubra. *S. obscure rubra, vittis utrinque octo longitudinalibus subalventibus.*

Dull-red Sciæna, with eight longitudinal whitish bands on each side.

S. rubra. Forsk. arab. Lin. Gmel.

EYES red ; orbit spiny and serrate : teeth short and setaceous : dorsal fins connected ; the first whitish, with two longitudinal red bands : scales spiny at the edges : native of the Arabian seas.

LONG-SPINED SCIÆNA.

Sciæna Spinifera. *S. rubra*, pinnis dorsalibus connexis, capite spinoso, operculi anterioris spina longissima. Lin. Gmel. Forsk. arab.

Red Sciæna, with connected dorsal fins, spiny head, and a very long spine on the anterior gill-cover.

NATIVE of the Arabian seas, growing to a considerable size, and yielding a great quantity of oil: the wounds inflicted by the spine of the gill-covers are said to be very painful.

 JARBUA SCIÆNA.

Sciæna Jarbua. *S. argentea*, vittis utrinque duabus fuscis in annulos super dorsum confluentibus.

Silvery Sciæna, with two brown bands on each side, uniting into rings over the back.

Sciæna Jarbua. Lin. Gmel. Forsk. arab.

MIDDLE of the back marked by a dusky spot: teeth subulate: eyes blue: dorsal fin spotted with black: native of the Arabian seas.

GOLD-STRIPED SCIÆNA.

Sciæna Fulviflamma. *S. albido-flavescens, vittis quinque vel sex longitudinalibus aureis, macula media nigra.*

Whitish-yellow *Sciæna*, with five or six longitudinal gold-coloured bands, and a middle black spot.

Sciæna fulviflamma. *Lin. Gmel. Forsk. arab.*

FIRST dorsal fin dusky; the second and the other fins yellow: the gold-coloured lines on the body are sometimes rather obscure: teeth strong, distant, and conic-subulate. Native of the Arabian seas.

With even or rounded tail.

BLACK SCIÆNA.

Sciæna Nigra. *S. subtus subargentea, oculis rubris.*

Black *Sciæna*, with subargenteous abdomen, and red eyes.

Sciæna nigra *Bloch. Sciæna Umbra. Lin.*

SIZE of a Perch: scales middle-sized, and marked with small black specks: fins black: tail rounded. Native of the Mediterranean.

LARGE-SCALED SCIÆNA.

Sciæna Macrolepidota. *S. flava, fasciis transversis fusco-violaceis, pinnis maculatis.*

Yellow Sciæna, with transverse brownish-violet bands and spotted fins.

Sciæna macrolepidota. *Bloch.*

LENGTH about a foot : head short, and sloping rather suddenly : scales pretty large : dorsal, anal, and caudal fin spotted with brown : pectoral fins plain and tinged with violet : ventral fins red : eyes blue : native of India.

SPOTTED SCIÆNA.

Sciæna Maculata. *S. fusco flavoque varia, pinnis maculatis.*

Sciæna varied with brown and yellow, with spotted fins.

Sciæna maculata. *Bloch.*

LENGTH about five inches and a half : shape oblong ; back rising at the fore-part, and sloping towards the tail : scales middle-sized : dorsal fins, anal, and caudal spotted with brown : dorsal fins placed at some distance from each other : pectoral and ventral fins unspotted : tail of an ovate shape : native regions unknown.

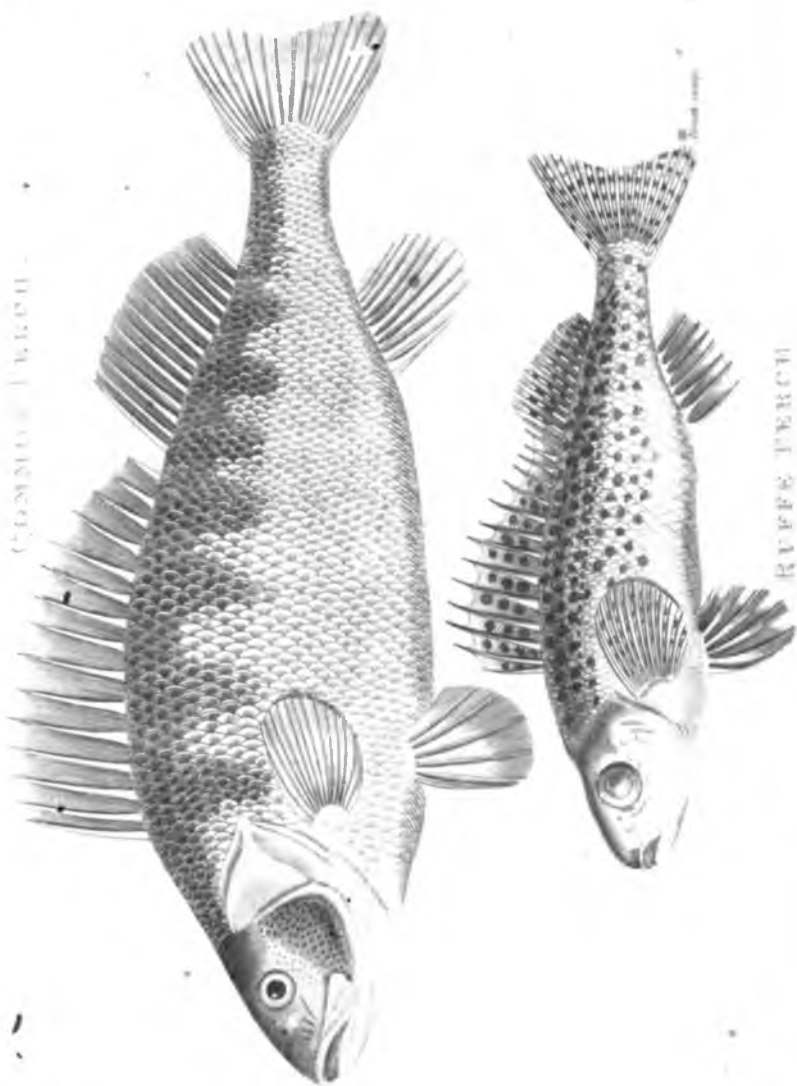
CYLINDRIC SCIÆNA.

Sciæna Cylindrica. *S. cylindrica, flavescens, cingulis pluribus fuscis, pinnis maculatis.*

Cylindric, yellowish Sciæna, with several dusky girdles, and spotted fins.

Sciæna cylindrica. *Bloch.*

LENGTH about six inches: habit rather long: head longish: eyes rather prominent, and situated near each other at the upper part of the head: lower jaw rather longer than the upper: scales middle-sized: first dorsal fin dusky; the second, as well as the anal fin and tail, pale yellow spotted with brown: ventral fins plain. Native regions unknown.



COMMON PERCH

RUFFE PERCH

PERCA. PERCH.

Generic Character.

<i>Dentes</i> acuti, incurvi.	<i>Teeth</i> sharp, incurvate.
<i>Opercula</i> triphylla, squamosa, serrata.	<i>Gill-covers</i> triphyllous, scaly, serrated.
<i>Pinna dorsalis</i> antice spinosa.	<i>Dorsal fin</i> spiny on the fore-part.
<i>Squamæ</i> (pluribus) duræ, asperæ.	<i>Scales</i> (in most species) hard and rough.

COMMON PERCH.

Perca Fluviatilis. *P. olivacea*, fasciis utrinque transversis semidecurrentibus subnigris, pinna dorsali subviolacea, cæteris rubris.

Olivaceous Perch, with transverse semidecurrent blackish bands, dorsal fin subviolaceous, the rest red.

Perca fluviatilis. *Lin. Bloch. &c.*

THE Perch is an inhabitant of clear rivers and lakes throughout almost all parts of Europe, arriving sometimes to a very large size, and to the weight of eight, nine, or ten pounds: its general size however is far smaller, usually measuring from ten or fifteen inches to two feet in length, and weighing from two to four pounds. The colour of the Perch is brownish olive, sometimes accompanied by a slight gilded tinge on the sides, and commonly marked by five or six moderately broad, blackish, transverse, semidecurrent bars: the dorsal fin is of a

pale violet-brown, marked at the back of the spiny part by a roundish black spot accompanied by a smaller one: the rest of the fins, with the tail, are red. Sometimes this fish varies in colour, the olive assuming a richer cast of gilded green, and the dusky bars appearing more numerous, and of a blueish black. It is also occasionally observed to vary in having the back unusually elevated, and the hind part of the body, near the tail, distorted and curved downwards: this variety, if such it may be called, is commemorated by Mr. Pennant in the *British Zoology*, and it appears, from the *Fauna Suecica* of Linnæus that the same takes place in some parts of Sweden.

The Perch usually spawns in the early part of the spring, depositing a kind of extended bands of gluten, throughout which are disposed the ova in a sort of reticular direction. It is of a gregarious disposition, and is fond of frequenting deep holes in rivers which flow with a gentle current: it is extremely voracious, and bites eagerly at a bait: it is tenacious of life, and may be carried, according to Mr. Pennant, to the distance of sixty miles in dry straw, and yet survive the journey. It is one of those fishes which were held in repute at the tables of the ancient Romans, and is in general esteem at the present day, being considered as remarkably firm and delicate. In some of the Northern regions a species of isinglass is prepared from the skin.

SANDRE PERCH.

Perca Lucioperca. P. griseo-argentea, fasciis dorsalibus numerosis transversis subfuscis, pinna dorsali maculata.

Silvery-grey Perch, with numerous, transverse, dusky dorsal bands, and spotted dorsal fin.

Perca Lucioperca. Lin. Block. t. 51.

GENERAL length from one to two feet, but said sometimes to arrive at four feet: shape longer than in the preceding species, having something of the habit of a Pike, the head being rather produced, and the mouth furnished with large teeth: general colour silvery grey, deepest on the back, and with a pretty strong tinge of blue on the head and gill-covers: sides of the back marked by pretty numerous, slightly decurrent, blackish bands; dorsal fins by numerous dusky spots: pectoral fins reddish; the rest dusky. Native of clear rivers and lakes in the middle parts of Europe, and highly esteemed for the table: in general manners said to resemble the common Perch, but to be far less tenacious of life.

VAR. ?

Perca Volgensis. Lix. Gmel. Pall. it. 1. p. 461.

GENERAL colour gilded olive, with five or six transverse semidecurrent blackish bands: dorsal fin banded in a similar manner: habit between that of the common Perch and the Sandre, for which reason

it has been sometimes considered as a hybrid fish between these two species : observed principally in the Volga and some other rivers opening into the Caspian Sea.

RUFFE PERCH.

Perca Cernua. *P. subolivacea, fusco-punctata, pinnae dorsalis spinis quindecim.*

Subolivaceous Perch, speckled with black, with fifteen spines in the dorsal fin.

Perca cernua. *Lin. Bloch. &c.*

The Ruffe. *Penn. Brit. Zool.*

LENGTH about six inches : shape more slender than that of the common Perch : head rather large, and somewhat flattened : teeth small : colour subolivaceous, with numerous dusky spots disposed over the body, dorsal, pectoral fins, and tail : abdomen whitish : native of many parts of Europe ; chiefly frequenting clear rivers, assembling in large shoals, and keeping in the deepest part of the water.

WHITING PERCH.

Perca Alburnus. *P. subfusca, fasciis plurimis obliquis fuscis, radio primo pinnae dorsalis spinosa.*

Pale-brown Perch, with numerous oblique dusky bands, and the first ray of the dorsal fin spiny.

Perca Alburnus. *Lin. Gmel.*

NATIVE of the American seas.

ARABIAN PERCH.

Perca Arabica. P. argentea, lineis longitudinalibus nigris, macula caudali viridi-aurea medio nigra.

Silvery Perch, with longitudinal black lines, and tail marked by a green-gold spot with black middle.

Perca Arabica. Lin. Gmel. Forsk. Arab.

TEETH long, subulate, strait, and distant, three of which on each side are larger than the rest : at the bottom of the palate are also several small setaceous teeth : scales broad, lax, and deciduous, disposed in about ten rows on each side : tail slightly bifid, with pointed lobes : gill-covers scarce distinctly serrated : native of the Arabian seas.

LOPHAR PERCH.

Perca Lophar. P. argentea, dorso olivaceo, pinnis ventralibus adnatis.

Silvery Perch, with olivaceous back, and adnate ventral fins.

Perca Lophar. Lin. Gmel. Forsk. Arab.

SIZE and habit of a Herring : ventral fin united at the base and affixed by a membrane to the keel of the abdomen : tail forked, with the tips of the rays black : native of the Arabian seas.

~~NILOTIC~~ PERCH.

Perca Nilotica. *P. fusca*, pinnis dorsalibus subdistinctis, cauda integra.

Brown Perch, with subdistinct dorsal fins, and entire tail.

Perca Nilotica. Lin. Gmel.

NATIVE of the Nile, but has also been observed in the Caspian seas.

OCELLATED PERCH.

Perca Ocellata. *P. pinnis dorsalibus subunitis, ocello ad pinnae caudae basin.* Lin. Gmel.

Perch with subunited dorsal fins and an ocellate spot at the base of the tail.

FIRST ray of the dorsal fin very short: tail marked on the upper part of the base by a black ocellated spot bordered with white. Native of the American seas.

SMALL PERCH.

Perca Pusilla. *P. rubro-argentea, scabra, ovata, compressa.*

Silvery-red, rough, ovate, compressed Perch.

Perca pusilla. Lin. Gmel. Brunn. pisc. massil.

AN extremely small species, scarcely exceeding the length of an inch and half: back convex: scales small, pointed, and rough: head spiny: native of the Mediterranean.

ZINGEL PERCH.

Perca Zingel. P. olivaceo-flavescens, elongata, supra fusco transversim fasciata, capite subacuminato-dilatato, maxilla superiore producta.

Olivaceo-flavescient elongated Perch, with transverse brown bands above, dilated and subacuminated head, and lengthened upper jaw.

Perca Zingel Lin. Bloch.

LENGTH twelve or fifteen inches : head flattened, and when viewed from above, of a heart-shaped, or rather triangular form ; the sides bulging out very considerably, and then sloping into the obtuse point of the snout : eyes vertical, moderately distant, and furnished with red or golden-orange irides : scales middle-sized, hard and rough : tail slightly divided, with obtuse lobes. Inhabits the Danube and other rivers in Germany, and is in considerable esteem as a food : deposits its spawn in March and April : is tenacious of life, and may be easily transported to a considerable distance.

ZINGELIN PERCH.

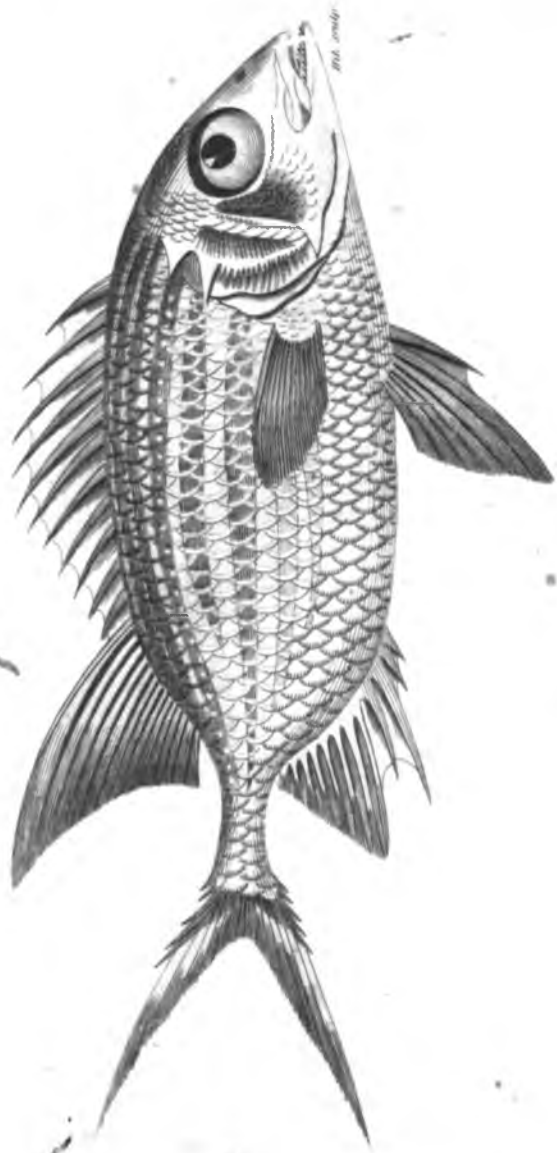
Perca Asper. P. subolivacea, supra fusco transversim fasciata, capite dilatato-acuminato, pinna dorsali secunda radiis tredecim.

Subolivaceous Perch, with transverse brown bands above, dilated and subacuminated head, and thirteen rays in the first dorsal fin.

Perca asper Lin. Bloch.

EXTREMELY allied to the Zingel in general appearance, so that it might at first view be supposed

the same ; but is much smaller, and of a somewhat darker colour: the second dorsal fin has but thirteen rays, whereas the former species has usually nineteen: the body gradually diminishes towards the tail, where it is very slender; and the tail is rather more forked than in the Zingel: the scales are middle-sized, hard, and rough: inhabits clear rivers in several parts of Germany, France, &c. and is much esteemed for the table. By some authors this species has been considered merely as a variety of the Zingel.



SOCO HOLOCENTRUS.

1844. Soco & Lander published by A. Kearney, First Street.

HOLOCENTRUS. HOLOCENTRUS.

Generic Character.

Habitus generis Percæ.

Opercula squamosa, serrata,
aculeata.

Squamæ (pluribus) duræ,
asperæ.

Habit of the genus Perca.

Gill-covers scaly, serrated,
and aculeated.

Scales (in most species) hard
and rough.

With forked or lunated tail.

SOGO HOLOCENTRUS.

Holocentrus Sogo. *H. rubro-argenteus, lineis utrinque longitudinalibus flavis.*

Silvery red Holocentrus, with longitudinal yellow lines on each side.

Holocentrus Sogo. *Bloch.*

A HIGHLY beautiful species: general length about a foot: habit somewhat resembling that of a Carp, but of a squarer form, growing suddenly slender near the tail: eyes very large and gold-coloured: scales large and denticulated at the edges: tail very much forked. Native of the Mediterranean, Indian, and American seas, and considered as an excellent fish for the table.

SCHRAETSER HOLOCENTRUS.

Holocentrus Schraetser. *H. subfuscus, lineis utrinque quatuor longitudinalibus nigris, abdomine argenteo, capite nudo.*

Brownish Holocentrus, with four longitudinal black lines on each side, silvery abdomen, and naked head.

Gymnocephalus Schraetser. *Bloch.* Perca Schraetser. *Lin. Gmel.*

LENGTH about ten inches : shape somewhat lengthened : head destitute of scales, for which reason this species is by Dr. Bloch arranged under a distinct genus by the name of *Gymnocephalus* : scales rather small than large : tail slightly divided : lowest of the longitudinal lines composed of a row of spots : dorsal fin spotted with black : native of the Danube and its tributary streams : in considerable esteem as an article of food.

RADULA HOLOCENTRUS.

Holocentrus Radula. *H. corpore punctis albis lineato.*

Holocentrus with the body lineated by white specks.

Perca Radula. *Lin. Gmel. Am. Acad.*

DORSAL fin very long : scales crenulated : native of India.

GATERINA HOLOCENTRUS.

Holocentrus Gaterina. *H. caeruleus, nigro-guttatus maculis sparsis.*

Blueish Holocentrus with black specks and scattered spots.

Sciæna Gaterina. *Lin. Gmel. Forsk. Arab.*

LENGTH about three spans: pectoral and ventral fins yellow and unspotted: native of the Arabian seas, varying in size and colours.

GREENISH HOLOCENTRUS.

Holocentrus Virescens. *H. virescens, nebulis utrinque dorsalibus transversis semidecurrentibus olivaceis, capite flavo-striato.*

Greenish Holocentrus with transverse dorsal semidecurrent olivaceous bands, and head streaked with yellow.

Holocentrus virescens. *Bloch.*

LENGTH about twelve inches: head and gill-covers marked by somewhat irregular longitudinal yellow streaks: eyes fulvous: scales middle-sized: tail slightly lunated. Native of the Indian seas.

FIVE-LINED HOLOCENTRUS.

Holocentrus Quinquelineatus. *H. subflavus dorso subfusco, corpore lincis utrinque quinque longitudinalibus caeruleis.*

Yellowish Holocentrus with brownish back, and body marked on each side by five longitudinal blue lines.

Holocentrus quinquelineatus. *Bloch.*

LENGTH as in the preceding species: eyes rather large, and reddish: scales middle-sized: fins red, except the fore-part of the dorsal fin, which is pale-brown: tail slightly lunated. Native of Japan.

BENGAL HOLOCENTRUS.

Holocentrus Bengalensis. *H. subfulvus, subtus argenteus, supra fasciis utrinque longitudinalibus caeruleiscentibus nigro-marginatis.*

Subfulvous Holocentrus, silvery beneath, and marked on each side the upper part by five longitudinal blueish bands margined with black.

LENGTH about six inches : scales middle-sized : eyes rather large : fins pale : tail slightly lunated. Native of Bengal.

TIGRINE HOLOCENTRUS.

Holocentrus Tigrinus. *H. albus, corpore fasciis transversis, pinnis maculis fuscis.*

White Holocentrus, with the body transversely banded and fins spotted with black.

Holocentrus Tigrinus. *Bloch.*

LENGTH a foot : colour subargenteous white : variegations deep-brown : head shaped somewhat like that of a Pike ; scales rather small : tail slightly lunated : native of the Indian seas : esteemed for the table.



TIGRINE HOLOCENTRUS.

1868. July. London. Published by G. Knapley, Piccadilly.

DECUSSATED HOLOCENTRUS.

Holocentrus Decussatus. *H. albus*, dorso fusco, corpore fuscis duabus longitudinalibus septemque transversis fuscis.

White *Holocentrus*, with brown back, and body marked by two longitudinal and seven transverse brown bars.

Epinephelus striatus. *Bloch.*

LENGTH about twelve inches: back dusky brown; sides marked by two longitudinal brown stripes from the gills to the tail, and by seven transverse ones, each continued to some little distance into the dorsal fin, which is white or pale: scales middle-sized: eyes blue: tail brown, and slightly lunated. Native of the American seas: referred by *Bloch* to a distinct genus, under the title of *Epinephelus*; the eyes of this, as well as of some other species, appearing covered with the common skin, as in the *Muraenæ*, &c.

STRIATED HOLOCENTRUS.

Holocentrus Striatus. *A. subluteus*, dorso subfusco, corpore fasciis transversis fuscis, pinna dorsali postice ramentacea macula nigra.

Subluteous *Holocentrus*, with brownish back, body marked by transverse brown bands, dorsal fin ramentose behind and marked by a black spot.

Holocentrus Striatus. *Bloch.*

LENGTH about six inches: scales middle-sized: exterior gill-covers sharp-pointed: eyes large: fins, except the ventral, pale: tail nearly strait, or but very slightly lunated: native regions unknown.

ARGENTINE HOLOCENTRUS.

Holocentrus Argentinus. *H. subfuscus, lateribus argenteis.*

Brownish *Holocentrus* with silvery sides.

Holocentrus argentinus. *Bloch.*

LENGTH about five inches : second lamina of the gill-covers marked by three short spines: eyes rather large : scales small : fins pale, with the rays bifid and continued a little beyond the membrane : tail very nearly strait, or scarce perceptibly lunated, so that it might rank with nearly equal propriety under either division of the genus. Native regions unknown.

 BLACK HOLOCENTRUS.

Holocentrus Niger. *H. niger, squamis minutissimis.*

Black *Holocentrus* with extremely minute scales.

Black-Fish. *Penn. Brit. Zool. Burl. Cornw. t. 25, f. 8.*

SAID to resemble the *Perca cernua*, of which it has even been sometimes considered as a variety : length fifteen inches: head somewhat like that of a trout : teeth very small : dorsal fin reaching far down the back : tail forked : described by Ray, Pennant, &c. on the authority of Mr. Jago : found about the coast of Cornwall.

ACERINE HOLOCENTRUS.

Holocentrus Acerinus. *H. pinnae dorsalis radius 31, spinis 17.*

Holocentrus with fourteen soft and seventeen spiny rays in the dorsal fin.

Perca acerina. *Lin. Gmel.*

In general appearance allied to the *Perca cernua*, but differs in having a larger head, and in the number of rays in the fins. Native of the Euxine sea: in esteem as an edible fish.

BLUEISH HOLOCENTRUS.

Holocentrus Cærulescens. *H. cærulescens, pinnis omnibus flavis.*

Blueish *Holocentrus*, with all the fins yellow.

Holocentrus flavo-cæruleus. *Cepede.*

NATIVE of the Indian seas: observed by Commer-

With undivided or rounded tails.

VARIEGATED HOLOCENTRUS.

Holocentrus Variegatus. *H. ruber, lineis septem transversis nigris, capite abdomineque lituris caeruleis variato.*

Red *Holocentrus*, with seven transverse black lines, and the head and abdomen varied with blue streaks.

Perca marina. *Lin. Gmel.*

NATIVE of the Mediterranean and Northern seas.

COTTŌID HOLOCENTRUS.

Holocentrus Cottoides. *H. pinnis omnibus lineis duabus punctatis.*
Lin. Gmel. Mus. Ad. Frid.

Holocentrus with all the fins marked by two speckled lines.

Body marked with roundish brown spots : native
 of the Indian seas.

PHILADELPHIC HOLOCENTRUS.

Holocentrus Philadelphicus. *H. fasciis maculisque transversis
 nigris, subtus rubens, pinna dorsali macula media nigra.*
Perca Philadelphica. Lin. Gmel.

NATIVE of the American seas : observed by Dr.
 Garden.

GREAT HOLOCENTRUS.

Holocentrus Gigas. *H. ochraceus fusco-nuchulosus, operculis
 trispinosus, spinis dorsalibus undecim.*
 Ochraceous Holocentrus, with brown clouds, three-spined gill-
 covers, and eleven dorsal spines.
Perca gigas. Lin. Gmel.

LENGTH three feet : shape ovate : body com-
 pressed : mouth large : eyes yellow : teeth sharp
 and in several rows : dorsal fin ramentose, with
 eleven spiny and fifteen soft rays. Native of the
 Mediterranean.

FORSKAL'S HOLOCENTRUS.

Holocentrus Forskalii. *H. ruber, fascus transversis latis sub-albidis quaternis.*

Red Holocentrus, with four broad transverse whitish bands.
Perca fasciata. *Lin. Gmel.*

Size considerable: scales small: head large: eyes large, with two longitudinal furrows between them: pectoral fins slightly pedunculated, and almost connected by a membrane. Native of the Red Sea: observed by Forskal.

TAUVIN HOLOCENTRUS.

Holocentrus Tauvinus. *H. lineari-oblongus fuscus, guttis ferrugineo-nigris.*

Linear-oblong Holocentrus, with blackish-ferruginous spots.
Perca Tauvina. *Lin. Gmel.*

Head cuneated and sloping: lips obtuse: the upper retractile: scales small: fins dusky ferruginous, with darker-coloured spots. Native of the Arabian seas.

ONGO HOLOCENTRUS.

Holocentrus Ongo. *H. fuscus, corpore maculis elongatis transversim notato, pinnis dorsali caudali analique flavo-guttatis.*

Brown Holocentrus, with the body marked transversely by elongated spots, and the dorsal, anal, and caudal fins spotted with yellow.

Holocentrus Ongo. *Bloch.*

NATIVE of Japan where it is known by the name of *Ongo*.

GOLDEN HOLOCENTRUS.

Holocentrus Auratus. *H. luteus, rubro-punctulatus.*

Gold-yellow Holocentrus, with red specks.

Holocentrus auratus. *Bloch.*

NATIVE of the East Indies.

FOUR-LINED HOLOCENTRUS.

Holocentrus Quadrilineatus. *H. argenteus, dorso subsusco, corpore supra lineis utrinque quatuor longitudinalibus nigris.*

Silvery Holocentrus, with brownish back, and body marked above by four longitudinal black lines on each side.

Holocentrus quadrilineatus. *Bloch.*

LENGTH about five inches: scales small: spinny part of the dorsal fin marked on the edge by a black patch. Native of the East Indies.

FASCIATED HOLOCENTRUS.

Holocentrus Fasciatus. *H. subviridi-flavescens fuscis transversis fuscis subtus bifidis.*

Green-yellowish Holocentrus with transverse brown bands divided beneath.

Holocentrus fasciatus. *Bloch.*

LENGTH twelve inches: shape rather lengthened: head somewhat like that of a Pike: scales middle-sized: bands of the body continued through the dorsal fin: rest of the fins and tail plain, and of a pale colour. Native region unknown.

PUNCTATED HOLOCENTRUS.

Holocentrus Punctatus. *H. flavus, guttis nigris punctisque rubris aspersus.*

Yellow Holocentrus, sprinkled over with black spots and red points.

Holocentrus punctatus. *Bloch.*

Size and habit of the *Atlantic Sparus* (*Perca maculata*, *Bloch.*): colour pale yellow, marked on all parts with numerous small round black spots, with smaller red ones interspersed: fins and tail strongly tinged with red. Native of the Brazilian seas.

SPUR-GILLED HOLOCENTRUS.

Holocentrus Calcarifer. *H. subargenteus dorso subfusco, squamis magnis, operculis calcaratis.*

Subargenteous Holocentrus, with brownish back, large scales, and spurred gill-covers.

Holocentrus calcarifer. *Bloch.*

Length about a foot: habit that of a Carp, but rather more lengthened in proportion: body marked by dusky lines along each row of scales: anterior gill-covers furnished with four strong sharp spines, so placed as to bear some resemblance to the rowel of a spur: posterior gill-covers armed with a single spine: fins and tail marked across the rays by brown spotted streaks. Native of Japan.

SURINAM HOLOCENTRUS.

Holocentrus Surinamensis. H. subfuscus, nebulis subluteis, capite rubro, operculis anterioribus ciliato-spinosis.

Brownish *Holocentrus*, with subluteous clouds, red head, and anterior gill-covers spine-ciliated.

Holocentrus Surinamensis. Bloch.

LENGTH twelve inches: habit of a Carp: general colour brown, with several large, roundish, obscurely-yellow patches on each side; the scales on the brown parts being each marked by a white speck: head and gill-covers red: mouth small: dorsal fin scaly at the base of the back-part: tail crossed near the base by a brown bar. Native of Surinam, where it is highly esteemed for the table, being considered as one of the best fishes which the country produces.

AFRICAN HOLOCENTRUS.

Holocentrus Afer. H. oblongo-ovatus fuscus, squamis parvis, cauda brevi.

Oblong-ovate brown *Holocentrus*, with small scales and short tail.

Holocentrus Afer. Bloch.

LENGTH twelve inches: outline of the body, exclusive of the fins, somewhat resembling that of a Sole: thickness considerable: scales very small, but those on the posterior gill-covers considerably larger than the rest: dorsal fin covered with small



Booth, 1864.

MERRA HOLOCENTRUS.

not pub. London. Published by G. T. Jones, 1864.

scales, and furnished on the fore-part with extremely thick or strong spines: back-part and anal fin rounded, and reaching to within a little distance of the tail, which is remarkably small for the size of the fish, and of a round shape: pectoral fins whitish: ventral pale red: native of the coasts of Guinea, feeding on marine insects, &c. and in considerable estimation as a food.

JAPANESE HOLOCENTRUS.

Holocentrus Japonicus. *H. ruber, squamis parvis, iridibus caeruleis flavisque.*

Red *Holocentrus*, with small scales and blue and yellow irides, *Epinephelus ruber.* *Bloch.*

Size of a Perch: scales small: eyes furnished with a double iris, the first or nearest the pupil being yellow, and the second blue: abdomen and spiny part of the dorsal fin of a paler colour than the other parts of the fish: native of Japan.

MERRA HOLOCENTRUS.

Holocentrus Merra. *H. albus, undique fusco-maculatus.*

White *Holocentrus*, spotted on all parts with brown.

Epinephelus Merra. *Bloch.*

Size and habit of a Trout: scales small: body very thickly marked with middle-sized, subhexagonal, deep-brown spots; those on the head and towards the tail smaller than the rest: fins and tail marked with very numerous spots also: native of the Japanese seas.

TORTOISE-SHELL HOLOCENTRUS.

Holocentrus Testudineus. *H. subluteus, fasciis transversis sub-ramosis fuscis, operculis caeruleo fasciatis, pinnis nigricantibus.*

Subluteous Holocentrus, with slightly branching brown bands, blue-striped gill-covers, and blackish fins.

Epinephelus bruneus. *Bloch.*

LENGTH about six inches: shape rather lengthened: scales middle-sized: mouth wide: fins marked by a pair of dusky bars towards their base, and deepening into blackness towards their edges: dorsal fin scaly at the base. Native of the Northern seas.

MARGINED HOLOCENTRUS.

Holocentrus Marginatus. *H. caeruleus, dorso subfusco, pinnis rubris, dorsali antice nigro-marginato.*

Blueish Holocentrus, with brownish back, red fins, and dorsal fin edged on the fore-part with black.

Epinephelus marginalis. *Bloch.*

SIZE of a small Perch: scales rather small: yellow: mouth wide. Native region unknown.

SONNERAT'S HOLOCENTRUS.

Holocentrus Sonneratii. *H. subflavus, fuscis tribus transversis
argenteis, fusco-marginatis.*

Yellowish Holocentrus, with three transverse silvery bands
edged with brown.

Holocentrus Sonneratii. *Cepede.*

NATIVE of the Indian seas: mentioned by Cepede
from Sonnerat.

LANCEOLATE HOLOCENTRUS.

Holocentrus Lanceolatus. *H. argenteus, fusco transversim
fasciatus, pinnis dorsali anali caudalique apice sublanceolatis.*

Silvery Holocentrus, transversely banded with brown, and
with the dorsal, anal, and caudal fins sublanceolate.

Holocentrus lanceolatus. *Bloch.*

SIZE of a small Perch: allied in some degree to
the Chaetodons: scales extremely small: pectoral
fins and tail marked by a few black spots: tail
slightly inclining to a lanceolate shape: native of
the East Indies.

BLUE-SPOTTED HOLOCENTRUS.

Holocentrus Cæruleo-punctatus. H. albido-cærulescens, sub-flavo-nebulosus, pinnis fuscis cæruleo-maculatis.

Blueish *Holocentrus*, with pale-yellow clouds, and deep-brown fins spotted with blue.

Holocentrus cæruleo-punctatus. Bloch.

LENGTH about three inches and a half: body whitish, slightly clouded with pale blue: fins and tail deep brown, with numerous round blue spots: scales extremely small. Native country unknown.

PIED HOLOCENTRUS.

Holocentrus Bicolor. H. nigricans, maculis transversis irregularibus albis.

Blackish *Holocentrus*, with irregular white spots.

Holocentrus maculatus.

A VERY small species: length about three inches: colour deep blackish brown, marked by three or four interrupted white bands or patches: tail marked by a white bar: scales as in the two preceding species.

BODIANUS. BODIAN.

Generic Character.

Habitus Percæ.

Opercula squamosa, serrata,
aculeata.

Squamæ (pluribus) lævès.

Habit of the genus Percæ.

Gill-covers scaly, serrated,
and aculeated.

Scales (in most species)
smooth.

With divided or forked tails.

PURPLE-BACKED BODIAN.

Bodianus Bodianus. *B. luteus, dorso purpureo.*

Gold-yellow Bodian, with purple back.

Bodianus Bodianus. *Bloch.*

LENGTH about fourteen inches : shape somewhat like that of a trout : colour yellow, each scale being deeply edged or tipped with orange colour : back purplish rose-colour, with the scales tipped with blue : fins lanceolate : tail nearly even in the middle, but running into a lanceolate tip at each side. Native of the South American seas.

FIVE-SPINED BODIAN.

Bodianus Pentacanthus. B. roseus, abdomine argenteo, pinna dorsali antice flava.

Rose-coloured Bodian, with silvery abdomen, and dorsal fin yellow on the fore-part.

Bodianus pentacanthus. Bloch.

LENGTH about thirteen inches: shape nearly as in the preceding, but rather more slender: colour beautiful deep rose, with a silvery cast on the abdomen: fore-part of the dorsal fin yellow; remainder, together with the rest of the fins, deep rose: tail deeply forked, the upper lobe stretching beyond the lower: anterior gill-covers armed with five strong spines: native of the Brazilian seas, and in considerable esteem as a food.

 AYA BODIAN.

Bodianus Aya. B. ruber, abdomine argenteo, operculis unispinosie, cauda lunata.

Red Bodian, with silvery abdomen, single-spined gill-cover, and lunated tail.

Bodianus Aya. Bloch.

A HIGHLY beautiful species: size and habit of a Carp: colour bright red, with silvery abdomen, and most of the scales on the body edged with silver: back blood-red: dorsal fin rounded at the tip: tail lunated: scales middle sized: eyes red. Native of the Brazilian seas, and in much esteem as a food: said to grow to the length of three feet.



FIVE-LINED BODIAN.

LARGE-SCALED BODIAN.

Bodianus Macrolepidotus. *B. griseo-fuscus, squamis magis rotundis, margine denticulatis.*

Grey-brown Bodian, with large rounded scales denticulated at the edges.

Bodianus macrolepidotus. *Bloch.*

LENGTH about a foot: shape moderately broad: mouth small: scales very large, with pale edges: eyes large and yellow: pectoral and ventral fins pale yellow; the rest brown: tail slightly forked. Native of the East Indies.

SPOTTED BODIAN.

Bodianus Maculatus. *B. olivaceo-flavescens, caeruleo-maculatus, pinnis subrubentibus.*

Olivaceous-yellow Bodian, with blue spots, and reddish fins.

Bodianus maculatus. *Bloch.*

LENGTH about a foot: shape like that of a Trout: head rather large and short: scales small: head, body, fins, and tail, marked by numerous smallish blue spots edged with black: tail slightly lunated. Native of Japan.

LOUTI BODIAN.

Bodianus Louti. B. oblongo-lanceolatus miniatus, guttis violaceis, pinnis margine flavis.

Oblong-lanceolate Bodian, with smallish violaceous spots, and fins edged with yellow.

Perca Louti. Lin. Gmel. Forsk. Arab.

LENGTH between two and three feet : eyes red : teeth setaceous and flexile, with some stronger conical ones intermixed : tail linear, and bifalcate. Native of the Arabian seas : observed by Forskal.

PALPEBRAL BODIAN.

Bodianus Palpebratus. B. spadiceus, oculis ochraceis valvula libera flavescens munitis.

Subferruginous Bodian, with ochre-coloured eyes, guarded by a moveable yellow valve.

Sparus palpebratus. Lin. Gmel. Pall. nord. beytr. 2.

SHAPE resembling that of a Perch, but the head more obtuse : length a few inches : eyes guarded externally by an oval moveable yellow valve or cover, attached by the anterior extremity : native of the seas about Amboyna.

SILVERY BODIAN.

Bodianus Argenteus. *B. argenteus, dorso subcærulescente.*

Silvery Bodian, with blueish back.

Bodianus argenteus. *Bloch.*

LENGTH about six inches: shape like that of a Herring: scales middle sized: fins slightly tinged with yellow: tail pretty deeply forked: native of the Mediterranean.

With even, or rounded tail.

APUA BODIAN.

Bodianus Apua. *B. ruber, dorso maculis, corpore punctis nigris, pinnis nigro marginatis.*

Red Bodian, with the back spotted, the body specked, and the fins edged with black.

Bodianus Apua. *Bloch.*

LENGTH twelve or fourteen inches: habit that of a Carp: colour blood-red, with a silvery cast towards the abdomen: scales middle-sized: spiny rays of the dorsal fin extremely strong: eyes red: tail nearly even, or but very slightly rounded: native of the Brazilian seas.

GUTTATED BODIAN.

Bodianus Guttatus. *B. fusco-flavescens, corpore punctisque guttis ocellatis fuscis.*

Yellowish-brown Bodian, with body and fins marked by small ocellated deep-brown spots.

Bodianus guttatus. *Block.* Jacob Evertsen. *Ray.*

LENGTH about a foot: scales rather small than large: whole fish pretty thickly sprinkled with small round deep-brown spots, of which those towards the back, tips of the fins, and tail, are marked with a pale central spot: tail rounded. Native of the Indian and American seas, and in the latter known to the English by the name of the *Jew-Fish* or *Jacob Evertsen*: in considerable esteem as an edible fish.

ZEBRA BODIAN.

Bodianus Zebra. *B. subluteus, corpore fasciis transversis, capite longitudinalibus fuscis.*

Subluteous Bodian, with the body marked by transverse and the head by longitudinal brown bands.

Bodianus Boenack. *Block.*

LENGTH about ten inches: breadth moderate: colour dull luteous, paler beneath: body crossed by about seven brown bands, continued into the dorsal fin: head marked by three or four longitudinal stripes: tail rounded, and crossed towards the base by a brown band: eyes pale yellow: scales rather small than large: native of Japan, where it is known by the name of *Boenack*.

ROGAA BODIAN.

Bodianus Rogaa. B. nigro-rufescens, pinnis nigris.

Blackish-rufescent Bodian, with black fins.

Perca Rogaa. Lin. Gmel. Forsk. Arab.

LENGTH about three spans: lips broad, and very obtuse: teeth very numerous, setaceous, and often accompanied by two strong conic-subulate front-teeth: dorsal fin ramentose: tail even: native of the Arabian seas: observed by Forskal.

LUNATED BODIAN.

Bodianus Lunulatus. B. nigro-ferrugineus, pinnis nigris pone hyalino-albis.

Blackish-ferruginous Bodian, with black fins, whitish-transparent towards the back-part.

Perca lunaria. Lin. Gmel. Forsk. Arab.

ALLIED to the *Rogaa* Bodian: anal and dorsal fins marked towards the edge by a dull reddish band, and afterwards by a whitish subtransparent one: tail marked by a pale crescent, and tipped with dull rufous. Native of the Arabian seas: observed by Forskal.

BLACK-AND-WHITE BODIAN.

Bodianus Melanoleucos. *B. argenteus, fasciis transversis, irregularibus, nigris.*

Silvery Bodian, with irregular, transverse, black bands.

Bodianus melanoleucos. *Cepede.*

LENGTH, according to Cepede, four or five decimetres: shape lengthened: mouth and fins yellow: pectoral and ventral fins marked at the base by a black spot: teeth unequal, and in several rows: palate also beset in one part with small teeth. Observed by Commerson in the Indian seas.

STAR-EYED BODIAN.

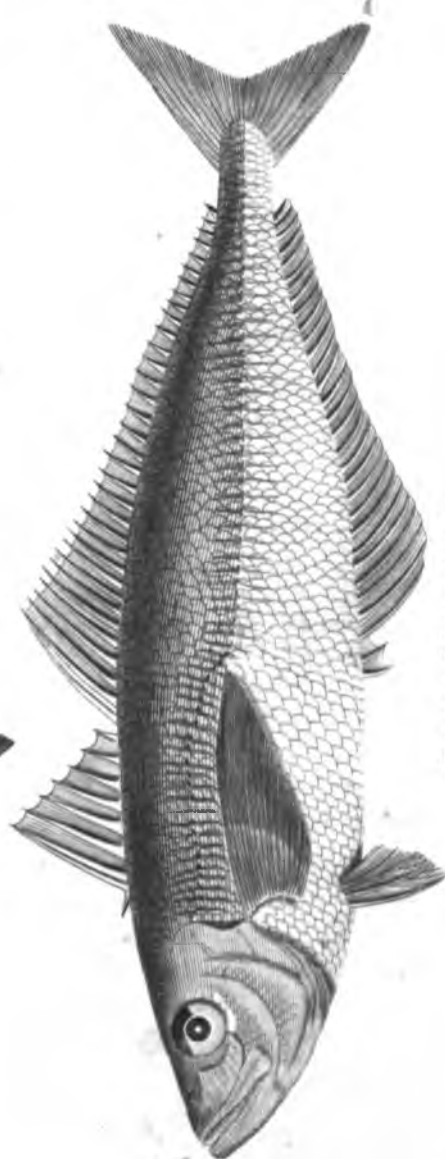
Bodianus Stellifer. *B. argenteus, dorso subluteo, orbitis subtus spinosis.*

Silvery Bodian, with subluteous back, and orbits spiny beneath.

Bodianus stellifer. *Bloch.*

A SMALL species: length about five inches and a half: shape somewhat like that of a small Tench, but rather longer: head short and obtuse: scales middle sized: orbits denticulated beneath in such a manner as to appear furnished with a series of small short spiny processes: tail oblong-rounded. Native of the seas about the Cape of Good Hope.

COMMON SEA-FISHES.



SCAD MAUCKREL.

and July 1, London. Published by G. Bridges, Print-Press.

SCOMBER. MACKREL.

Generic Character.

<i>Corpus</i> oblongum, læve, linea laterali interdum carinatum.	<i>Body</i> oblong, smooth, some- times carinated by the lateral line.
<i>Pinnulae</i> sæpius supra in- fraque versus caudam.	<i>Finlets</i> (in most species) above and below, towards the tail.

COMMON MACKREL.

Scomber Scomber. *S. caeruleus, lineis numerosis transversis
nigris, abdomine argenteo, pinnulis supra infraque quinque.*

Blue Mackrel, with numerous transverse black lines, silvery
abdomen, and five finlets above and below.

Scomber. *Pliny.* Scomber Scomber. *Lin. Bloch. t. 54.*

Common Mackrel. *Penn. Brit. Zool. Will. ichth. &c. &c.*

THIS beautiful fish is a native of the European and American seas; generally appearing at stated seasons, and swarming, in vast shoals, round particular coasts. Its great resort however seems to be within the Arctic circle, where it resides in innumerable troops, grows to a larger size than elsewhere, and is supposed to find its favourite food, consisting chiefly of marine insects, in far greater plenty than in warmer latitudes. During the severity of the northern winter it is said to lie im-

bedded in the soft mud, beneath the vast crusts of ice surrounding the polar coasts; being thus sufficiently protected from the effects of frost; and, on the return of spring, is generally believed to migrate in enormous shoals, of many miles in length and breadth, and to visit the coasts of more temperate climates in order to deposit its spawn. Its route has been supposed nearly similar to that of the Herring; passing between Iceland and Norway, and proceeding towards the northern part of our own island, where a part throws itself off into the Baltic, while the grand column passes downwards, and enters the Mediterranean through the straits of Gibraltar.

This long migration of the Mackrel, as well as of the Herring, seems at present to be greatly called in question: and it is thought more probable that the shoals which appear in such abundance round the more temperate European coasts, in reality reside during the winter at no very great distance; immersing themselves in the soft bottom, and remaining in a state of torpidity*; from which they are awakened by the warmth of the returning spring, and gradually recover their former activity. At their first appearance their eyes are observed to

* Of this the Count de Cepede adduces the testimony of an eye-witness; viz. *Monsr. Pleville-le-Peley*, who, about the coasts of Hudson's bay, observed the mud, at the bottom of the small clear hollows encrusted with ice round those coasts, entirely bristled over by the tails of Mackrels imbedded in it nearly three parts of their length.

appear remarkably dim, as if covered with a kind of film, which passes off as the season advances, when they appear in their full perfection of colour and vigor.

The general length of the Mackrel is from twelve to fifteen or sixteen inches; but in the northern seas it is occasionally found of far greater size, and among those which visit our own coasts instances sometimes occur of specimens far exceeding the general size of the rest. The colour of this fish, on the upper parts, as far as the lateral line, is a rich, deep blue, accompanied by a varying tinge of green, and marked by numerous black transverse streaks, which in the male are nearly strait, but in the female beautifully undulated: the jaws, gill-covers, and abdomen, are of a bright silver-colour, with a slight varying cast of gold-green along the sides, which are generally marked in the direction of the lateral line by a row of long dusky spots: the scales are very small, oval, and transparent: the pinnules or spurious fins are small, and are five in number both above and below. The shape of the Mackrel is highly elegant, and it is justly considered as one of the most beautiful of the European fishes. Its merit as an article of food is universally established, and it is one of those fishes which have maintained their reputation through a long succession of ages; having been highly esteemed by the ancients, who prepared from it the particular condiment or sauce known to the Romans by the title of *Garum*, and made by salting the fish, and

after a certain period, straining the liquor from it. This preparation, once so famous, has been long superseded by the introduction of the Anchovy for similar purposes.

COLY MACKREL.

Scomber Colias. S. late viridis et azureus. Lin. Gmel. Cott. pesc. &c. Sardin. p. 196.

Bright-green Mackrel varied with blue.

Colias. Aldr. Gesn. Will. &c.

THIS is said to be extremely allied to the common Mackrel, but somewhat smaller, and is occasionally observed about the coasts of Sardinia.

JAPANESE MACKREL.

Scomber Japonicus. S. caeruleus, pinnulis quinque spuriis, Lin. Gmel. Houttuyn Act. Haarl. 20.

Blueish Mackrel, with five spurious fins.

THIS also is so nearly allied to the common Mackrel, that it may be doubted whether it be a truly distinct species. It is said to be about eight inches long; shaped like a Herring, with silvery head, small scales, and ciliated or denticulated mandibles. Native of the Japanese sea.

GILDED MACKREL.

Scomber Auratus. S. aureus, pinnulis spuritis quinque. Lin. Gmel. Houtuyn Act. Haarl. 20.

Gold-coloured Mackrel, with five spurious fins.

MUCH allied to the preceding, as well as to the common Mackrel, but differs in colour, as well as in the number of rays in the anal fin, which amounts to six only. Native of the Japanese sea.

TUNNY.

Scomber Thynnus. S. fusco-cærulescens, abdomine argenteo, pinnulis supra infraque subdenis flavis.

Dusky-blueish Mackrel, with silvery abdomen, and about ten yellow finlets above and below.

Scomber Thynnus. Lin. Bloch.

Thynnus. Plin. l. 9. c. 15. Coretta alba Pisonis. Will.

Tunny. *Penn. Brit. Zool. 3.*

THE Tunny is a very large species, growing to the length of eight, or even ten feet, but much more commonly seen of about the length of two feet. It is an inhabitant of the Mediterranean, Northern, Indian, and American seas, and is of a gregarious nature, frequently assembling in large shoals. It is an animal of great strength and fierceness, preying on all kinds of smaller fishes, and is said to be the peculiar persecutor of the Mackrel and the Flying-Fish. Its flesh, though rather coarse, was much esteemed by the ancient Greeks and Romans, who established their Tunny-Fisheries as in modern

times, on many parts of the Mediterranean coasts, where this fish still continues to be taken in great plenty, more especially round the island of Sicily. In the British seas it is rarely observed in shoals: the individuals which occur being rather considered as accidental stragglers. Mr. Pennant records an instance of one which he saw on the northern coasts of Scotland, weighing 460 pounds, and measuring seven feet ten inches in length. Much larger specimens however are occasionally taken in the Sicilian sea. In the Indian ocean this species is said to be seen of an enormous size, and to assemble in vast shoals. Pliny pretends that the fleet of Alexander the Great was impeded in its progress by a shoal of Tunnies, so strongly wedged together that he found it necessary to dispose his ships into battle array, in order to force through the opposing phalanx of fishes *.

The Tunny-Fishery is of equal importance to the inhabitants of the Mediterranean coasts as the Herring-Fishery to those of the more northern parts of Europe. The smaller fishes are chiefly sold fresh, while the larger are cut in pieces and salted, and barrelled up for sale.

The general colour of the Tunny is a dark or dull blue on the upper parts, and silvery with a cast of flesh-colour on the sides and abdomen: the first dorsal fin and the tail deep grey, the second, together with the pectoral, ventral, anal, and spurious fins yellow: the pectoral fins are of a lanceolate

* *Plin. lib. 9. cap. 3.*

shape, and the tail pretty strongly lunated: the finlets or spurious fins appear to vary in number in different specimens, and consequently can afford no very certain specific mark. In the specimen observed by Mr. Pennant the number was eleven above, and nine below. In the Gmelinian edition of the *Systema Naturæ*, as well as in the preceding one by Linnæus himself, the number is said to be eight both above and below.

 THAZARD MACKREL.

Scomber Regalis. S. supra cæruleus, subtus argenteus, lateribus flavo striato-maculatis.

Mackrel with the body blueish above, silvery below, and the sides striped and spotted with yellow.

Scomber regalis. Bloch. Scomber Thazard. Cope.

ALLIED to the Tunny in general form, but of a rather more slender shape: size sometimes nearly equal to that of the Tunny: colour blueish brown on the back, and silvery on the sides and abdomen: along each side runs a longitudinal yellow stripe or band, accompanied both above and below by a series of oval or lengthened spots of the same colour: fins yellow: the pectoral ones rather small and short: tail strongly forked or lunated, and furnished, as in the Tunny, on each side the base, with a small semi-coriaceous process: inlets eight above and seven below. Native of the American seas, and in considerable esteem as a food.

GERMON MACKREL.

Scomber Germon. *S. caeruleus*, abdomine argenteo, pinnis pectoralibus elongatis, pinnulis supra infraque novem.

Blue Mackrel, with silvery abdomen, elongated pectoral fins, and nine finlets both above and below.

Scomber Germon. *Cepede*.

GENERAL size that of a small Tunny: colour blackish blue on the back, bright blue on the sides, and silvery on the abdomen: on several individuals are seen a few slight traces of transverse blue bands, which disappear as soon as the fish expires, and sometimes even immediately on taking out of the water: body and tail covered with small pentagonal, or rather rounded scales. Native of the Indian seas: observed by Commerson.

SARDA MACKREL.

Scomber Sarda. *S. argenteus*, supra fasciis numerosis transversis fuscis.

Silvery Mackrel, marked above by numerous transverse brown bands.

Scomber Sarda. *Bloch*.

SHAPE as in the preceding: length about two feet: colour bright silvery; the back blueish, and marked on each side, as in the Mackrel, with pretty numerous, short, transverse, brown bars: dorsal fins and tail dusky; the latter strongly forked: upper part of the body, from the head to a small distance beyond the base of the pectoral fins, covered by small

scales; the remainder of the fish presenting only the appearance of a smooth, silvery skin: finlets seven above, and six below: on each side the base of the tail a projecting lamina, as in the preceding kinds: native of the Mediterranean, and in some esteem as a food.

SALIENT MACKREL.

Scomber Saliens. *S. argenteus*, dorso viridi-cæruleo, spinis quatuor armato, pinnulis supra infraque octo.

Silvery Mackrel, with blue-green back armed with four spines, and eight pinnules above and below.

Scomber saliens. Bloch.

SIMILAR in shape to the Tunny: length about eighteen inches: colour darkish blue on the back, and silvery on the sides and abdomen: fins pale, with a yellowish cast: tail dusky, and strongly forked: before the dorsal fin four very strong separate spines: a single spine at the base of each pectoral fin, and two very strong separate ones before the ventral fin: finlets eight both above and below: lateral line pretty strongly marked: no projecting lamina on each side the base of the tail: native of the American seas: is a strong fish, swimming rapidly, and occasionally springing with considerable force out of the water, and escaping out of the nets thrown for it: in considerable esteem as a food.

PILOT MACKREL.

Scomber Ductor. *S. argenteo-cærulescens, fasciis quatuor transversis cæruleis, spinis dorsalibus quatuor, cauda nigro-fasciata.*
Silvery-blueish Mackrel, with four transverse blue bands, four dorsal spines, and tail barred with black.

Scomber Ductor. *Bloch.* Gasterosteus Ductor. *Lin.*

GENERAL shape that of a Tunny, but with a much blunter or shorter head: length about eighteen inches: colour blue above, and silvery on the sides and abdomen: scales small: body crossed by four broad blue bands, the first commencing at some distance beyond the gills, and the last crossing the extremity of the body: tail strongly forked, each lobe marked obliquely by a broad black band: dorsal fin single, pale, commencing at a considerable distance from the head, and reaching nearly to the tail: before its commencement are situated four strong, short, separate spines: anal fin pale, and continued nearly to the tail: on each side the base a projecting lamina with serrated edges, but no finlets either above or below: native of the American and Indian seas: often observed swimming near or before sharks, and hence sometimes called by the name of the Pilot.

ZEBRA MACKREL.

Scomber Zebra. *S. subargenteus*, dorso subfusco, corpore fasciis transversis angustis subduplicatis fuscis.

Subargenteous Mackrel, with brownish back, and body marked by narrow transverse subduplicate brown bands.

Scomber fasciatus. Bloch.

SHAPE that of a Carp: length about a foot: bands of the body continued nearly through the dorsal and anal fin: from eye to eye a brown crescent over the head: first dorsal fin small: the second continued nearly to the tail, which is strongly forked: no finlets or lateral lamina: lateral line pretty distinct, especially towards the tail, where it is minutely subloricated. Native regions unknown.

TOOTHLESS MACKREL.

Scomber Edentulus. *S. argenteus* dorso subfusco, corpore supra fasciis transversis subbifidis semi-decurrentibus fuscis.

Silvery Mackrel, with brownish back, and body marked above by transverse, subbifid, semidecurrent, brown bands.

Scomber edentulus. Bloch.

LENGTH about twelve inches: habit broad, and almost approaching to subrhomboid, as in some of the Spari, &c. mouth small and without visible teeth: first rays of the dorsal fin excessively strong, the remainder suddenly growing shallower, and continuing nearly to the tail, appearing as if composed of united finlets: anal fin of similar aspect: tail strongly forked. Native of the Indian seas, and much esteemed for the table.

BONITO MACKREL.

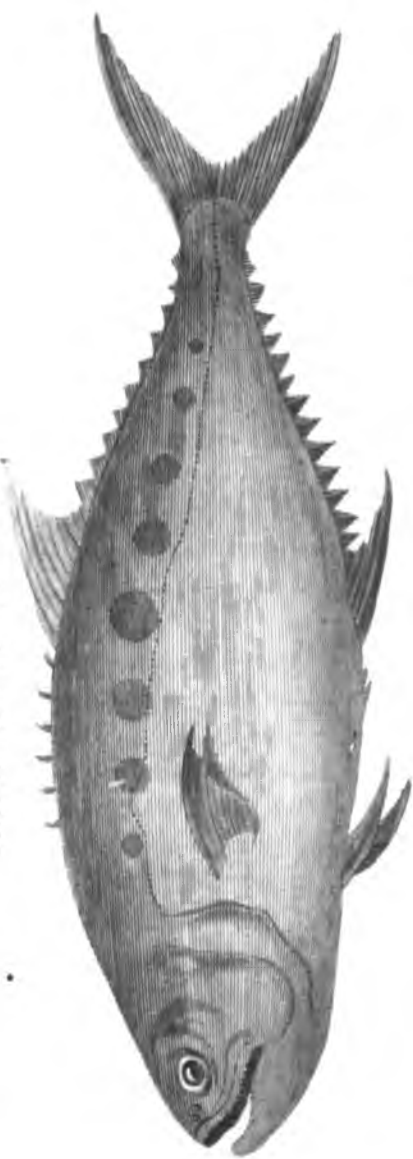
Scomber Pelamis. *S. argenteus, dorso cæruleo, corpore lineis utrinque quatuor longitudinalibus nigricantibus.*

Silvery Mackrel, with blueish back, and body marked on each side by four longitudinal blackish streaks.

Scomber Pelamis. *Lin.*

GENERAL appearance that of the Tunny, but more slender: colour the same as in the Tunny, but distinguished by four linear stripes on each side beneath the lateral line: scales very small: ventral fins long and narrow, and occasionally received, as in several others of this genus, into a kind of channel beneath: first dorsal fin falciform, and depressed at pleasure into a fossule, so as to be quite concealed: tail strongly lunated: finlets eight above, and seven below; and on each side the base a coriaceous lamina: native of the Atlantic and tropical seas, and a very active, strong, and voracious species, persecuting flying-fishes, &c. in the manner of the Tunny, and is itself tormented by several species of intestinal worms; the *Fasciola clavata* being often found in considerable numbers in its stomach, and various kinds of *Tenie* and *Ascarides* in the bowels.

GLADIMANAR MACKEREL.



COMMONER'S MACKEREL.

Illustrated by G. Bennett. From Nature.

COMMERSON'S* MACKREL.

Scomber Commersonii. *S. elongatus argenteus, dorso subfusco, lateribus maculis irregularibus fuscis.*

Silvery Mackrel, with elongated body, brownish back, and sides marked with irregular brown spots.

Scomber Commerson. *Cepede.*

SIZE not mentioned: habit remarkably long: jaws of equal length, and furnished with strong, sharp, distinct teeth: snout pointed: eyes large: gill-covers composed of two rounded laminæ: first dorsal fin long, and very shallow as it approaches the tail: second very short, and emarginated in the middle: vent fin similar: lateral line undulated in an unusual manner, especially towards the tail: general colour silvery, growing dusky towards the back, and varied on the sides by numerous, irregular, dusky spots: pinnules ten both above and below, each composed of four or five small rays united by a membrane: native of the Pacific ocean. Described by Cepede from the MSS. of Commerson.

* Philibert Commerson, an excellent naturalist, was born at *Chatelon les Dombes* near *Boury* in *Bresse* in the year 1727, and died in the Isle of France, whither he had accompanied *Bougainville* in his voyage round the world in the year 1773.

ALATUNGA MACKREL.

Scomber Alatum. *S. pinnis pectoralibus longissimis, pinnulis caudæ utrinque septem. Lin. Gmel.*

Mackrel with very long pectoral fins, and seven finlets both above and below.

Scomber Alatum. *Lin. Gmel.*

HABIT of the Tunny, but considerably smaller : pectoral fins so long as to reach almost to the end of the second dorsal : pinnules seven both above and below : native of the Mediterranean, appearing, like the Tunny, in large shoals, and in considerable esteem as a food.

MADAGASCAR MACKREL.

Scomber Madagascariensis. *S. subargenteus dorso carulco, corpore maculis rotundatis nigris serie laterali dispositis.*

Subargenteous Mackrel, with blue back, and body marked by a lateral row of round black spots.

Scomberoides Commersonii. *Cepede.*

ALLIED to the Tunny, growing to a very considerable size : colour nearly as in the Tunny : on each side the back, immediately above the lateral line, a row of eight or nine pretty large, round, blackish spots, those near the head and tail smaller than the rest : lower jaw rather longer than the upper : before the dorsal fin six distinct, strong, and sharp spines : pectoral and ventral fins rather short, and pointed : tail strongly forked : finlets ten

or twelve both above and below; they are of a triangular or pointed shape, and situated very close to each other at their bases: native of the African seas: observed by Commerson.

BOTLA MACKREL.

Scomber Botla. *S. subflavescens*, dorso plumbeo, corpore squamoso, maculis lateralibus rotundatis fuscis.

Yellowish Mackrel, with lead-coloured back, scaly body, and roundish, brown, lateral spots.

Botla Parah. *Russel's Indian Fishes. pl. 142. and var. ? pl. 137.*

ALLIED to the preceding, and spotted in the same manner, but covered with middle-sized oval scales: length about eighteen inches: dorsal and anal fin long and somewhat falciform: finlets as in the former: seems to vary as to the number and size of the lateral spots.

LEOPARD MACKREL.

Scomber Leopardus. *S. cæruleus*, subtus argenteus, lateribus maculis numerosis ovatis nigris.

Blue Mackrel, silvery beneath, with numerous ovate lateral black spots.

Wingeram. *Russel. Ind. pl. 134.*

GENERAL shape of the Tunny, but rather more slender: length from two to three feet: colour dusky blue above, and silvery on the sides and abdomen: sides marked from the gills to the tail by pretty numerous and rather large oval black spots:

between the first and second dorsal fin five or six distinct spines: tail deeply forked; and on each side the base furnished with a projecting lamina: finlets eight above and seven below: native of the Indian seas: esteemed as a food by the Europeans, especially when not exceeding the length of about eighteen inches or two feet. Described by Dr. P. Russel.

MOTTLED MACKREL.

Scomber Maculosus. *S. supra caruleo-virescens, maculis
numerosis subalternis transversis elongatis nigris.*

Mackrel of a blue-green colour above, with numerous, sub-alternate, transverse, elongated black spots.

Konam. *Russel. Ind. pl. 135.*

SHAPE similar to that of the common Mackrel: length two feet eight inches: colour on the upper parts changeable greenish-blue, variegated by numerous transverse, alternate, short, blackish bars or spots: first dorsal fin rather shallow, sinking, in the middle, and extending almost to the commencement of the second: tail much forked, and furnished with a slightly projecting lamina on each side the base: finlets ten above and twelve below. Native of the Indian seas. Described by Dr. Russel.

MULLUS. SURMULLET.

Generic Character.

<i>Caput</i> compressum, declive, squamosum.	<i>Head</i> compressed, scaly.
<i>Os</i> cirratum.	<i>Mouth</i> bearded.
<i>Membr: branch:</i> triradiata.	<i>Gill-membrane</i> three-rayed.
<i>Corpus</i> squamis magnis sub- deciduis.	<i>Body</i> covered with large subdeciduous scales.

RED SURMULLET.

Mullus Ruber. M. corpore rubro.
Surmullet with red body.
Mullus barbatus. Lin.

THE red Surmullet is principally found in the Mediterranean and Northern seas, where it arrives at the length of twelve or fifteen inches: its colour is an elegant rose-red, tinged with olive-colour on the back, and of a silvery cast towards the abdomen: the scales are thin and easily separated, and when rubbed off, the skin itself appears of a brighter red. The Surmullet is a fish of a strong and active nature, swimming briskly, and feeding principally on the smaller fishes, worms, and sea-insects. It is generally considered as a very delicate fish, and is celebrated for having been the fashionable object of Roman luxury, and for which such enormous sums

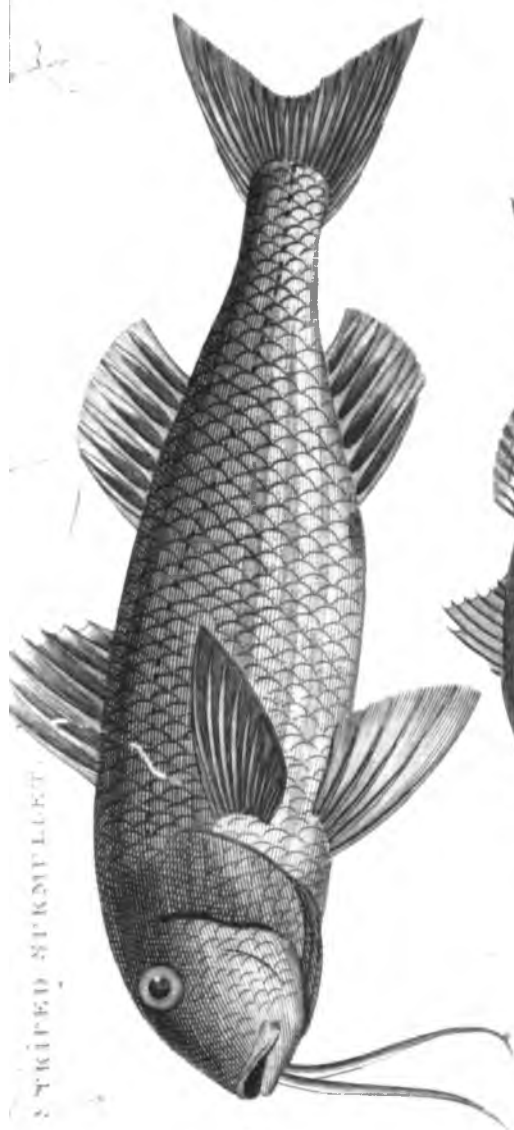
are reported to have been sometimes given; though it is probable that the high estimation in which it was held by the ancient Greeks and Romans was more owing to a prejudice entertained on account of its elegant appearance, than to its real merit as a food. The Romans practised a singular refinement in luxury by first bringing the fish alive to the table in a glass vessel, in order that the guests might enjoy the pleasure of contemplating the beautiful changes of its evanescent colours during the time of its gradual expiration; after which it was prepared for their repast*.

* Mullum expirantem versicolori quadam et numerosa spectari, proceres gulæ narrant, rubentium squamarum multiplici mutatione pallescentium, utique si vitro spectetur inclusus.

Plin. lib. 9. cap. 17.

Ad hunc fastum pervenere ventres delicorum, ut gustare non possint piscem, nisi quem in ipso convivio natantem palpitantemque viderint. Quanto ad solertiam luxuriæ plures eunt, tanto subtilius quotidie et elegantius excogitat furor, usitata contemnens: illa audiebamus nihil esse melius saxatili Mullo: at nunc audimus, nihil est moriente fornosius. Da mihi in manus vas vitrum in quo exultet, in quo trepidet: ubi multum diuque laudatus in illo perlucido vivario extrahitur, tunc ut quisque peritior est monstrat. Vide quomodo exarserit rubor omni acrior minio! vide quas per latera venas agat! ecce! sanguinem putes ventrem! quam lucidum quiddam cæruleumque sub ipso tempore effulsit! jam porrigitur et pallet, et in unum colorem componitur!

Seneca.



STRIPED STRUMPLET.



Both same

ORIFLAMME STRUMPLET.

Wm. A. S. London. Published by S. Kewsey, 100, Street.

STRIPED SURMULLET.

Mullus Surmuletus. M. ruber, lineis utrinque duabus vel tribus longitudinalibus flavis.

Red Surmullet, marked on each side with two or three longitudinal yellow streaks.

Mullus Surmuletus. Lin. Gmel.

Striped Surmullet. *Penn. Brit. Zool.*

Of similar size and general appearance with the preceding, but marked on each side by two, and sometimes three longitudinal yellow stripes. Native of the Mediterranean, but found occasionally in the Atlantic and other seas: in equal esteem as a food with the former, of which it has even been considered by some authors as a variety.

ORIFLAMME SURMULLET.

Mullus Auriflamma. M. fusco-flavescens, vitta utrinque longitudinali fulva.

Yellowish-brown Surmullet, with a longitudinal fulvous band on each side the body.

Mullus auriflamma. Forsk. Arab.

LENGTH about eight or ten inches: colour gilded brown, paler beneath, with a longitudinal stripe on each side the body of an oriflamme or fulvous colour, situated above the lateral line, and accompanied by a dusky spot near the base of the tail, which, together with the dorsal fin, is yellow: the other fins, with the beards or cirri beneath the under jaw, are whitish. Native of the Arabian seas.

INDIAN SURMULLET.

Mullus Indicus. M. supra purpureus, infra albicans, corpore utrinque bimaculato.

Surmullet with the body purple above, whitish below, and marked on each side by two spots.

Rahtee Goolivinda. *Russel ind. pl. 157.*

Size and habit of the common or red Mullet : colour extremely beautiful in the living fish, but fading very soon after death : upper part of the head, and back, dark changeable purple, growing faint on the sides, which are marked by a few longitudinal azure and golden lines, and by two oblong spots on each side : the first situated about the middle of the body, smallish, and of an opaline or changeable golden and white colour : the second situated near the tail, larger, and of a dark purple : abdomen white : dorsal fin purple, streaked with light blue : pectoral and anal pink-colour : native of the Indian seas : observed by Dr. Russel near *Visgapatam* : inferior as a food to the red Mullet, and not much esteemed.

BANDI SURMULLET.

Mullus Bandi. *M. albidus, fasciis utrinque duabus longitudinalibus flavis.*

Whitish Surmullet, with two longitudinal yellow bands on each side.

Bandi Goolivinda. *Russel ind. pl.* 158.

HABIT similar to the former: length about six inches: body white, with two yellow fillets on each side from gills to tail: breast and belly greenish white: dorsal and caudal fin streaked obliquely with yellow and dusky lines: ventral and anal greenish white: inhabits the river near *Visgapatam*: observed by Dr. Russel: in little or no esteem as a food.

 JAPANESE SURMULLET.

Mullus Japonicus. *M. corpore flavo.*

Surmullet with yellow body.

Mullus Japonicus. *Lin. Gmel.*

HABIT of the red Surmullet; of which it has sometimes been supposed a variety: length about six inches: teeth very small: native of the Japanese seas.

BANDED SURMULLET.

Mullus Vittatus. *M. albus, fasciis utrinque duabus longitudinalibus fuscis, tribus flavis.*

White Surmullet, marked on each side by two longitudinal brown and three yellow bands.

THE two brown bands in this species are above the lateral line, and the three yellow ones below it: of these the first or uppermost is of a deep, and the two lower ones of a pale yellow: fins whitish; the dorsal and caudal streaked obliquely with black lines: native of the Arabian seas: observed by Forskal.

 TRIFASCIATED SURMULLET.

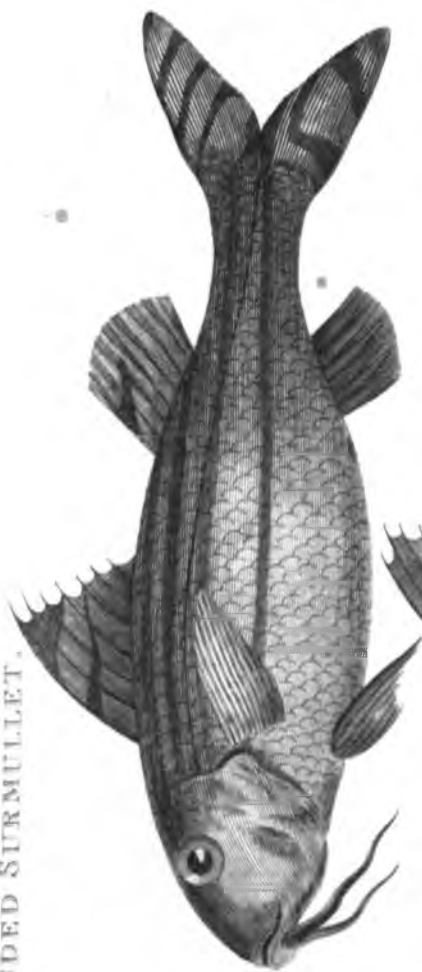
Mullus Trifasciatus. *M. albidus, fasciis utrinque tribus transversis fuscis.*

Whitish Mullet, with three transverse brown bands on each side.

Mullus trifasciatus. *Cepede.*

HABIT similar to the rest of the genus: beards very long. Native of the Indian seas: observed by Commerson.

BANDED SURMULLET.



TRIACANTHUS SURMULLET.

Bath. orig.

BIFASCIATED SURMULLET.

Mullus Bifasciatus. *M. albidus, fasciis utrinque duabus transversis fuscis.*

Whitish Surmullet, with two transverse brown bands on each side.

Mullus bifasciatus. *Cepede.*

HABIT nearly similar to the preceding: body marked by two very deep or dusky transverse bands, each terminating in a point towards the abdomen: beards rather short: native of the Indian seas: observed by Commerson.

SPOTTED SURMULLET.

Mullus Maculatus. *M. ruber, corpore utraque maculis tribus rotundatis nigris.*

Red Surmullet, with the body marked on each side by three rounded black spots.

Mullus maculatus. *Bloch.*

SIZE of the common Surmullet: shape rather more lengthened than in the rest of the genus: colour of the whole animal bright red, with three large round black spots along each side. Native of the Brazilian seas.

RADIATED SURMULLET.

Mullus Radiatus. *M. ruber, orbitis flavo radiatis, macula lutea ad finem dorsi.*

Red Surmullet, with the orbits radiated with yellow, and a deep yellow spot towards the end of the back.

Mulle Rougeor. *Cepede.*

SECOND dorsal, and anal fin marked by oblique yellow streaks: native of the Indian seas: observed by Commerson.

GOLD-STRIPED SURMULLET.

Mullus Aureovittatus. *M. supra fusco-caeruleascens, subtus albus, linea utrinque longitudinali aurea.*

Surmullet with the body brownish-blue above, whitish beneath, and marked on each side by a longitudinal gold-coloured line.

Mulle Cordon-jaune. *Cepede.*

TAIL and tips of the dorsal fins yellow: native of the Indian seas: observed by Commerson.

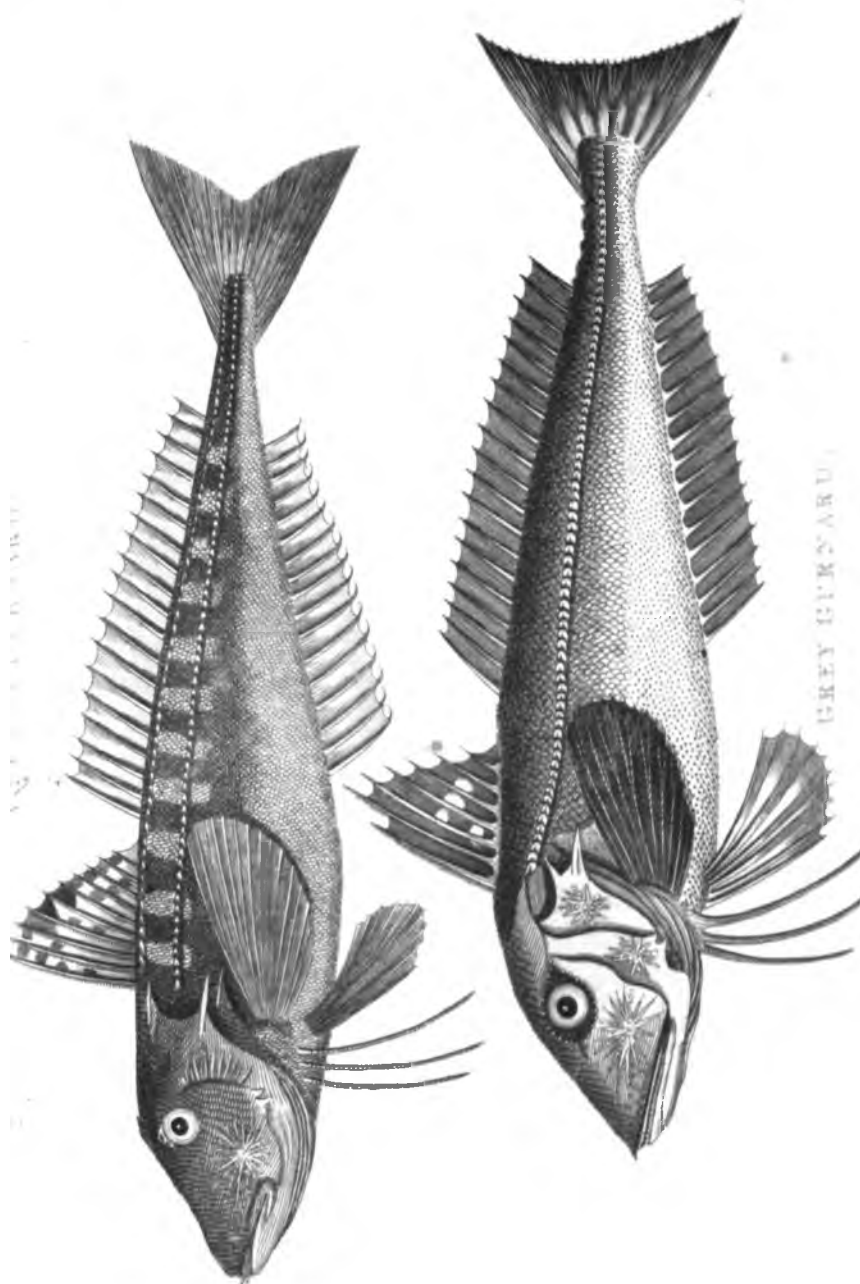
BEARDLESS SURMULLET.

Mullus Imberbis. *M. ruber, ore imberbi.*

Red Surmullet, with beardless mouth.

Mullus imberbis. *Lin. Gmel.*

NATIVE of the Mediterranean: mouth wide: differs from the rest of the genus in wanting the cirri beneath the lower lip.



CHRYSEIDAE

TRIGLA. GURNARD.

Generic Character.

<i>Caput</i> magnum, loricatum, lineis scabris.	<i>Head</i> large, mailed, and marked by rough lines.
<i>Opercula</i> spinosa.	<i>Gill-covers</i> spiny.
<i>Membr:</i> branch: radiis sep- tem.	<i>Gill-membrane</i> seven-rayed.
<i>Digiti</i> (plerisque) liberi ad pinnas pectorales.	<i>Finger-shaped processes</i> (in most species) near the pectoral fins.

GREY GURNARD.

*Trigla Gurnardus. T. grisea, digitis ternis, linea laterali
squamis rotundatis albidis loricata.*

Grey Gurnard, with triple fingers, and lateral line mailed with
rounded whitish scales.

Trigla Gurnardus. Lin. Grey Gurnard. Penn. Brit. Zool.

LENGTH from one to two feet, or more :
colour above deep grey, with blackish and red
spots: beneath silvery: scales small: lateral line
very strongly marked, and consisting of a series of
larger, rounded, whitish scales with a dusky central
spot. Native of the European seas, and not un-
common about our own coasts, feeding on worms,
insects, &c.

PIPER GURNARD.

Trigla Lyra. *T. rubra, subtus argentea, digitis ternis, rostro bifido denticulato.*

Red Gurnard, silvery beneath, with triple fingers, and bifid denticulated snout.

Trigla Lyra. *Lin.* Piper Gurnard. *Brit. Zool.*

Size nearly equal to the former species: lateral line formed of small scales: colour bright rose-red, silvery beneath: scales small: pectoral fins large, and slightly tinged with dull blue: tail of similar colour: the other fins yellowish, with red rays. Native of the European seas, and considered as an excellent fish for the table.

 CUCKOW GURNARD.

Trigla Cuculus. *T. rubra, subtus argentea, digitis ternis, pinna dorsali priore macula nigra.*

Red Gurnard, silvery beneath, with triple fingers, and first dorsal fin marked by a black spot.

Trigla Cuculus. *Lin.* Red Gurnard. *Brit. Zool.*

An elegant species: length about a foot: shape more slender than in the preceding kinds: colour, on the upper parts, a beautiful red, more or less distinctly marked by whitish transverse bars: beneath silvery: scales extremely small: lateral line composed of pointed white scales edged with black: a similar row on each side the back: fins transparent; the first dorsal marked on the edge by a

black spot ; the second tinged near its edge with yellow : native of the European seas, and esteemed as a food.

ASIATIC GURNARD.

Trigla Asiatica. *T. argentea, digitis quaternis.*

Silvery Gurnard, with quadruple fingers.

Trigla Asiatica. *Lin. Gmel.*

Body smooth ; of a silvery colour : snout smooth and prominent : anterior gill-covers serrated : pectoral fins falcated. Native of the Indian seas.

SAPPHIRINE GURNARD.

Trigla Hirundo. *T. griseo-fusca, subtus argentea, digitis ternis, pinnis pectoralibus maximis olivaceis cæruleo-maculatis.*

Grey-brown Gurnard, silvery beneath, with triple fingers, and very large olivaceous pectoral fins spotted with blue.

Trigla Hirundo. *Lin.* Sapphirine Gurnard. *Brit. Zool. Tub-Fish. Will.*

Size equal to that of the grey Gurnard : scales middle-sized : lateral line rough : pectoral fins very large, of a violaceous olive, sometimes, according to Mr. Pennant, richly edged and spotted with blue : native of the European seas, occasionally springing out of the water to some distance by means of its large pectoral fins.

FLYING GURNARD.

Trigla Volitans. T. rubra, aculeato-squamosa, pinnis pectoralibus maximis cæruleo-maculatis, digitis senis membrana connexis.

Red Gurnard, with aculeated scales, very large pectoral fins spotted with blue, and sextuple fingers connected by a membrane.

Trigla volitans. Lin. Milvus. Salvian. Aldr. Will. &c.

A HIGHLY singular and beautiful species : length about twelve inches : colour crimson above, pale or whitish beneath : head blunt, and armed on each side with two very strong and large spines pointing backwards : whole body covered with extremely strong carinated and sharp-pointed scales, so united as not to be distinctly separable : first dorsal fin pale violet, crossed with deeper lines, and at its origin two separate rays longer than the rest : second dorsal fin pale, with the rays barred with brown : pectoral fins extremely large, transparent, of an olive-green, richly varied with numerous bright-blue spots : pectoral processes six* in number, and not separate, as in other species, but united into the appearance of a small fin on each side the thorax : tail pale violet, with the rays crossed by dusky spots, and strengthened on each side the base by two obliquely transverse bony ribs or bars. Native of the Mediterranean, Atlantic, and Indian seas, where it swims in shoals, and is often seen flying out of the water to a considerable distance, in the manner of the genus *Exocætus*.

* By a singular oversight in the *Systema Naturæ* the thoracic processes or fingers in this species are said to be twenty in number "*digitis vicenis.*"

FLYING GUNNARD.

From July 1. London published by E. Isaac's Fleet Street



From 1844

SPRINGING GURNARD.

Trigla Evolans. *T. digitis ternis, mucronibus tribus serratis pinnis dorsalibus interpositis.* Lin. Gmel.

Gurnard with triple fingers, and three serrated spines between the dorsal fins.

Trigla evolans. Lin. *Trigla volitans minor.* Brown Jam. t. 47.

ALLIED to the preceding species, but furnished with three separate pectoral processes: the pectoral fins very large, but not equal to those of the preceding: between the dorsal fins three serrated spines: pectoral fins blackish. Native of the American seas.

LUCERNA GURNARD.

Trigla Lucerna. *T. digitis ternis, rostro subbifido, linea laterali ad caudam bifida.* Lin. Gmel.

Gurnard with triple fingers, subbifid snout, and lateral line bifid at the tail.

NATIVE of the Northern seas: perhaps a variety of the *T. Hirundo*.

CAROLINA GURNARD.

Trigla Carolina. *T. albida rubro-punctata, digitis ternis, pinnis pectoralibus fuscis nigro transversim fasciatis.*

Whitish Gurnard, speckled with red, with triple fingers, and brown pectoral fins transversely banded with black. }

Trigla Carolina. Bloch.

LENGTH about ten inches: upper parts marked by numerous small red spots: dorsal fins pale, with the rays spotted with brown; the first fin marked by a black spot: tail slightly rounded at the end, and crossed by three or four rows of brown spots. Native of the American seas.

JAPANESE GURNARD.

Trigla Japonica. *T. digitis undenis membrana palmatis.*

Gurnard with eleven fingers on each side, palmated by a membrane.

Trigla alata. Lin. Gmel.

A SMALL species: of about four inches in length: head angular: lower jaw and hinder margin of the gill-covers furnished with two strong spines: native of the Japanese sea.

BLACK MACKREL.

Scomber Niger. *S. niger, subtus subargenteus, spinis dorsalibus octo, pinna dorsali unica.*

Black Mackrel, silvery beneath, with eight dorsal spines, and single dorsal fin.

Scomber niger. *Block.*

LENGTH from two to six feet : habit resembling that of the Pilot Mackrel; the head being short, and rounded in front : scales middle-sized : head without scales : before the dorsal fin a row of eight strong spines : dorsal fin single, the first part being of moderate length and of a subfalcated shape, suddenly sinking into the remainder, which is continued nearly to the tail : anal fin of similar shape : tail greatly forked : ventral fins white, with black edges : no pinnules either above or below : native of the African and American seas.

 ASCENSION MACKREL.

Scomber Ascensionis. *S. glaucus, spina dorsali recumbente.*

Glaucous Mackrel, with recumbent dorsal spine.

Scomber glaucus. *Lin. Gmel. Mus. Ad. Frid.*

SECOND ray of the dorsal fin extremely long : no finlets : observed by Osbeck about the Isle of Ascension.

SMALL MACKREL.

Scomber Minutus. S. squamosus argenteus, corpore dilatato, dorso subfusco.

Scaly, silvery Mackrel, with dilated body, and brownish back.
Scomber minutus. Bloch.

LENGTH about five inches: habit broad, resembling that of some of the Spari: scales middle-sized: dorsal fin commencing at the middle of the back, and continuing nearly to the tail: anal nearly opposite and of similar shape: eyes large: tail deeply forked: native of the Indian seas, sometimes entering rivers, and much esteemed as a food.

ACULEATED MACKREL.

Scomber Aculeatus. S. argenteus, dorso subfusco, spinis dorsali-bus octo decussantibus.

Silvery Mackrel, with brownish back, and eight decussating dorsal spines.

Scomber aculeatus. Bloch.

LENGTH seven or eight inches: habit that of the common Mackrel, but rather broader: before the dorsal fin about eight distinct and strong spines, some of which are placed in opposite directions, so as to cross each other at the tips: before the ventral fins two spines united by a membrane: dorsal and anal fin placed nearly opposite: tail forked: finlets about eleven, both above and below: native of the European and American seas, and esteemed nearly equal to the common Mackrel as a food.

SPUR MACKREL.

Scomber Calcar. *S. argenteus, dorso subfusco, spinis dorsalibus quatuor divergentibus.*

Silvery Mackrel, with brownish back, and four diverging dorsal spines.

Scomber Calcar. *Bloch.*

SOMEWHAT allied to the former species, but of a broader or shorter shape: length ten or twelve inches: before the dorsal fin four very strong spines, diverging in such a manner as to bear some resemblance to a spur: first ray of the dorsal fin consists also of a strong spine: before the anal fin two strong spines connected by a membrane: dorsal and anal fin of similar size, and continued nearly to the tail, which is strongly forked. Native of the African seas.

RHOMBOID MACKREL.

Scomber Rhombeus. *S. argenteus, corpore rhombeo, squamis parvis.*

Silvery Mackrel, with rhombic body and small scales.

Centroaster argenteus. *Lin. Gmel.*

LENGTH about five inches: shape rhomboid: colour silvery, with very minute scales: dorsal and anal fin triangular at the fore-part and scaly at the base: tail glaucous, and slightly divided. Native of the Arabian seas. Observed by Forskal.

SADDLED MACKREL.

Scomber Equula. *S. argenteus, fronte carinis duabus osseis, occipite spinis duabus retroversis.*

Silvery Mackrel, with the front marked by two long keels and the hind-head by two reversed spines.

Centrogaster Equula. *Lin. Gmel.*

LENGTH nearly as in the preceding species: body ovate, compressed, smooth, silvery, and covered with very minute scales: head marked by two converging bony keels, and beyond the eyes furnished with two reversed spines: dorsal and anal fin continued to the tail, which is bilobate or forked: ventral fins connected by a membrane with four sharp spines and six soft rays. Native of the Arabian seas: observed by Forskal.

BROWNISH MACKREL.

Scomber Fuscescens. *S. fuscus, subtus albicans, cauda sub-bifurca.*

Brownish Mackrel, whitish beneath, with subbifurcate tail.

Centrogaster fuscescens. *Lin. Gmel.*

LENGTH five inches: upper mandible armed with sharp teeth: dorsal fin continued along the whole length of the back. Native of the Japanese sea.

BLACK-NECKED MACKREL.

- *Scomber Nigricollis*. *S. argenteus*, *nuchæ gutta magna fusca*, *pinnæ dorsalis nigricante*.
- Silvery Mackrel, with a large brown spot on the nape, and a blackish one on the dorsal fin.
- *Centrogaster argentatus*. *Lin. Gmel.*

LENGTH about three inches and a half: tail forked.
Native of the Japanese seas.

With mailed lateral line.

SCAD MACKREL.

- *Scomber argenteus*, *squamis magnis*, *linca laterali late loricata*.
- Silvery Mackrel with large scales and widely-mailed lateral line.
- *Scomber Trachurus*. *Lin.* The Scad Mackrel. *Penn. Br. Zool.*

LENGTH from twelve to eighteen inches: shape rather broader than that of the common Mackrel: scales large and thin: lateral line strongly mailed from head to tail by a row of very broad scales, pointed at the middle: second dorsal, and anal fin continued to the tail, which is forked. Native of the European seas, and considered as nearly equal to the common Mackrel in point of flavour.

ROTTLERIAN MACKREL.

Scomber argenteo-flavescens, dorso viridi-ceruleo, pinnis pectoralibus lanceolatis rubris, linea laterali late loricata.

Yellowish-silvery Mackrel, with blue-green back, red, lanceolate pectoral fins, and widely mailed lateral line.

Scomber Rottleri. Bloch.

LENGTH about fourteen inches: shape like that of the common Mackrel: scales small: lateral line pretty distinctly marked at its beginning, curving over the base of the pectoral fins, and afterwards becoming very strongly mailed by broad acuminate scales, and running strait to the tail, which is strongly forked: finlets ten both above and below: before the anal fin two strong spines, connected by a membrane. Native of the Indian seas: not much esteemed as a food, the flesh being rather coarse.

PLUMIER'S MACKREL.

Scomber viridi-ceruleus, subtus argenteus, squamis magnis, pinnis pectoralibus lanceolatis, linea laterali rotundato-loricata.

Blue-green Mackrel, silvery beneath, with large scales, lanceolate pectoral fins, and roundly-mailed lateral line.

Scomber Plumieri. Bloch.

SIZE and habit nearly similar to that of the Scad: scales large and rounded: lateral line at a small distance beyond the pectoral fins becoming strongly and elegantly mailed by a row of dilated scales with pointed tips: fins and tail similar to those of the Scad.

PURSE-EYED MACKREL.

Scomber Crumenophthalmus. S. argenteus, dorso subfusco, squamis parvis, oculis subobtectis, linea laterali rotundato-loricata.

Silvery Mackrel, with brownish back, small scales, coated eyes, and roundly-mailed lateral line.

Scomber crumenophthalmus. Bloch.

OF similar size and habit with the two immediately preceding species: lower jaw longer than the upper: eyes large, and seated in a large, brown, transversely oval surrounding skin: scales small: lateral line, fins and tail as in the two preceding: native of the African seas, and found in considerable plenty about the coasts of Guinea.

 CARANG MACKREL.

Scomber Carangus. S. viridi-cæruleus, subtus argenteus, capite obtuso, pinnis flavis, linea laterali rotundato-loricata.

Blue-green Mackrel, silvery beneath, with obtuse head, yellow fins, and roundly-mailed lateral line.

Scomber Carangus. Bloch.

LENGTH about sixteen inches: shape like that of the Tunny, with a rounder, shorter, and blunter head, and thicker body in proportion: colour greenish blue, with a silvery tinge on the sides and abdomen: at the upper tip of the exterior gill-covers a black spot: scales middle-sized: lateral line pretty strongly mailed as it approaches the tail, which is deeply forked and of a yellow colour, as are also the other fins: no finlets, the dorsal and anal fin being continued to within a small distance of the tail: native of the American and Indian seas.

RED MACKREL.

Scomber Ruber. S. ruber, subtus argenteus, squamis parvis, linea laterali versus caudam rotundato-loricata.

Red Mackrel, silvery beneath, with small scales, and lateral line roundly-mailed towards the tail.

Scomber ruber. Bloch.

A HIGHLY beautiful species: length twelve or fourteen inches: general shape as in the Tunny and many others: colour beautiful rose-red, silvery on the sides and abdomen: scales small: fins yellowish at the base, and dusky towards their ends: pectoral fins long and lanceolate: lateral line mailed as it approaches the tail: no finlets, the second dorsal, as in the preceding species, being continued nearly to the tail, which is very deeply and sharply forked: native of the Indian and American seas: in no great esteem as a food, being considered as rather a coarse fish.

 CHLOROTIC MACKREL.

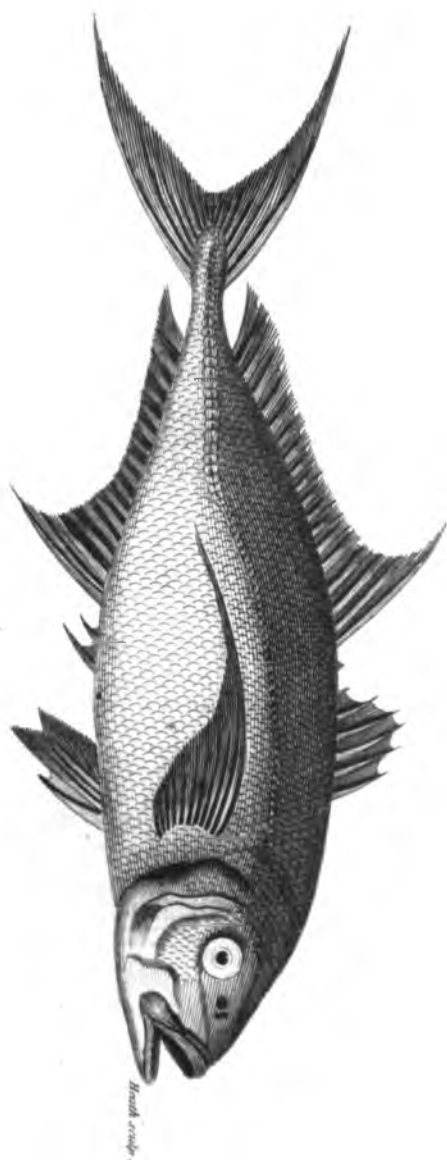
Scomber Chloris. S. flavo-virescens, dorso olivaceo, linea laterali rotundato-loricata, angusta.

Pale Yellowish-green Mackrel, with olivaceous back, and narrow, roundly-mailed lateral line.

Scomber Chloris. Bloch.

LENGTH twelve inches: shape rather broad or deep, and thin; tapering greatly towards the tail: colour very pale yellowish green, with a brownish tinge on the back: scales rather small: mouth small: eyes rather large: lateral line mailed throughout its whole length, from gills to tail, by a

RED MACKREL.



row of small, rounded, but not pointed, scales : pectoral fins lanceolate, and reddish at the base, as is also the tail, which is deeply forked : native of the African seas.

KLEINIAN MACKREL.

Scomber Kleinii. *S. argenteo-flavescens, dorso violaceo, linea laterali versus caudam dilatato-loricata.*

Yellowish-silvery Mackrel, with violaceous back, and lateral line widely-mailed towards the tail.

Scomber Kleinii. *Bloch.*

A SMALLISH species : length from six to ten inches : habit nearly as in the immediately preceding species : colour silvery, with dusky back : scales rather small : lateral line mailed with very broad scales as it approaches the tail, which is very strongly forked : all the fins pale, and shaped as in the preceding species. Native of the Indian seas.

HIPPOS MACKREL.

Scomber Hippos. *S. macula operculari nigra, pinna dorsali posteriore rubra.*

Mackrel with a black spot on the gill-covers, and hinder dorsal fin red.

Scomber Hippos. *Lin. Gmel.*

WITH a single row of teeth, and two large in front : lateral line bending very much, and somewhat spiny or mailed as it approaches the tail : dorsal fin red ; ventral and anal yellow : no finlets :

gill-covers marked by a black spot : native of the American seas : observed by Dr. Garden.

YELLOW-TAILED MACKREL.

Scomber Chrysurus. *S. pinnulis luteis, ore edentulo.* Lin. Gmel.

Mackrel with yellow finlets, and toothless mouth.

Scomber chrysurus. Lin. Gmel.

WITHOUT teeth : spines placed at some distance before the anal fin : no finlets : tail yellow : inhabits the American seas : observed by Dr. Garden.

FERDAU MACKREL.

Scomber Ferdau. *S. ovali-oblongus argenteus, guttis anrcis lateralibus, fasciis transversis fuscis quinque obsoletis.* Lin. Gmel.

Oval-oblong silvery Mackrel, with lateral gold-coloured spots, and five transverse brown bands.

Scomber Ferdau. Forsk. Arab.

SCALES small and deciduous : between the two dorsal fins a single spine : tail forked, and strongly keeled on each side : native of the Arabian seas : observed by Forskal.

SPECIOUS MACKREL.

Scomber Speciosus. *S. flaccus, fasciis verticis obliquis, corporis septem nigris alternis.*

Yellow Mackrel, with oblique black bands on the head, and seven transverse ones on the body.

Scomber speciosus. *Forsk. Arab.*

SCALES small and deciduous: fins yellow: no finlets: tail forked: native of the Arabian seas: observed by Forskal.

GASTEROSTEUS. STICKLEBACK.

Generic Character.

Corpus subelongatum.

Spinæ dorsales distinctæ.

Pinnæ ventrales spinosæ.

Abdomen utrinque carinatum, subtus osseum.

Body somewhat lengthened.

Dorsal spines distinct.

Ventral fins spiny.

Abdomen carinated or shielded on the sides, and bony beneath.

COMMON STICKLEBACK.

Gasterosteus Aculeatus. G. olivaceus, subtus rubro-argenteus, spinis dorsalibus tribus.

Olivaceous Stickleback, silvery-red beneath, with three dorsal spines.

Gasterosteus aculeatus. Lin. Common Stickleback, Ban-stickle, &c.

THIS minute fish is an almost universal inhabitant of ponds, rivers, and marshes, occurring sometimes even in salt or brackish waters. When in its full perfection of colour it is highly beautiful; the gills and abdomen being of a bright red, the back a fine olive green, and the sides silvery. It is chiefly in the early part of summer that it appears thus decorated; the colours in a great degree fading as the season advances. The general length of this species is about two inches, but it sometimes arrives to the length of three: the ventral fins consist

SMALLER STICKLEBACK.



FIFTEEN-SPINED STICKLEBACK.



COMMON STICKLEBACK.

merely of a very strong and serrated spine on each side, accompanied by a single short ray.

The Banstickle is a fish of an extremely active and vigorous nature, swimming rapidly, and preying on the smaller kind of water insects and worms, as well as on the spawn of other fishes, and is from this circumstance considered as highly prejudicial to fish-ponds. In the Philosophical Transactions we find some observations relative to the natural history of this fish by Mr. Henry Baker, who informs us that it will spring occasionally to the perpendicular height of not less than a foot out of the water, and to a much greater space in an oblique direction, when wishing to get over stones or other obstacles. "It is scarce to be conceived," says this writer, "what damage these little fish do, and how greatly detrimental they are to the increase of all the fish in general among which they live: for it is with the utmost industry, sagacity, and greediness that they seek out and destroy all the young fry that come in their way, which are pursued with the utmost eagerness, and swallowed down without distinction, provided they are not too large: and in proof of this I must assert that a Banstickle which I kept for some time did on the 4th of May devour in five hours time seventy-four young Dace, which were about a quarter of an inch long, and of the thickness of a horse-hair: two days after, it swallowed sixty-two, and would, I am persuaded, have eat as many every day, could I have procured them for it."

The Stickleback is sometimes observed to swarm

in prodigious multitudes in some particular parts of Europe. We are told by Mr. Pennant that at *Spalding* in *Lincolnshire*, there are, once in seven years, amazing shoals, which appear in the *Welland*, and come up the river in the form of a vast column: they are supposed to be the multitudes that have been washed out of the fens by the floods of several years, and collected in some deep hole, till, overcharged with numbers, they are periodically obliged to attempt a change of place: the quantity is so great that a man employed to take them has got for a considerable time four shillings a day by selling them at the rate of a halfpenny per bushel.

SMALLER STICKLEBACK.

Gasterosteus Pungitius. *G. olivaceus, subtus subargenteus, spinis dorsalibus decem.*

Olivaceous Stickleback, subargenteus beneath, with ten dorsal spines.

Gasterosteus pungitius. *Kin.* Smaller Stickleback or Banstickle.

FOUND in similar situations with the preceding species, but is far less common: in size it is considerably smaller, rarely exceeding the length of an inch and three quarters, or two inches at the most: its shape is rather more slender, and its colours far less brilliant: it is readily distinguished by the number of its dorsal spines, which however are not always precisely constant in this respect, sometimes amounting only to nine, and sometimes, though very rarely, to eleven.

FIFTEEN-SPINED STICKLEBACK.

Gasterosteus Spinachia. *G. olivaceus, subtus subargenteus, linea laterali scutata, spinis dorsalibus quindecim.*

Olivaceous Stickleback, subargenteous beneath, with shielded lateral line, and fifteen dorsal spines.

Gasterosteus Spinachia. *Lin.* Fifteen-spined Stickleback.
Penn. Br. Zool.

Much larger than either of the preceding species, and of a much more slender form: general length from five to six, or seven inches: head of a produced and somewhat tubular shape: hinder parts very slender towards the tail: lateral line broad and composed of a series of small dusky laminæ or scuta: dorsal spines concealed at pleasure in a longitudinal channel: ventral fins each composed of two spines; the first long, the next short: native of the European seas, frequenting shallow places, and preying on marine insects, and the spawn of other fishes: sometimes seen in vast numbers about the coasts of Holland, &c. and occasionally used, like the Common Stickleback, for the purpose of manuring land, as well as for the preparation of oil for lamps, &c.

MINUTE STICKLEBACK.

Gasterosteus Spinarella. G. capitis postice spinis quaternis serrulatis, lateralibus longitudine abdominis. Lin. Gmel.

Banstickle with four serrulated spines at the hind-part of the head, the lateral ones equalling the abdomen in length.

A VERY small species: head furnished on the back part with four serrulated spines, of which the lateral ones are as long as the abdomen. Native of India.

TWO-SPINED STICKLEBACK.

Gasterosteus Biaculeatus. G. spinis dorsalibus duabus.

Stickleback with two dorsal spines.

Two-spined Stickleback. *Penn. Arct. Zool. suppl.*

MENTIONED by Mr. Pennant on the authority of Dr. Forster: found about New York.

CAROLINA STICKLEBACK.

Gasterosteus Carolinensis. G. spinis dorsalibus octo, analibus tribus.

Stickleback with three dorsal and two anal spines.

Gasterosteus Carolinus. Lin. Gmel.

Bony oblong-oval: lateral line subcarinated towards the tail: dorsal and anal fin falcated: tail forked: allied to the genus *Scomber*. Native of the seas about Carolina.

CANADA STICKLEBACK.

Gasterosteus Canadensis. G. spinis dorsalibus octo, analibus nullis.

Stickleback with eight dorsal and no anal spines.

Gasterosteus Canadus. Lin. Gmel.

DORSAL and anal fin subfalcated: tail slightly bilobate: native of the American seas.

 SKIPPING STICKLEBACK.

Gasterosteus Saltatrix. G. spinis dorsalibus octo membrana connexis.

Stickleback with eight dorsal spines connected by a membrane.

Gasterosteus Saltatrix. Lin. Gmel.

ALLIED in some degree to the genus *Perca*: in the upper jaw two rows of teeth; in the lower one: dorsal spines weak, connected by a fine membrane, situated low on the back, and received at pleasure into a furrow or channel: colour of the back green: tail forked. Native of the seas of Carolina, where it is observed to be very frequently skipping out of the water.

JAPANESE STICKLEBACK.

Gasterosteus Japonicus. *G. spinis dorsalibus quatuor, membrana branchiostega quinquerradiata.* Lin. Gmel.

Stickleback with four dorsal spines, and five-rayed gill-membrane.

LENGTH about five inches : head obtuse : body covered with large rhombic scales, each ciliated at the edges and terminating in a spine : dorsal spines thick, strong, moveable, and of unequal lengths : ventral fins furnished with a thick, strong, and scarcely moveable spine of about half an inch in length : native of the Japanese seas.

MINUTE GURNARD.

Trigla Minuta. *T. digitis ternis, dorso bicarinato.* Lin. Gmel.
Gurnard with triple fingers, and bicarinated back.

A SMALL species: at least the specimen described by Linnæus measured only three inches in length; though perhaps not arrived at its full size: head hard and rough; emarginated and denticulated in front, and furnished with two spines above the eyes, two at the hind-head, and two stronger ones at the back part of the crown: posterior gill-covers spiny: pectoral and ventral fins very sharp-pointed: tail rounded: Native of the Indian seas.

CAVILLONE GURNARD.

Trigla Cavillone. *T. rubra, capite spina utrinque super oculos,*
& sex utrinque ad occiput.

Red Gurnard with a single spine above each eye, and six on each side the back of the head.

Cavillone. Rondel. Cepede.

DESCRIBED and figured by Rondeletius: length about three inches: head furnished with a spine above each eye, and six large ones at the hind part: body covered with small, denticulated, rough scales: colour red: pectoral fins white above, and dark-green or olive beneath: native of the Mediterranean, and known about some parts of the French coasts by the title of *Cavillone*.

PUNCTATED GURNARD.

Trigla Punctata. *T. rosea, sanguineo-punctata, capite lato, obtuso, postice spinoso.*

Rose-red Gurnard, with blood-red specks, and broad obtuse head, spined on the hind-part.

Trigla punctata. *Bloch.*

LENGTH about eight inches: head very broad, obtuse, and furnished behind with strong spines: colour of head and whole body bright rose-red, sprinkled over on the upper parts with numerous deep-red specks: scales middle-sized: pectoral fins very large, rounded, and of a dusky blue colour, speckled with red, and inclining to yellow towards their tips: rest of the fins and tail yellow, speckled with red. Native of the American seas.

 LINEATED GURNARD.

Trigla Lineata. *T. rubra, maculis supra fusco-sanguineis, corpore utrinque lineis numerosis transversis.*

Red Gurnard, marked above by dusky-sanguine spots, with the body crossed on each side by numerous perpendicular lines.

Trigla lineata. *Lin. Gmel.* Streaked Gurnard. *Brit. Zool.*

SIZE and habit of *T. Cuculus*: colour bright red, marked on the upper parts with dark-red patches or spots: abdomen silvery: on each side the back, close to the base of the dorsal fins, a row of broad, serrated, short processes of a yellow colour: lateral line formed by a row of similar ones: body covered

with small scales: sides marked above and below the lateral line into very numerous, narrow, perpendicular divisions: pectoral fins pretty large, rounded, and of a dusky brown, spotted with black: rest of the fins yellowish, with a tinge of red, especially the tail, which is slightly lunated: native of the Mediterranean.

VAR. ?

Trigla Adriatica. *T. corpore squamis verticillato, linea laterali aculeata, pinnis pectoralibus subtus nigris, digitis ternis.* *Lin. Gmel.*

Gurnard with the body verticillated by scales, with aculeated lateral line, pectoral fins black beneath, and triple fingers.

THIS chiefly differs from the preceding in being varied with bands of black spots, and having the spots of the pectoral fins disposed into two transverse bands, while the edges are marked beneath by a row of blue spots: observed in the Adriatic sea.

PINE TRIGLA.

Trigla Pini. *T. rubra, digitis ternis, corpore utrinque lineis numerosis transversis convexis.*

Red Gurnard, with triple fingers, and body marked on each side by numerous transverse convex lines.

Trigla Pini. *Bloch.*

HABIT similar to that of the Piper; but in other respects greatly allied to the lineated Gurnard:

colour red, with the abdomen yellowish: scales small: dorsal and lateral line aculeated: from the latter pass numerous perpendicular convex lines of division, terminating rather obtusely both above and below, and not ill resembling the form of pine-leaves: fins and tail yellowish: ventral fins red, with an obscure blueish cast: native regions unknown.

MAILED GURNARD.

Trigla Cataphracta. T. rubra, rostro bifurcato elongato, digitis binis, corpore octogono cataphracto.

Red Gurnard, with lengthened forked snout, double fingers, and octagonal mailed body.

Trigla cataphracta. Lin. Cornuta. Rondel. Gest.

LENGTH about twelve inches: snout deeply bifurcate, with the forks of considerable length, and rounded at their tips: body octagonal, and completely mailed by bony scales: the longitudinal rows or divisions of the body being marked by so many serrated or aculeated lines: beneath the throat a pair of ramified cirrhi: pectoral fins and tail pale brown: the other fins pale yellow, and nearly transparent: rays of the first dorsal fin running out beyond the membrane: native of the Mediterranean.

CHABRONTERA GURNARD.

Trigla Chabrontera. *T. corpore subtus cataphracto, pinnis rubris.*
Gurnard with the body mailed beneath, and red fins.

Trigla Chabrontera. *Cepede.*

EXTREMELY allied to the preceding, but differs in not having the body marked into an octagonal form; the under parts only being furnished with bony divisions: above the snout are several spines pointing backwards; and above and below the tail are also placed three spines: all the fins, except the tail, are of a bright red. Native of the Mediterranean.

TRACHICHTHYS. TRACHICHTHYS.

Generic Character.

<i>Caput</i> antice rotundatum.	<i>Head</i> rounded in front: eye
oculi magni: os amplum,	large: mouth wide, tooth-
edentulum, descendens.	less, descending.
<i>Membr</i> : branch: radiis	<i>Gill-membrane</i> furnished
octo, quorum quatuor in-	with eight rays, of which
feriores margine scabri.	the four lowermost are
	rough on the edges.
<i>Squamæ</i> scabræ: abdomen	<i>Scales</i> rough: abdomen
carinato-cataphractum.	mailed with large carinat-
	ed scales.

SOUTHERN TRACHICHTHYS.

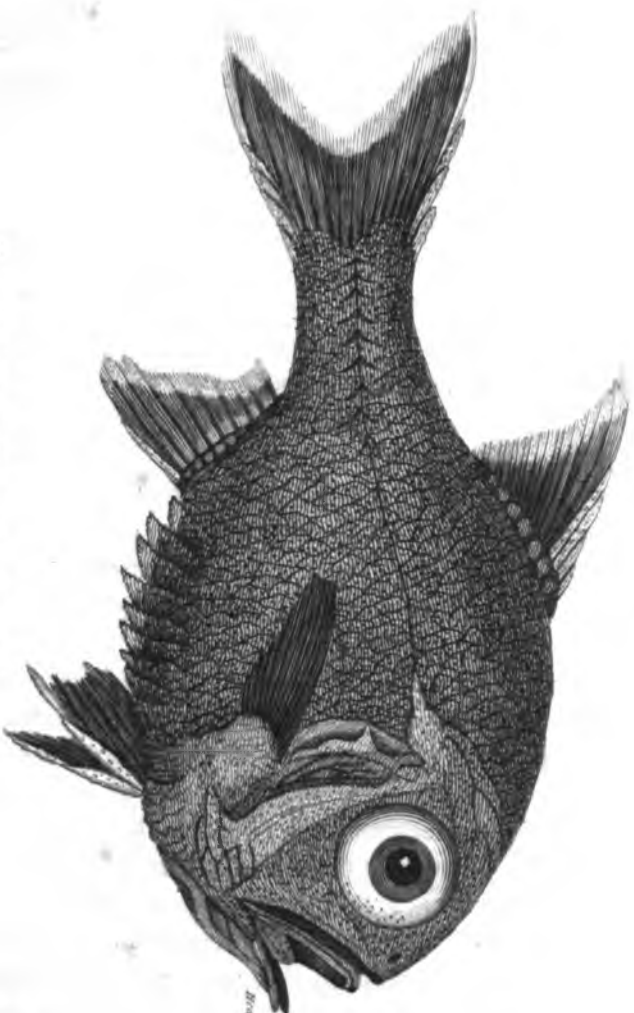
Trachichthys Australis. T. abdomine loricato.

Trachichthys with mailed abdomen.

Trachichthys Australis. Nat. Misc. t. 378.

THIS genus, consisting of a single species only, was first described in the Naturalist's Miscellany. I shall therefore repeat my former description from that publication.

This remarkable fish is represented on the plate in its natural size. The body is moderately thick, more especially on the fore-part: the head is very large; the mouth opening downwards in an almost perpendicular direction, but in a curved line, and, when closed, the outline of the head or front is completely oval: the eyes are extremely large, and the




Brown engr.

SOUTHERN TEAGICHTHYS.

1865. July. London. Published by E. Marsden, Fleet Street.

iris appears to have been of a silvery hue, or as in the generality of fishes. The mouth is destitute of teeth, and the tongue, which is moderately large, is adnate, or fixed to the lower jaw, to the extremity of which it almost reaches. The opercula or gill-covers are furnished on the upper part with a large, strong, and rough spine, which is very thick at its base: a smaller and shorter spine also occurs at the lower part: the outline of each operculum is somewhat sinuated by two very short and subacute processes towards the middle; and the remainder is composed of five or six rough-edged lamellæ resembling the surface of the body. The *membrana branchiostega* has about eight rays, of which the four lowermost are rough-edged, and thicker than the rest. Perhaps no fish yet known, if we except what are called mailed or cataphracted fish, is so strongly coated as the present; the scales forming a kind of processes, which are so strongly and closely inserted, that it is not possible by means of a forceps to detach one from the rest, without bringing away with it a small portion of the corium or general integument itself; the skin in this respect resembling in some degree that of the genus *Balistes*. These scales or processes, as to their general structure, are analogous to those of the *Chætodons*; terminating outwardly in a fringe of small, strong spines, besides several scattered ones on the surface. They differ somewhat in shape on different parts of the animal, and as they approach the abdomen become more dilated. The abdomen itself is carinated and cataphracted by a row of eight strong, rough incisures or scales, each of which



projects into a shortish spine, pointing backwards, and forming a sharp keel beneath, while the sides are continued upwards near a quarter of an inch on each side the abdomen. The scales of the abdomen, as before observed, are also somewhat broader in this part, and gradually lessen towards the middle of the body. On each side the tail is a slightly prominent line, or an approach to a carinated appearance, owing to the middle of each scale on that part rising up a little above the level of the rest: the scales also along this part are rather larger than elsewhere; otherwise the appearance of a lateral line is scarce distinct. The dorsal fin has fourteen rays, of which the seven hindermost subdivide towards their tips into softer ramifications. The pectoral fins have thirteen rays: the ventral fins seven; and the anal fin twelve rays, most of which subdivide into softer ramifications at the tip. The tail is strongly furcated, and consists of about twenty-four rays, of which the external or shorter ones are strong or spiny; the rest of a similar appearance to those of the anal fin. The three first rays of all the fins, except the pectoral ones, are very strong, rough, and finely serrated outwards, but more particularly those of the ventral fins.

The *Trachichthys Australis* is a native of the coasts of New Holland. Its colour is a bright pink-ferruginous, or fair reddish-brown; the middle part of all the fins of a deeper colour than the rest of the animal, and the edges lighter, or of a yellowish tinge.

END OF VOLUME IV.

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