

SCIENTIFIC RESULTS OF EXPLORATIONS BY THE U. S. FISH COMMISSION STEAMER ALBATROSS.

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No. XIX.—A SUPPLEMENTARY LIST OF FISHES COLLECTED AT THE GALAPAGOS ISLANDS AND PANAMA, WITH DESCRIPTIONS OF ONE NEW GENUS AND THREE NEW SPECIES.

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The collections of fishes made by the *Albatross* in 1887-'88, at the Galapagos Islands and in Panama Bay, were reported on by Jordan and Bollman in Proceedings of the U. S. National Museum, 1889, pp. 149-183. A small portion of the collection, however, failed to reach the authors in time for their report, and is here listed. It is noteworthy as containing the remarkable new genus *Dialommus*, which repeats in the *Blenniidae* the peculiar structure of the eyes seen in the Cyprinodont genus *Anableps*.

1. *Galeus dorsalis* Gill.

Numerous young specimens from Panama.

2. *Opisthonema libertate* Günther.

Three young specimens from Indefatigable and Chatham Islands. This seems to be the species listed by Jordan and Bollman as "*Clupea* sp. (very young)."

3. *Cyclothone lusca* Goode and Bean.

Four small specimens from Station 2806. This species, which seems to occur everywhere in deep water from the Galapagos Islands to Bering's Sea, I am unable to distinguish from the Atlantic form, to which it is here referred.

4. *Stolephorus opercularis* Jordan and Gilbert.

One specimen from Station 2802.

5. *Ophichthus triserialis* Kaup.

Two specimens from Chatham Islands. *Ophichthus rugifer* Jordan and Bollman, to which these specimens belong, seems not to differ from *triserialis*.

6. *Neoconger vermiformis* Gilbert.

A single specimen from Station 2799, agreeing perfectly with the original description.

7. *Ophiosoma nitens* Jordan and Bollman.

One young specimen from Stations 2799.

8. *Tylosurus stolzmanni* Steindachner.

From Chatham and Albemarle Islands. The young of this species have the lower jaw much longer than the upper.

9. *Fodiator acutus* Cuv. and Val.

Two specimens from Panama.

10. *Hemirhamphus roberti* Cuv. and Val.

Panama and Chatham Island.

11. *Hippocampus ingens* Girard.

One specimen from Station 2795.

12. *Querimana harengus* Günther.

Panama.

13. *Remora remora* Linn.

One specimen from Albemarle Island.

14. *Vomer setipinnis* Mitchill.

Stations 2797 and 2800.

15. *Stromateus palometa* Jordan and Bollman.

Three specimens, Station 2805.

16. *Epinephelus labriformis* Jenyns. = *Epinephelus sellicauda* Gill.

Six young specimens, Station 2797.

17. *Serranus psittacinus* Valenciennes.

One specimen Chatham Island.

18. *Priacanthus serrula* sp. nov.

A single specimen,  $1\frac{3}{4}$  inches long, from Station 2797.

Head  $2\frac{3}{8}$  in length; depth  $1\frac{4}{5}$ . D. X, 11; A. III, 11. Lat. 1. 36 (pores).

Mouth very oblique, the maxillary scarcely reaching vertical from middle of eye, half length of head. Teeth in a very narrow band in

both jaws and on vomer, none of them enlarged; palatines with a single series. Posterior nostril elliptical, not twice as long as it is wide. Eye  $2\frac{3}{4}$  in head; interorbital width  $3\frac{1}{4}$ ; length of snout 5.

Preopercular and preorbital margins serrate, a group of stronger spines at angle of preopercle. Gill rakers short, about half diameter of pupil, 16 developed on horizontal limb of outer arch.

Spinous dorsal high, the longest spine  $\frac{5}{6}$  length of head; the first and last spines much shorter, about equaling the soft rays. Anal spines similar but shorter, the first two equal and longer than the third, their length half that of head. Pectorals short, barely reaching vertical from vent. Ventrals elongate, the spine reaching base of second anal spine, the longest soft ray reaching base of first soft ray of anal.

Scales on upper and lower parts of body very small, those on middle of sides conspicuously enlarged. Entire head, including maxillary, mandible, gular and branchiostegal membranes wholly covered with spiny scales. Dorsal and anal fins in a sheath. All spines rough-serrate.

Color in spirits: Light olive, with four dark cross-bars on sides wider than the interspaces, the last one on base of caudal peduncle. Vertical fins dusky, the soft portions more or less speckled. Ventrals black. Pectorals pale.

19. *Lutjanus viridis* Valenciennes.

A single young specimen,  $1\frac{1}{2}$  inches long, showing coloration of adult, the blue streaks being well marked. It agrees with all the characters ascribed to *viridis*, except the notched preopercle, the spines next the angle being all largely developed, and the margin of the bone showing no notch for the reception of an interopercular knob. This is doubtless due to the immaturity of the specimen.

20. *Apogon dovii* Günther.

One very young specimen from Station 2797.

21. *Upeneus grandisquamis* Gill.

Stations 2795 and 2797.

22. *Bollmannia chlamydes* Jordan.

Stations 2799 and 2800. Agreeing well with the original description, having 15 rays in the soft dorsal, and the black spot on spinous dorsal very distinct, ocellated posteriorly with white.

23. *Tyntlastes brevis* Günther.

Two half-digested specimens, said to have been taken from the stomach of a *Centropomus* at Panama. The dorsal formula is apparently VIII, 14, and the head  $4\frac{3}{4}$  in length. The teeth are long, wide-set, in a single series.

24. *Gobiesox zebra* Jordan & Gilbert.

Two young specimens, agreeing in all respects with the original description, except the fin formula, the dorsal having six and the anal five rays. The dark cross-bars are evident. Duncan Island.

25. *Labrosomus delalandi* Cuv. & Val.

One large specimen,  $6\frac{1}{2}$  inches long, from Albemarle Island.

**Dialommus** gen. nov. (*Blenniidae*)

Teeth conic, stroug, in a narrow band in the front of both jaws, this narrowing to a single series laterally; outer teeth enlarged in both jaws. Teeth on vomer in a single series; palatines smooth.

A single slender tentacle above orbits, and one on each side of nape.

Body with moderate cycloid scales; lateral line high in front, declining behind pectoral fins, not strongly developed, evident on a few scales near head, the remainder of its course traceable by occasional pores on bases of scales, or by their notched margins.

Dorsal beginning on the nape, its anterior five-sevenths composed of slender flexible spines, the remainder of soft rays, unbranched. Anal without spines. Caudal distinct, rounded. Ventrals well developed, 1, 3.

Eyes as in *Anableps*, the cornea divided by an oblique pigmented band into an anterior lower and a posterior upper half.

(Type, *Dialommus fuscus* sp. nov.)

26. *Dialommus fuscus* sp. nov.

Elongate, slender, scarcely tapering. Head short, transversely evenly rounded, with very short, blunt, decurved snout. Width of head greater than its depth, and more than two-thirds its length. Mouth horizontal, at lower outline of snout, the maxillary nearly reaching vertical from posterior margin of orbit,  $2\frac{2}{3}$  in head. Teeth strong, conical, the outer series enlarged in both jaws, a narrow band of villiform teeth behind the outer series. Vomer with a single series. Palatines toothless.

Eyes large, round, closely approximated, their diameter greater than length of snout, twice the width of interorbital space,  $3\frac{1}{2}$  in head.

Gill membranes very widely joined, free from isthmus. No hook on inner edge of shoulder girdle.

Head, 5 in length; depth 6 to 7. D. XXV, 13 or 14. A. I, 28. Lat. l. 52.

Dorsal fin beginning on the nape, over front of opercle, its spines slender and flexible, much lower than soft rays. Height of anterior and middle spines about equal, one-third length of head, the posterior spines shortened, about half that length. Height of soft rays one-half head.

First anal ray short and spinous, the succeeding rays articulated, but not branched (like those of dorsal). Interradial membranes of anal fin very deeply incised.

Caudal fin wholly free, rounded, its length nearly equaling that of head.

Pectorals slightly shorter than head, posteriorly pointed, the longest rays below the middle of the fin.

Ventrals comparatively broad, inserted but little in front of pectorals, their bases separated by a space equal to one-third diameter of orbit.

Color in spirits: Brownish above and on sides, becoming blackish on head; under side of head, belly, and a line along each side of anal fin light. Back with traces of about ten black cross-bars, which invade base of dorsal fin and extend onto middle of sides. In one specimen the scales of the interspaces are marked each with a light spot (probably blue in life). Fins all dusky, the caudal variegated with lighter in fine pattern. Ventrals light at base.

Two specimens from the Galapagos Islands, one from Duncan Island, 72 millimeters long, the other from Albemarle Island, 75 millimeters long.

27. *Runula azalea* Jordan and Bollman.

Three specimens from Indefatigable Island.

Teeth fixed, not bristle-like, those in upper jaw slightly compressed, much larger than those in lower, which are close-set and form an almost uniform cutting edge.

D. 40 or 41. A. 25 or 26.

Sides with a median dusky streak becoming most conspicuous posteriorly, terminating in an elongate blackish blotch on tail. Traces can usually be seen of six faint dusky cross-bars, which are continued as black blotches on dorsal and anal, six on the former and four on the latter. On the dorsal fin a smaller intermediate blotch serves to connect each two larger ones, and the fin has in addition a narrow light margin.

Eye, in specimens  $1\frac{1}{2}$  inches long, equals interorbital width, is longer than snout, and is contained 3 to  $3\frac{1}{4}$  times in head.

28. *Otophidium indefatigabile* Jordan and Bollman.

Four specimens from Station 2797, from 3 to 4 inches long. These differ slightly from the original description.

Head  $3\frac{3}{4}$  to 4 in length; depth  $5\frac{1}{3}$  to  $5\frac{1}{2}$ . Maxillary  $2\frac{1}{4}$  in head; snout  $4\frac{1}{2}$ ; interorbital width  $4\frac{3}{4}$ .

Ethmoidal ridge terminating anteriorly in a sharp compressed spine, posteriorly in a much lower point, both being concealed under the skin. Four short gill-rakers on horizontal limb of outer gill-arch. The black blotches on marginal part of dorsal fin correspond in position with the broader cross bars on back.

29. *Citharichthys gilberti* Jenkins and Evermann.

One specimen, Station 2812. This species represents the *Citharichthys spilopterus* of the Atlantic, but differs from it in having fewer gill-rakers and larger eyes. The true *spilopterus* seems not to have been taken in the Pacific, and all references to it should be ranged in the synonymy of *gilberti*. *Citharichthys sumichrasti* Jordan, identical with *gilberti*.

30. *Citharichthys platophrys* sp. nov.

One specimen from Station 2799.

D. 78; A. 62. Lat. 1. 43. Body ovate, the depth 2 in length; head 3. Caudal fin subsessile, the free portion of caudal peduncle about half as long as diameter of pupil, its depth one-third length of head.

Mouth very oblique, maxillary  $2\frac{1}{2}$  in head, reaching vertical from middle of lower eye. Teeth slender, close set, in a single series in each jaw, those in front of upper jaw largest, but not canine-like.

Eyes large, the lower much in advance of the upper, their horizontal diameter  $3\frac{3}{4}$  in head. Interorbital space very wide for a *Citharichthys*, concave, divided by an oblique ridge running backwards from middle of upper orbit. Interorbital width  $8\frac{3}{4}$  in head, nearly half as wide as eye. Distance from tip of snout to front of lower eye two-thirds diameter of eye, from tip of snout to upper eye one-third head.

Gill rakers short and very slender, less than diameter of pupil, nine present on horizontal limb of outer arch.

Scales large, those on blind side very weakly ctenoid.

Dorsal beginning behind nostril on blind side of snout, its longest ray  $2\frac{1}{5}$  in head.

Pectoral of eyed side long and narrow, 4 in length, containing 11 rays, that of blind side but half its length. Ventrals short. Caudal rounded,  $1\frac{2}{5}$  in head.

Color in spirits: Uniform light-brownish (olivaceous in life), without distinctive marks. Fins somewhat dusky. Ventral of eyed side jet-black, that of blind side blackish on distal portion of inner rays.

31. *Engyophrys sancti-laurentii* Jordan and Bollman.

One specimen, Station 2805.

32. *Spheroides fürthi* Steindachner.

Five young specimens from Station 2802.

33. *Canthigaster punctatissimus* Günther.

Two specimens, Station 2797.

34. *Lophiomus setigerus* Wahl.

A single specimen  $2\frac{1}{2}$  inches long, from Station 2805.

D. III-III, 9. A. 5. Floor of mouth black posteriorly, but without white spots. Pectorals and ventrals pale on basal half, black distally.

Caudal and anal black, with some white spots. Soft dorsal translucent, with black specks. First dorsal spine with its membranous tip white, the latter provided with two black eyelike spots.

Head above orbits and laterally with numerous spines and prickles. Humeral bone ending in three blunt points. Numerous cirri scattered along sides of head and body.

Vertebrae 18.

**35. *Malthe elater* Jordan and Gilbert.**

Stations 2794 and 2795.

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