

ON TWO NEW GENERA AND SPECIES OF FISHES FROM AUSTRALIA.

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(Communicated by the Secretary).

PERCOPHIDÆ.

CENTROPERCIS, gen.nov.

Branchiostegals(?) five; pseudobranchiæ present. Body elongate-oblong, compressed; head conical; cleft of mouth wide and moderately oblique; lower jaw the longer; eye lateral, partially directed upwards; gill-openings wide; gill-rakers stout, of moderate length, few in number; bones of head armed or radiate. Jaws, vomer and hyoid bones with well-developed, fixed teeth; palatine and pterygoid bones edentulous. Two dorsal fins, the first with six spines; the second more developed, similar to the anal; no semi-detached spines in front of the anal; ventrals thoracic; all the pectoral rays branched. Scales small, poriferous, those of the head cycloid, of the body ctenoid; body with regularly arranged series of naked bands.

CENTROPERCIS NUDIVITTIS, sp.nov.

B. v. (?) D. $6 \frac{1}{20}$. A. $1/17$. V. $1/5$. P. 13. C. 15.

Length of head four and one-third, height of body six and one-fourth in the total length; width of head two-thirds of its height and two-fifths of its length. Diameter of eye four and two-fifths in the length of the head; premaxilla trilobate, snout emarginate, in front; the latter a little longer than the diameter of the eye; interorbital space grooved, three-fifths of the diameter

of the eye. Nostrils simple, lateral, situated at the opposite ends of a shallow fossa. Lower jaw the longer; cleft of mouth wide and moderately oblique; the maxilla truncated and expanded posteriorly, extending backwards beyond the hinder margin of the eye; upper profile of head flat. Preorbital armed with three strong spines; preopercle finely denticulated on both limbs, and with a strong, acute, elongate, curved spine at the angle; three short stout spines on the subopercle; opercle and interopercle with prominent ribs, each of which terminates in a free flexible point; a spinose ridge runs from the front of the snout to the postero-superior angle of the orbit, where it is subdivided, a short branch passing downwards along the upper portion of the hinder margin of the eye, while the main branch is continued along the occiput; beneath the termination of the latter a similar ridge commences, and traversing the temporal region ends in a pair of strong post-temporal spines; a short spinose ridge on the occiput below the middle of the occipital ridge; a short simple ridge passes outwards from the centre of the posterior margin of the eye. Jaws with a single series of slender cordiform teeth, those in front being strongly hooked; two or three smaller teeth between each pair of elongate ones; three strong and a few small teeth on either side of the head of the vomer; two short parallel patches, composed of three series each, of stout recurved teeth behind the base of the tongue, the outer row the strongest; all the bones of the hyoid arch dentiferous. Dorsal fins separated by a considerable interspace; the spines weak and flexible, the second the highest, two-fifths of the length of the head, and two-thirds of the anterior and highest rays: the anal commences beneath the third dorsal ray, and is similar to but not so high as the soft dorsal fin: ventral elongate and pointed, the fourth ray the longest, reaching to the vent, its length three-fourths of that of the head: pectoral small, about half the length of the ventral, its base situated at a considerable distance behind that of the ventral: caudal emarginate, small, its length six and a half in the total length. Scales of the head simple, circular, non-imbricate, each furnished with a central pore; head entirely scaly, with the excep-

tion of the posterior third of the opercle and the greater part of the subopercle, the scales on the latter being arranged in a narrow basal band on its upper half, from the extremities of which short, broad bands are produced backwards; below this there is a free angular band; scales of body similar to those of the head, but strongly ctenoid; eighteen enlarged tubular scales on the lateral line, with from six to eight normal scales in the space between each pair; between each tubular scale and the base of the dorsal there is a naked band about two normal scales in width, which is continued across the lateral line to the depth of two scales; sides of abdomen and base of the anal fin with more or less corresponding naked fasciæ. Upper surface of head and body olive-green, lower surface pale yellowish-white, the two colours being abruptly divided; a series of seven olive-green spots along the middle of the sides, the last encircling an enlarged tubular scale at the base of the caudal; fins immaculate.

The unique specimen from which the above diagnosis has been drawn up was washed ashore, in a perfect though dying condition, at Maroubra Bay, near Sydney, and was shortly afterwards lent to me by its discoverer, Mr. Thomas Whitelegge, for identification and, if necessary, description. In length the type specimen measures 78 millimètres, and it has since been added to the collection of the Australian Museum, Sydney, its register number being I. 3396.

ATHERINIDÆ.

TROPIDOSTETHUS, gen.nov.

Branchiostegals six; pseudobranchiæ present. Body strongly compressed, rhombo-fusiform, the tail attenuated; dorsal profile straight, ventral convex and acute. Cleft of mouth oblique, extending to beneath the front margin of the eyes; jaws not protractile. A single series of teeth in the jaws and a short curved row on the palatine bones; no vomerine or lingual teeth. Spinous dorsal small; anal moderate; ventrals minute, situated far behind the pectorals. Scales of moderate size, thin, cycloid, deciduous.

TROPIDOSTETHUS ROTHOPHILUS, sp.nov.

B. vi. D. 4. $1/15$. A. $1/23$. V. $1/5$. P. 14. C. 17. Vert. $15/29$.

Length of head five to five and a half, height of body five in the total length. Eye situated near to the dorsal profile, its diameter three to three and a half in the length of the head, and four-fifths of the flattened interorbital space; snout obtuse and convex, rather less than the diameter of the eye in length; the upper jaw slightly projecting. Spinous dorsal situated above the vent, and midway between the tip of the snout and the base of the caudal fin; soft dorsal commencing above the anterior third of the anal; caudal forked, its length six and three-fifths to six and three-fourths in the total.

General colour gray (pale straw-yellow in spirits), so closely dotted with minute brown specks as to give it a brownish appearance when newly caught; a broad silvery lateral band, margined above by an emerald streak; the ventral edge faintly tinged with green. Occiput with a large cuneiform emerald spot, the acute portion extending forwards between the eyes; a brown spot contained within its anterior half; nostrils pierced in an emerald spot; supraorbital region tinged with pale green.

These little Atherinids were first observed by Mr. Thomas Whitelegge at Maroubra Bay* during the month of March, 1893, but the specimens which he brought back to the Museum, being considered immature, were not critically examined on that occasion. Their reappearance, however, in large shoals along the coast during March of the present year induced us to investigate more closely their habits, mode of life, and such other points in their economy as could be observed; this difficult task has been ably carried out by Mr. Whitelegge, with the result that though the shoals have been on the coast from March until the date of writing—July 31st—there is no appreciable difference in size,

* Between Port Jackson and Botany Heads.

thus proving, what from a prior examination we had inferred, that the fishes are adult; no signs of breeding have, however, as yet been discovered.

They are essentially surf-fishes, coming in with the waves, and being swept up into the gulches and pools on the reefs; they never descend to the bottom, but swim here and there, keeping but a few inches beneath the surface; the pectoral fins are always kept fully expanded, at right angles to the body, and motionless, being utilised in fact solely as balancing media; the caudal fin and pedicle have a distinct downward curvature when the fish is swimming.



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