

NOTES ON AMERICAN FISHES PRESERVED IN THE MUSEUMS AT BERLIN,
LONDON, PARIS AND COPENHAGEN.

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In a recent visit to Europe, the writer had the privilege of examining numerous typical specimens of American fishes, preserved in the British Museum, in the Museum d'Histoire Naturelle in Paris, and in the Museums of the Universities of Berlin and Copenhagen. In the present paper are given selections from the notes taken on these specimens, which have a bearing on the nomenclature of our fishes.

I have to express my personal obligations to Dr. G. A. Boulenger, of the British Museum; to Dr. Bocourt and M. Thomिनot, of the Museum at Paris; to Dr. F. Hilgendorf, of the University of Berlin, and to Dr. Christian F. Lütken, of the University of Copenhagen, for many favors in connection with our studies of these specimens.

1. *Arius assimilis* Günther.

(Cat. Fishes Brit. Mus., v, 146.)

Type, Lake Yzabal, Atlantic slope, Central America.

Area between the eyes smooth, extending backward in the form of a rather narrow triangle which is moderately obtuse behind. Fontanelle narrow and short, ending far in front of the occipital process, not extending backward as a groove behind the smooth area of the top of the head; posterior end of fontanelle midway between tip of snout and middle of ante-dorsal shield. Occipital process broad, its edges not straight. Band of palatine teeth large, but not produced backward on the inner margin.

The character of the fontanelle in this species is not described by Dr. Günther. We have elsewhere identified with *A. assimilis* (Bull. U. S. Fish. Comm., 1882, 47), a number of specimens from Mazatlan (28161, 28189, 28210, 28213, 28221, 28232, 28276 and 28304, U. S. Nat. Mus.), belonging to a species very different from the true *A. assimilis*, although agreeing fairly with Dr. Günther's description.

There is no evidence of the occurrence of the true *A. assimilis* in Pacific waters.

2. *Arius caeruleus* Günther.

(Cat. Fish. Brit. Mus., v, 149.)

Types from Huamuchal, Pacific slope.

Head more depressed than in *A. assimilis*. Fontanelle very short, ending abruptly behind and not produced in a groove behind the smooth area of the top of the head, the boundary of the smooth area being rather broadly convex. Occipital process broader than long, its edges nearly straight. Bands of palatine teeth small, not produced backward on the inner margin. Paired fins black at base above. This species is allied to *A. guatemalensis*, but is apparently distinct. It is well separated from *A. assimilis*.

3. *Arius seemanni* Günther.

(Cat. Fish. Brit. Mus., v, 147.)

(? *Arius assimilis*, Jor. & Gilb., Bull. U. S. Fish Com., 1882, 47.)

Type from Central America, the exact locality unknown.

Fontanelle extending backward in a deep and narrow groove, which reaches the occipital process. Middle of top of head smooth, much as in *A. platypogon*.

It is probable that this specimen belongs to the species heretofore erroneously called by us *Arius assimilis*. We have had some hesitation in making this identification, because in none of our Mazatlan specimens does the fontanelle reach the occipital process, and it is not certain that the type of *A. seemanni* came from the Pacific coast. Still, the probability is so strongly in favor of identity that, in absence of further evidence, we shall consider them the same.

4. *Myrophis punctatus* Lü ken.

(Vidensk. Meddel. Nat. Foren., Kjöb, 1851, 1.)

Type, West Indies; Suenson Coll.

Beginning of dorsal midway between gill-opening and vent. Head $2\frac{2}{3}$ in trunk. Cleft of mouth about $3\frac{1}{2}$ in head. This is apparently identical with *M. microstigmus* Poey (Rep. Fis. Nat., ii, 50). The description of *M. punctatus* Gthr. (viii, 51) is taken from the Panama species, *M. vafer* Jor. & Gilb. It is barely possible that *M. lumbricus* Jor. & Gilb. will prove to be the young of *M. punctatus*.

5. *Exocætus rufipinnis* Cuvier & Valenciennes.

(Hist. Nat., Poiss., xix, 99.)

Type from Payta, Peru; an adult specimen, in good condition.

Head $4\frac{1}{2}$ in length to base of caudal; depth $5\frac{2}{3}$; lower lobe of caudal $3\frac{1}{3}$; eye $3\frac{1}{3}$ in head. Ventrals $3\frac{1}{3}$ in body. D. 11; A. I, 11. Insertion of anal scarcely behind that of dorsal, its base but little shorter; both fins low, the longest ray of dorsal little more than half the base of the fin. Pectorals reaching base of caudal; ventrals to just behind last ray of anal. Third ray of pectoral branched, the fourth longest. Pectorals and ventrals centrally dusky, without distinct markings.

This species is probably identical with *E. dowi* Gill (Proc. Ac. Nat. Sci. Phila., 1863, 167), from Panama, a species not now represented in the National Museum.

6. *Tylosurus hians* (Cuv. & Val.) Jor. & Gilb.

(Belone hians Cuv. & Val., xviii, 432.)

In the type of this species the insertion of the ventrals is about midway between the base of the caudal and the middle of the arch of the base of the upper jaw, or slightly nearer tip of pectoral than front of anal. According to Valenciennes, "elle est attaché un peu avant le milieu de la longueur totale." This statement is not quite correct. On account of this discrepancy, Poey has described the Cuban fish as distinct, under the name of *Belone maculata* (Mém. Cuba, ii, 290), the ventral fin being inserted *behind* the middle of the length of the body. It is not likely that any real difference exists. The specimens found along our Atlantic coast agree very well with Poey's description.

7. *Querimana harengus* (Günther) Jor. & Gilb.

(Myxus harengus Günther, iii, 467.)

The types of *Myxus harengus* have but two anal spines, instead of three, as stated in the original description. Specimens of this species from Zorritas, Peru, are in the museum of Yale College. In the National Museum are specimens from Panamá, Mazatlan, and Charleston, S. C.

8. *Querimana ciliilabis* (Cuv. & Val.) Jor.

(Mugil ciliilabis, C. & V. xi, 151.)

The types of *Mugil ciliilabis*, from Lima, belong also to the genus *Querimana*. The species is very close to *Q. harengus*, differing in rather stronger dentition, stiffened cilia, or teeth being present in both jaws, rather strongest in the upper. Head $3\frac{2}{5}$ in

length, depth $4\frac{1}{4}$; no adipose eyelid; preorbital serrate; anal spines 2; first soft ray of anal simple, but evidently articulate.

9. *Stromateus medius* Peters.

(Berliner Monatsber., 1869, 707.)

Type, No. 7073, Berlin Museum, from Mazatlan. In the original description of this species the lateral line is said to be "keeled" on the caudal peduncle. This "keel" is simply the ordinary tubing of the lateral line, which is precisely as in the ordinary species of *Stromateus*.

Head $3\frac{1}{2}$ in length, depth $1\frac{9}{10}$; pectoral $2\frac{5}{6}$ in body; dorsal lobe $4\frac{1}{6}$; caudal $2\frac{4}{5}$. Dorsal with 42 developed rays; anal with 32. Length $7\frac{1}{2}$ inches, fins distinctly punctulate.

10. *Caranx leucurus* Günther.

(Proc. Zool. Soc. Lond., 1864, 24.)

Types, two young examples. In our Review of the Caranginae (Proc. U. S. Nat. Mus., 1883, 194)¹ we have placed this species in the group called *Uraspis*, among the species with broad maxillaries. It should be removed to the group called *Hemicaranx*, among the species with narrow maxillaries, its relations being with *C. atrimanus* and *C. amblyrhynchus*.

Maxillary quite narrow, its length $2\frac{2}{3}$ in head, reaching pupil; eye not large. Dorsal and anal fins unusually high, but the anterior rays not exerted beyond the rest; middle rays of dorsal $\frac{1}{2}$ to $\frac{3}{5}$ length of head (probably shorter in the adult); sheath at base of dorsal little developed; caudal fin not deeply forked; pectoral short, $1\frac{1}{3}$ in head (young); curve of lateral line $1\frac{1}{2}$ in straight part, its length $3\frac{1}{2}$ times its depth. Teeth slender, rather long, uniserial above and nearly so below.

¹ In the paper above quoted (p. 194) we have placed *Caranx ruber* in the group with the anterior rays of soft dorsal and anal not falcate. In specimens from Guiana examined by us, these rays, although very low, are still, properly speaking, falcate, the longest being about $2\frac{1}{3}$ in head. The species should therefore be removed from the subgenus *Uraspis* to that of *Caranx*.

On page 197. in the same paper, *Caranx fasciatus*, Cuv. & Val. (ix, p. 70), described from a drawing made in Mexico, may be added as an extremely doubtful synonym of *Caranx vinctus*.

Caranx cubensis (Poey) should doubtless be recognized as a distinct species.

On pages 206 and 207 the name *Chloroscombrus stirurus* occurs. This is a *lapsus* for *Chlor. orqueta*, the former having been a MSS. name for which the latter was substituted before the publication of the original description.

Body everywhere finely punctulate, with rather sharply defined dark bars. Caudal fin pale.

11. *Epinephelus galeus* (Müller & Troschel) Jordan.

(*Serranus galeus* Müll. & Trosch., Schomb. Reise, Brit. Guiana, 621.)

The types of *Serranus galeus* belong apparently to the species described as *Serranus itaiara* Cuv. & Val. and Vaillant & Bocourt, and as *Serranus quinquefasciatus* Bocourt. According to Vaillant & Bocourt (Miss. Sci. au Mexique), the species found on the Pacific Coast of Mexico (*quinquefasciatus*) is identical with the Brazilian species (*itaiara* C. & V.). The original *Serranus itaiara* of Lichtenstein is, however, apparently a very different species, having the anal rays III, 11. Assuming the identity of the Atlantic and Pacific species, which I have, at present, no reason to doubt, the oldest tenable specific name for this species seems to be *galeus*.

12. *Lutjanus argentiventris* (Peters) Jordan & Gilbert.

(*Mesoprion argentiventris* Peters, Berliner Monatsber., 1869, 707.)

Type, No. 7070, Berl. Mus., from Mazatlan. This specimen belongs to the species diagnosed by us under the name of "*Lutjanus argentivittatus*" (Proc. U. S. Nat. Mus., 1881), the Pacific representative of *Lutjanus caxis*. The name "*argentivittatus*" is a slip of the pen on our part for "*argentiventris*."

13. *Lutjanus inermis* (Peters) Jordan & Gilbert.

(*Mesoprion inermis* Peters, Berliner Monatsber., 1869.)

Type, 7069, Berlin Mus., said to have been brought from Mazatlan; $8\frac{1}{2}$ inches in length, in good condition.

This specimen belongs to a species allied to *L. chrysurus*, and distinct from all those yet known from the Pacific Coast of Tropical America. The following is a detailed description:—

Head 3 in length; depth $3\frac{1}{4}$. Lateral line with 50 tubes; scales 53. Dorsal X-13; A. III-11.

Body slender and fusiform, not strongly compressed, the back not elevated. Snout very pointed; mouth unusually small, the maxillary $2\frac{1}{2}$ in head, reaching to front of pupil. Eye very large, about 4 in head. Band of vomerine teeth slightly produced backward on the median line. Teeth on tongue well developed; canine teeth unusually small and slender, 2 in upper jaw and 3 or 4 on each side of lower. Nostrils well separated,

subequal, the posterior oblong, the anterior round. Preorbital $\frac{5}{8}$ depth of eye. Preopercle not serrate, scarcely notched behind. Temporal region with a band of large scales, on each side of which are small scales. Scales above lateral line arranged in very oblique series which are not parallel with the lateral line.

Pectoral fins very short, reaching little past tips of ventrals, $1\frac{3}{4}$ in head. Dorsal spines very slender. Second anal spine longer than third, very small, 7 in head. Soft dorsal and anal low, scaly. Caudal fin rather deeply forked, the middle rays not half the length of the outer, which are $1\frac{1}{3}$ in head.

Color in spirits, dusky above, pale below, with distinct dark stripes, those below parallel with the lateral line, those above very oblique; these stripes extend along the edges of the rows of scales, the middle of each scale being whitish, its base dusky.

According to Peters, the color was "violet-brown; middle of each scale with a silvery shining spot; belly silvery."

14. *Lutjanus vivanus* (Cuvier & Valenciennes) Jordan & Gilbert.

(*Mesoprion vivanus* Cuv. & Val., ii, 454)

Types, young specimens in good condition, collected by Plée at Martinique.

This species is briefly and unrecognizably described by Cuvier & Valenciennes. The following is an outline of its characters, from which its close resemblance to the young of the common "Red Snapper" of Florida (*Lutjanus blackfordi* Goode & Bean = *L. campechianus* Poey) is evident.

Head $2\frac{5}{6}$ in length; depth $3\frac{1}{6}$. D. X-14; A. III-8. Lateral line with 50 pores.

Maxillary $2\frac{4}{5}$ in head; teeth rather strong; vomerine teeth in an arrow-shaped patch, being prolonged considerably backward on the median line. Posterior nostrils oval; eye 4 in head; Nuchal scales in a band, scarcely separated from the scales of the body; scales above lateral line arranged in oblique series; second anal spine long, $2\frac{1}{2}$ in head; caudal concave, the inner lobe $1\frac{2}{3}$ in the outer.

Color reddish, faintly streaked with olive; traces of a blackish blotch under soft dorsal; tips of middle rays of caudal dusky.

15. *Pomadasys modestus* (Tschudi) Jordan.

(*Hemulon modestum* Tschudi, Fauna Peruana, Ichthyol., ii.)

(*Pristipoma notatum* Peters, Berliner Monatsber., 1869.)

The type of *Pristipoma notatum* Peters (No. 7061, Berl. Mus.: "gekauft, angeblich von Mazatlan") is identical with specimens

in the same museum, which have been identified, apparently correctly, as *Hæmulon modestum* Tschudi. This identity has been already noticed by Dr. Hilgendorf (MSS.). Tschudi's original type is said to be in the museum at Neufchatel.

It is doubtful whether the specimen examined by Prof. Peters really came from Mazatlan.

The following is a redescription of the type of *Pristipoma notatum*:

Head $3\frac{1}{3}$ in length to base of caudal; depth $2\frac{2}{5}$. D. XII-15 (not XVIII, as stated by Peters; A. III-12; 51 or 52 scales in a longitudinal series; 10 rows between front of dorsal and lateral line.

An ally of *Pomadasys cæsius*. Body ovate; anterior profile regularly convex; mouth small; outer teeth in both jaws enlarged; maxillary $3\frac{3}{4}$ in head; lips thick; eye $3\frac{3}{4}$ in head; preorbital $1\frac{2}{3}$ in eye; preopercle coarsely serrate; scales above lateral line unusually small, arranged in oblique series, not parallel with the lateral line.

Pectoral fin as long as head; second anal spine much stronger than third, and somewhat longer, both much shorter than the soft rays; second anal spine $1\frac{2}{3}$ in head; dorsal spines low and not strong, the fin deeply notched; fourth dorsal spine $2\frac{1}{3}$ in head; soft dorsal scaly at base; upper lobe of caudal longest.

Color bluish gray, silvery below; edge of opercle black; a conspicuous jet-black spot at base of last rays of anal and dorsal; entire axil of pectoral, and a large roundish blotch before it, jet-black; ventrals blackish.

16. *Diabasis sexfasciatus* (Gill) Jor. & Gilb.

As already supposed by us, the type of *Hæmulon maculosum* Peters is identical with *Hæmulon sexfasciatum* Gill.

17. *Paralonchurus petersi* Bocourt.

Type, La Union, San Salvador.

Only the original type of this species is yet known. It is apparently closely related to the genus *Lonchurus*, differing externally in the presence of several barbels instead of two.

Body long and low, formed as in *Menticirrhus*. Head slender, low, with protuberant snout, flattish and somewhat spongy to the touch above. Preopercle with dermal serrations; mouth horizontal, overlapped by the snout; teeth in villiform bands; upper jaw with a conspicuous outer row of larger teeth; gill-rakers

very small, short and slender, not numerous; chin with five pores; rami of mandible each with a row of slender, inconspicuous barbels along the inner edge; nostrils round.

Scales rather large, smooth to the touch, apparently truly cycloid.

Head $3\frac{1}{4}$ in length; depth 4; eye very small, $8\frac{1}{2}$ in head; inter-orbital space $3\frac{1}{4}$; maxillary $2\frac{2}{3}$; dorsal rays XI-30; dorsal fin low, the soft dorsal highest posteriorly and scaled at base only; anal small, ending under middle of soft dorsal, its second spine as long as snout, $3\frac{2}{3}$ in head; pectoral very long, $2\frac{4}{5}$ in body; caudal lanceolate, unequal, its length $3\frac{1}{4}$ in body.

Color in spirits, light olive, with faint streaks along the rows of scales; no cross-bands; pectorals dusky; other fins plain.

18. *Polycirrhus dumerili* Bocourt.

Type, La Union.

This species seems to be identical with *Genyanemus fasciatus* Steindachner (Ichth. Beitr., ii, 31, 1875). The name given by Bocourt has precedence. The genus *Polycirrhus* is perhaps worthy of distinction from *Genyanemus*, having the dorsal spines in normal number (10 instead of 14), the mouth subinferior instead of terminal, the caudal double truncate instead of emarginate, and the gill-rakers very small. *Genyanemus peruanus* Steind. (l. c., 29) and *G. brasiliensis* Steind. (l. c., 34 = *Micropogon ornatus* Gthr.) apparently belong to *Polycirrhus*.

19. *Menticirrus saxatilis* (Bloch & Schneider) Jordan.

(*Johnius saxatilis* Bloch & Schneider, Syst. Ichth., 1801, p. 75.)

(*Sciæna nebulosa* Mitch., Trans. Lit. and Phil. Soc., 1815, 408.)

The type of *Johnius saxatilis* Bloch & Schneider, from New York, is still preserved in the museum at Berlin. It is apparently identical with the common king-fish, *Menticirrus nebulosus* (Mitchill) Gill, which species should therefore stand as *Menticirrus saxatilis*. The common names of this species, of the weak fish and the striped bass, have evidently been confused by Schneider.

Johnius carutta, the species taken by Professor Gill as the type of the genus *Johnius*, has the preopercle entire, and the mouth inferior. *Johnius* is apparently not distinguishable from the sub-genus *Corvina*, as defined by Jordan & Gilbert (Synopsis Fish. N. A., 1883, p. 932).

20. **Menticirrus nasus** (Günther) Jor. & Gill.

(*Umbrina nasus* Günther, Fishes Centr. Amer., 1869, 426.)

Type, about a foot in length, adult.

D. X-I, 22; eye proportionately very large, $4\frac{1}{2}$ in head; maxillary reaching to below posterior edge of pupil; snout $3\frac{4}{5}$ in head; longest dorsal spine $1\frac{4}{5}$ in head, reaching to third ray of second dorsal; pectoral $1\frac{1}{6}$ in head; ventrals short.

Gill-rakers very short, almost obsolete; posterior nostril large, oval; anterior round; interorbital width $4\frac{1}{3}$ in head; scales of breast large.

Color pale, the pectoral dusky.

21. **Isopisthus brevipinnis** (Cuv. & Val.) Gill.

(*Ancylodon brevipinnis* C. & V., v, 84.)

The type of this species (Cayenne, Poiteau; in bad condition) has the pectoral fin $1\frac{2}{5}$ in head, as in *I. affinis* Steindachner (Neue und seltene Fische aus den K. K. Zöol. Museum zu Wien, etc., 43), differing in that respect from the Panama species, *Isopisthus remifer*. There is not much doubt of the identity of *I. affinis* with *I. brevipinnis*.

22. **Gerres peruvianus** Cuvier & Valenciennes.

(Cuvier & Valenciennes, vi, 467.)

The type of this species is apparently identical with the common West Coast species called by this name by Jordan & Gilbert (Bull. U. S. Fish Com., 1881, 330), and later by Evermann & Meek (Proc. Ac. Nat. Sci. Phila., 1883, 123). The types of *Gerres gula* C. & V. also correspond with the species so named by the above writers. One of them (Brazil, Delalande) has the head 3 in length, the depth $2\frac{3}{4}$; longest dorsal spine $1\frac{3}{4}$ in head; second anal spine $3\frac{1}{4}$; eye $2\frac{3}{4}$; tip of spinous dorsal dusky. The types of *Gerres aprion* C. & V. seem to correspond with the species called by us *Gerres cinereus* (Walbaum) (= *Gerres zebra* and *Gerres squamipinnis* Gthr.). They are, however, in bad condition, the color faded and the scales mostly rubbed off.

23. **Gerres brasiliensis** Cuvier & Valenciennes.

(Cuvier & Valenciennes, vi, 458.)

The type of this species is in very bad condition, unfit for detailed description. Sides apparently with dark stripes along the rows of scales. Preorbital and preopercle serrate. Frontal groove broad, naked. Longest dorsal spine 5 in body. Second

anal spine $5\frac{1}{4}$. Anal spines 3 in number. Caudal fin long. This species is allied to *G. plumieri*, but the back is less elevated and the spines smaller than in the latter. *Gerres rhombeus* C. & V. is a very different species, closely allied to *Gerres peruvianus*, but with two anal spines only. It occurs on both sides of the Isthmus of Panama.

24. *Gerres brevimanus* Günther.

(Günther, Proc. Zool. Soc. Lond., 1864, 152.)

This species is distinct from *G. lineatus* (Humboldt), although closely allied to it. Only the original type is yet known. On this I have the following notes:—

Head $3\frac{1}{4}$ in length; depth $2\frac{1}{3}$; eye $3\frac{1}{3}$ in head. Coloration of *Gerres lineatus*. Back much lower than in the latter, and pectoral fins very much shorter; their length $1\frac{1}{4}$ in head; their tips not reaching nearly to tips of ventrals, which are $1\frac{1}{4}$ in head; caudal 3 in body. Preorbital very little serrate, almost entire. Preopercle weakly serrate. Second dorsal spine $1\frac{2}{5}$ in head; second anal spine $1\frac{2}{3}$. Teeth small and short. No black on base of pectoral, or on lower fins. Spinous dorsal dusky above. Frontal groove broad and naked, as in *G. lineatus*.

25. *Opisthognathus punctata* Peters.

(Peters, Berl. Monatsber., 1869.)

Type, 7064, Berl. Mus.; about one foot long, from Mazatlan.

Head everywhere finely speckled with black, the body more coarsely and irregularly spotted. Pectoral finely and closely speckled, its edge plain. Ventral fin dusky, similarly marked. Dorsal without large black blotch, finely spotted, the spots behind gradually forming the boundaries of white ocelli, the base of the fins having rings of white around black spots, the upper part with dark rings around pale spots. Caudal with pale spots, its edge, like that of the dorsal, somewhat dusky, not black. Anal with a broad, blackish edge, and with dark spots, those near the base of the fin largest. Lining membrane of maxillary with the usual bands of white and inky black.

Scales very small, about 125 in lateral line. Dorsal spines continuous with the soft rays. D. 28; A. 18. No vomerine teeth. Maxillary very long, extending slightly beyond head.

Only the type of this species is yet known.

26. *Porichthys porosissimus* (Cuv. & Val.) Gthr.

(? *Batrachus porosissimus* Cuv. & Val., xii, 501.)

(*Porichthys plectrodon* Jor. & Gilb., Proc. U. S. Nat. Mus., 1882, 291.)

The two specimens from South America referred, by Dr. Günther (Cat. Fishes, iii, 176) to *Porichthys porosissimus*, have the enlarged palatine teeth characteristic of *P. plectrodon* Jor. & Gilb. The specimen from Vancouver Island mentioned by Dr. Günther, has small palatine teeth as have all Pacific specimens examined by us. A young specimen from Panama also belongs to *P. margaritatus*. It is probable that the types of *Batrachus porosissimus* C. & V., from Guiana and Brazil, really have the palatine teeth enlarged, although Cuvier & Valenciennes say that "chaque palatin en a une rangie de petites, pointues et inegales." In that case, the Atlantic species would stand as *Porichthys porosissimus* (C. & V.) Gthr., and the Pacific species, unquestionably distinct, although closely related, as *P. margaritatus* (Rich.) Jor. & Gilb.

27. *Sebastodes matzubaræ* (Hilgendorf) Jordan.

The types of *Perca variabilis* Pallas (Zoogr. Rosso-Asiat., iii, 241 = *Epinephelus ciliatus* Tilesius), two in number, obtained in the Aleutian Islands, are preserved in the Berlin Museum.

The smaller of these specimens (6494) belongs to the species for which we have retained the name of *Sebastodes ciliatus* (Jordan & Gilbert, Synopsis Fish. N. A., 658). For this species the name *Sebastes variabilis* has been retained in MSS. by Dr. Hilgendorf.

The larger specimen (8145) is a flat skin of large red species, apparently identical with the Japanese species described by Hilgendorf under the name of *Sebastes matzubaræ*. This view is also held by Hilgendorf.

As *Sebastodes matzubaræ* has not been hitherto recognized as a North American species, we give the following outline of its characters:—

Allied to *Sebastodes miniatus*. Spines of head low, developed about as in *S. miniatus* and *S. pinniger*. Preocular, supraocular, postocular, tympanic, occipital and nuchal spines distinct; a pair of small coronal spines present, as also a small spine before and one just below eye. Maxillary reaching to posterior border of eye, $1\frac{4}{5}$ in head. Both jaws covered with rough, ctenoid scales.

Interorbital space flattish, scaled, its breadth a little less than that of eye. Preopercular spines short, simple. Preorbital spines simple. Lower jaw scarcely projecting. Second anal spine scarcely longer than third. Longest dorsal spine $2\frac{3}{4}$ in head, a little less than the longest short rays. Pectoral $4\frac{1}{5}$ in body.

Color dusky brown, apparently dark red in life; three dark shades across cheeks.

28. *Scorpæna histrio* Jenyns.

(Chinchas Islands; Schmaltz; Brit. Mus.)

This species is very closely allied to *Scorpæna brasiliensis* C. & V. It lacks the black spots which are usually distinct in the latter. In *S. brasiliensis* the suborbital stay is more broken, and the dorsal spines are perhaps a little lower.

The following is a diagnosis of *Sc. histrio* :—

Head $2\frac{1}{10}$, depth $3\frac{1}{8}$. D. XII–10. Pectoral $3\frac{1}{10}$ in body. Maxillary 2 in head. Eye $4\frac{1}{3}$ in head. Longest dorsal spine 3 in head. Second anal spine 3. Lateral line with 30 scales.

Head rough above. Nuchal pit quadrate, much broader than long. Scales present on posterior part of cheek and on front and flap of opercle. Scales on body large, not ctenoid, edged with dermal flaps. Eye large. Mouth large, the lower jaw included. Suborbital stay conspicuous, not armed with spines. Second anal spine stronger and rather longer than third.

Color gray or red, with broad darker shades, four in number, irregular and variable; fins similarly colored; pectorals barred; dermal flaps white.

29. *Prionotus horrens* Richardson.

(Voyage Sulphur, Ichthyol., 79.) :

Types, Gulf of Fonseca; young. Allied to *Prionotus tribulus* C. & V., but the spines on the head still longer and more knife-shaped. First spine on edge of snout broad and serrate; behind this three similar ones progressively larger. Then two large spines on preopercle, the posterior larger. Two smaller spines on opercle, and one very large on the scapula. Two sharp spines over each eye, one behind; two on top of head and two on occiput. No groove behind eye. Belt of palatine teeth narrow. Mouth large; maxillary reaching to below front of eye, $2\frac{1}{3}$ in head. Gill-rakers long and slender, 5 in number. Scales

small. Pectorals short, 3 in body, reaching somewhat past front of second dorsal.

Pectorals and tip of caudal dusky.

30. *Agonus decagonus* B och.

This species has the gill membranes attached to the isthmus, forming a narrow fold across it, much as in *A. cataphractus*, but narrower. It is therefore erroneously referred by us to the genus *Brachyopsis* (Syn. Fish. N. A., 955), and the generic name *Leptagonus* Gill, based on *A. decagonus*, cannot be used instead of *Brachyopsis*. *A. decagonus* is intermediate between *Agonus* proper and *Podothecus*, being referable to the latter, if the two genera are kept separate. According to Dr. Lütken, neither *Agonus cataphractus* nor *Cottus bubalis* have yet been actually found in Greenland. They should, therefore, be omitted from American faunal lists.

31. *Ophidium omostigma* Jordan & Gilbert.

(*Genypterus omostigma* Jor. & Gilb., Proc. U. S. Nat. Mus., 1882, 301.)

An Ophidioid fish has been referred by us to the genus *Genypterus*, which genus we have regarded as distinguished from *Ophidium* chiefly by the presence of a sharp spine on the opercle. In the type of the genus *Genypterus* (*G. chilensis* Guichénnot), this spine is obsolete. *G. omistigma* is therefore not a *Genypterus*, and it may probably be referred to *Ophidium*, from which *Genypterus* is separated by Dr. Günther on the variable and perhaps unimportant character of the enlarged palatine teeth.



Jordan, David Starr. 1883. "Notes on American Fishes Preserved in the Museums at Berlin, London, Paris and Copenhagen." *Proceedings of the Academy of Natural Sciences of Philadelphia* 35, 281–293.

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