Vol. VII, No. 3. Washington, D. C. June 3, 1884.

Caranx bartholomæi, Cuvier & Valenciennes.—*Cibi amarillo; Yellow Jack.*

Caranx bartholomæi Cuv. & Val. ix, 100, 1833.

Caranx cibi Poey, Mem. Cuba, II, 224, 1860.

Caranx beani Jordan, Proc. U. S. Nat. Mus., 1880, 486.

West Indies, north to Key West, Fla., and Beaufort, N. C.

We have also examined the original drawings made by Poey of his *Hynnis cubensis*. This is, we think, not identical with *Caranx crinitus*, but a valid species, closely allied to *Caranx alexandrinus* (= *Hynnis goreensis* C. & V. = *Gallichthys ægyptiacus* Ehrenberg). It may stand as *Caranx cubensis*.

The drawings of *Scyris analis* Poey, examined by us, are taken from a large specimen. This agrees with specimens of equal size of *Caranx crinitus* in all respects, except that the anterior anal rays are not elevated in a lobe. We do not know how to account for this, but cannot believe that it indicates a difference of species.

The name "*Chloroscombrus stirurus*" on pages 206 and 207 is a *lapsus* for *C. orqueta*. It is the MSS. name by which we at first designated the latter species.

INDIANA UNIVERSITY, *February* 25, 1884.

NOTES ON A COLLECTION OF FISHES FROM PENSACOLA, FLORIDA, OBTAINED BY SILAS STEARNS, WITH DESCRIPTIONS OF TWO NEW SPECIES (*Exocætus volador* and *Gnathypops mystacinus*.)

By DAVID S. JORDAN.

About January 1, 1884, a tank of fishes was sent to the museum of the Indiana University by Mr. Silas Stearns, of Pensacola. This collection was made up of fishes taken with hook and line on the "Snapper Banks," in water of considerable depth, and also of small fishes taken from the stomachs of the Red Snappers or "spewed up" by the latter after being brought on the deck. Some of these small fishes in the present collection, as in others made by Mr. Stearns, are of special interest.

1. **Letharchus velifer** Goode & Bean.

Plum color in spirits, the head paler, but the belly dark; dorsal white, its edge abruptly blackish.

2. **Ophichthys chrysops** Poey.

3. **Myrophis punctatus** Lütken.

4. **Clupea pseudohispanica** (Poey) Günther.

This specimen seems to agree fully with others obtained by me in the Havana market.

5. Parexocœtus mesogaster (Bloch) J. & G.

(*Exocœtus williamsi* Gosse.)

This species has teeth on the palate, as Dr. Lütken has observed, and is therefore a "*Parexocœtus*." The second ray of the pectoral is divided, not simple as stated by us, (*lapsus calami*), Proc. U. S. Nat. Mus. 1882, 263.

6. Exocœtus volador, sp. nov.

Head $4\frac{1}{2}$ in length to base of caudal; depth $5\frac{3}{4}$. D. 11; A. 11; Lat. l. about 45. Length of type, $9\frac{1}{2}$ inches.

Allied to *Exocœtus rondeleti*, but with the first and second rays of the pectoral simple.

Body rather stout, moderately compressed; head broad, not very obtuse in profile; eye moderate, $3\frac{1}{2}$ in head; interorbital space slightly concave, its width $2\frac{1}{2}$ in head. Pectoral fin broad, reaching to the base of the upper lobe of caudal; first ray of pectoral barely half length of the fin; second ray also simple, about two-thirds length of fin; third ray divided, shorter than fourth, ventrals reaching to the next to the last ray of anal, $3\frac{2}{3}$ in body; insertion of ventrals slightly nearer gill-opening than base of caudal. Caudal long, its lower lobe $1\frac{2}{3}$ length of head; dorsal fin low, its insertion a little in advance of insertion of anal, the base of the latter being $1\frac{1}{3}$ times in that of the former; longest rays of dorsal $2\frac{2}{3}$ in head; longest of anal rather less.

Color.—Dark bluish above, belly white; dorsal and caudal plain dusky; pectoral black, darker near the edges; ventrals mesially black, the edges white.

A single specimen in fine condition was sent by Mr. Stearns. It has been presented to the United States National Museum, where it is numbered 34975. In Dr. Lütken's excellent review of the Flying-fishes (Bidrag. til Flyvefiskenes Diagnostik (Vidensk. Meddel. Naturh. Foren. 1876, 394), this species would be placed under "*b. Radius secundus pectoralis, simplex*," but it differs in many respects from *E. brachycephalus* Gthr. and *E. lamellifer* Kner. & Steind., the two described species of that type known to Dr. Lütken.

7. Sphyræna guaguanche Cuvier & Valenciennes.

8. Echeneis naucrates Linnæus.

9. Euthynnus alliteratus (Rafinesque) Jor. & Gilb.

10. Decapterus punctatus (Agassiz) Gill.

11. Caranx amblyrhynchus Cuv. & Val.

(*Caranx falcatus* Holbrook; *Caranx secundus* and *C. heteropygus* Poey.)

12. Caranx setipinnis (Mitchill) Jor. & Gilb.

13. Stromateus triacanthus Peck.

One young specimen, apparently the first taken in the Gulf.

14. Chloroscombrus chrysurus (L.) Gill.

15. Rhypticus saponaceus (Bloch & Schneider) Cuv. & Val.

(*Eleutheractis coriaceus* Cope, Trans. Am. Phil. Soc. 1870, 467.)

A single specimen from the stomach of a Red Snapper. This is the first record of this species from the waters of the United States. There is nothing in the description of *Eleutheractis coriaceus* Cope to indicate specific, much less generic difference. Our specimen agrees well with the figure of the latter, being, however, a little more slender. D. III, 25; A. 15 or 16.

16. Rhypticus maculatus Holbrook.

Dusky brown, somewhat clouded; sides with a few small, irregular white spots; fins dusky, the edge of the caudal pale.

Body deep; maxillary reaching to below posterior margin of eye, $2\frac{2}{5}$ in head. Head 3 in length; depth $2\frac{4}{5}$. D. II, 25; A. 14 or 15.

17. Epinephelus stomias (Goode & Bean) Jor. & Gilb.

18. Serranus phœbe Poey.

A young specimen, the first recorded from the waters of the United States. It agrees very well with a Cuban specimen, but the white preanal band is rather narrower in the latter.

19. Serranus formosus (L.) Jor. & Gilb.

(*Serranus fascicularis* C. & V.)

A single young specimen. In the young of this species the edge of the preopercle forms a nearly even curve, armed with a strong spine. Only in the adult is the characteristic division of these spines in two sets, which suggested the name *Diplectrum*, developed.

20. Lutjanus caballerote (Bloch) Poey.

(*Lutjanus stearnsii* Goode & Bean; *Lutjanus caxis* (young), and *Lutjanus stearnsi* (adult), Jordan & Gilbert, Proc. U. S. Nat. Mus. 1882, 275; *Lutjanus caxis, stearnsi,* and *caballerote* Jordan & Gilbert, Syn. Fishes N. A., 548, 549, 921.)

I am unable to separate *Lutjanus stearnsi* from the common Gray Snapper, Mangrove Snapper, or *Caballerote* of the West Indies, a species to which we have hitherto applied the erroneous name of *Lutjanus caxis.* The latter species, the Dog Snapper, Schoolmaster, or *Cají* of the Florida fishermen, has not yet been noticed north of Key West. The synonymy of this and related forms has been much entangled. I hope later to give a review of this genus, in which the relations of these different snappers will be fully worked out. The true *caxis* has the posterior part of the body and the caudal fin bright orange or yellow.

21. Lutjanus campechianus Poey.

(*Lutjanus blackfordii* Goode & Bean.)

I have examined large numbers of specimens of the "Red Snapper" or "*Pargo Guachinango*" in the Key West fishing smacks and in the markets of Havana, and I do not think that there is the slightest room for doubt of the identity of this fish with the Red Snapper of Pensacola,

or *Lutjanus blackfordi*. It is therefore certain that in his account of the *Mesoprion campechianus* (Memorias Cuba, II, 149), Professor Poey intended to describe the Red Snapper, and that it is to this fish that all subsequent references made by him to *Lutjanus* or *Mesoprion campechianus* should be assigned.

The original type of Professor Poey, No. 71, "370 mill." long, is a stuffed skin of a young specimen, mounted by Poey nearly thirty years ago, and now preserved in the University of Havana. This has been cursorily examined by me, but it being locked behind glass doors at a considerable height from the floor, I took no notes save that it resembled a young Red Snapper, and that the eye appeared large, about 4 in head.

Comparing Poey's description with a young Red Snapper, I notice the following discrepancies: "L'œil est quatre fois dans la longueur de la tête. Je compte 65 écailles au-dessus de la ligne latérale, 53 au-dessous." In a specimen of similar size, I find the scales as above counted $\frac{55}{48}$, and the eye $4\frac{2}{3}$ in head. The account of the color, as given by Poey, applies very well to the young Red Snapper. In these, the lateral dark blotch is large, disappearing when the fish is about 15 inches long. The bluish lines along the rows of dorsal scales disappear earlier. Specimens of 4 to 6 inches are olive rather than red.

At present, I think that Professor Poey's identification of his type with the "*Pargo Guachinango*" is correct, but I cannot consider this opinion positively established.

22. Rhomboplites aurorubens (Cuv. & Val.).

(*Mesoprion elegans* Poey, Memorias Cuba, II, 153.
Aprion ariommus Jordan & Gilbert, Proc. U. S. Nat. Mus. 1883, 142.)

There is not much doubt that the mutilated fishes from the stomachs of the Snappers described by us as *Aprion ariommus*, are the young of *Rhomboplites aurorubens*. The types of the former species were unfortunately destroyed in the burning of the museum building of the Indiana University, July 12, 1883.

I have obtained numerous specimens of the "*Cagon*" (*Rhomboplites elegans* Poey) in the Havana market. I find no difference between these and the Pensacola specimens, nor do I believe either to be different from the original *aurorubens* of Cuvier.

As this species, in addition to its other peculiarities, has a well-defined patch of pterygoid teeth, the genus *Rhomboplites* may perhaps be be retained for it.

23. Sparus pagrus Linnæus.

I very much doubt the identity of this fish with the European species, but I have as yet had no opportunity for making a direct comparison of the two.

24. Apogon maculatus (Poey) Jor. & Gilb.

25. Micropogon undulatus (Linnæus) Cuv. & Val.

The West Indian *Micropogon* is in my opinion a species distinct from *M. undulatus*. It should apparently stand as *M. fournieri* (Desmarest).

Specimens from the Havana market differ from Pensacola specimens as follows:

Body in *M. fournieri* more elongate, the depth $3\frac{2}{5}$ in length to base of caudal, in a specimen 16 inches long. Dorsal rays X—1, 30, A. II, 7. Lateral line with 54 tubes, the scales in 62 oblique rows; 7 scales in a vertical series from first dorsal spine to lateral line; 9 or 10 in an oblique series (9 in a vertical series in *M. undulatus;* 13 in an oblique series). Dorsal spines higher, the longest $1\frac{3}{4}$ in head; pectoral shorter, $1\frac{2}{5}$ in head. The color is notably different. The short vertical bars exist along the lateral line in both species, but above these, in *M. fournieri*, are very distinct undulating lines, formed of dark centers to the scales, these making continuous dark streaks as wide as the pale interspaces. The streaks are distinct on the whole back. (In *M. undulatus*, the dark spots are fewer and scattered, not forming continuous stripes.) Opercle with a dusky shade. Both dorsals pale, without evident spots, the tips dusky.

The outer teeth are rather weaker in *M. fournieri*. The size of the eye and the form of the preopercle are essentially alike in both.

26. Chromis enchrysurus Jor. & Gilb.

27. Platyglossus caudalis (Poey) Günther.

Our specimens from Pensacola agree equally well or ill with *Julis caudalis* Poey, Mem. Cuba, II, 213, *Julis pictus* Poey, l. c. 214, and *Platyglossus poeyi* Steindachner, Ichth. Notiz. VI, 49. It is possible that four closely related species exist, each with a blackish spot behind the eye, and the outer rays of the caudal produced. More probably, the four are identical.

28. Decodon puellaris (Poey) Günther.

A small specimen, in rather poor condition, from the stomach of a Red Snapper. This is the first record of this interesting species from the waters of the United States.

29. Caulolatilus microps Goode & Bean.

A large specimen, agreeing very exactly with the description given by Goode & Bean. The separation of this species from *C. chrysops* appears questionable, but, until more is known of the latter species, it is best to consider the two as distinct. The small size of the eye in *C. microps* is doubtless due to the very large size of the only specimens examined.

30. Gobius soporator Cuv. & Val.

31. Ioglossus calliurus Bean.

Specimens in good condition.

32. Gnathypops mystacinus sp. nov.

Head $3\frac{1}{12}$ in length ($3\frac{5}{6}$ to tip of caudal); depth $4\frac{4}{5}$ ($5\frac{5}{6}$). D. 23 or 24; A. 11. Lat. l. with about 54 tubes; 100 scales between gill-opening and caudal. Length of type $3\frac{1}{2}$ inches.

Head rather elongate, not very blunt in profile; snout very short, not longer than pupil; eye large, about $3\frac{1}{3}$ in length; maxillary $1\frac{2}{3}$ in length of head, 5 in length to base of caudal, $6\frac{1}{3}$ in total length to tip of caudal; end of maxillary abruptly truncate, not ending in a flexible lamina, the supplemental bone well developed; lower jaw slightly included. Teeth in both jaws in a narrow band, the outer slender, enlarged; vomer with about 4 slender teeth; palatines toothless. Gill-rakers long and slender. Gill membranes nearly separate, free from the isthmus.

Scales very small; lateral line extending to below anterior part of soft dorsal, its length $\frac{5}{4}$ that of head.

Dorsal spines not distinguishable from the soft rays, the rays apparently fewer than usual, none of them very high, the last ray $2\frac{1}{4}$ in head. Caudal short, apparently truncate, $1\frac{1}{4}$ in head. Anal rather low. Pectorals 2 in head. Ventrals $1\frac{3}{4}$.

Color.—Somewhat faded; apparently plain olive green, without bands or spots on body or fins. Vertical fins tipped with blackish. Maxillary with a median blackish stripe. Pectoral with two dusky cross-shades. No black or white on lining membrane of jaws.

A single specimen in good condition, spewed up by a Red Snapper at Pensacola. It is numbered 34976 on the National Museum Register.

This species resembles *O. lonchura* in color, but is quite different in other respects.

33. Emblemaria nivipes Jordan & Gilbert.

A large specimen sent us by Mr. Stearns was presented to the United States National Museum (No. 33915). It was carefully compared with our types of *E. nivipes* from Panama, by Dr. Bean, who found no difference of importance. It is therefore provisionally identified with *E. nivipes*. The occurrence of this form in Florida waters is interesting.

34. Peristedium imberbe Poey.

A small specimen, with the head and caudal fin mostly digested, was taken from the stomach of a Snapper. It does not altogether agree with Poey's account; but as that, too, was taken from a mutilated specimen, I attach little weight to the discrepancies. The lower jaw being destroyed, I can say nothing of the barbel; but from the presence of hooked spines on the lower row of plates, I think that this specimen must be different from *P. brevirostre* Günther.

Our specimen has four rows of spinous plates on each side; the occipital spines strong. D. VI—*ca.* 1, 9.

Scutes 30 in each series.

35. Scorpæna stearnsi Goode & Bean.

36. Citharichthys pætulus (Bean) Jor. & Gilb.

Two specimens, each about a foot in length, in fine condition. The right side, in this species, is sooty-blackish, not pale as usual in flounders.

As two of the species of *Hemirhombus* (*H. fuscus* Poey, and *H. ovalis* Günther) have the narrow interorbital space, the short pectoral, and the general appearance of the species of *Citharichthys*, I cannot admit the genus *Hemirhombus* to be well founded. In *Hippoglossoides* are also species with one, and others with two rows of teeth.

37. Alutera schœpfi (Walbaum) Goode & Bean.

A large specimen, apparently identical with others from Wood's Holl, Mass. D. I, 34; A. 40.

38. Balistes carolinensis Gmelin.

(*Balistes vetula*, β. Balistes carolinensis Gmelin, Syst. Nat., 1788, 1468.
? *Balistes capriscus* Gmelin, Syst. Nat., 1788, 1471; based on references to various authors; several species evidently confounded.
Balistes capriscus of most recent authors.)

It seems certain that the *Balistes capriscus* of Gmelin is not specially based on the present fish, while the prior name, *carolinensis*, of the same author, refers evidently to this species. This is shown by the numbers of the fin rays, by which this species may be known from *B. vetula*. We therefore adopt the name *carolinensis* instead of *capriscus*.

The following species, new to the fauna of the United States, are contained in the present collection:

Exocœtus volador sp. nov., *Rhypticus saponaceus*, *Serranus phœbe*, *Decodon puellaris*, *Gnathypops mystacinus*, *Emblemaria nivipes*, *Peristedium imberbe*.

NOTE.—The following is a list of the species thus far found by Mr. Stearns in the stomachs of the Snappers and Groupers on the "Snapper Banks," off Pensacola. This list represents the sum total of our knowledge of the fishes of the Gulf of Mexico, other than those living close to the shores, or those sought for food. Of the abyssal fauna of the Gulf absolutely nothing is yet known.

Sidera ocellata (Ag.).
Myrophis punctatus Lütken.
Ophichthys ocellatus (Le Sueur).
Ophichthys schneideri Steind.
Ophichthys chrysops Poey.
Letharchus velifer Goode & Bean.
Conger candicula Bean.
Myrophis punctatus Lütken.
Clupea pseudohispanica (Poey).
Synodus? cubanus Poey. (=*S. intermedius* J. & G., Proc. U. S. Nat. Mus. 1882, 249; not of Agassiz & Spix.)
Parexocœtus mesogaster (Bloch).
Exocœtus volador Jordan.
Exocœtus noveboracensis Mitchill.
Apogon maculatus (Poey).
Apogon alutus Jor. & Gilb.
Serranus formosus (L.).
Serranus philadelphicus (L.).
Serranus phœbe Poey.
Serranus subligarius (Cope).
Rhypticus saponaceus C. & V.
Rhypticus maculatus Holbrook.
Rhomboplites aurorubens (C. & V.).
Hæmulon aurolineatum C. & V.
Stenotomus caprinus Bean.
Mullus auratus Jor. & Gilb.
Stromateus triacanthus Peck.
Nomeus gronovii (Gmel.).
Chloroscombrus chrysurus (L.).
Decapterus punctatus (Ag.).
Trachurus trachurus (L.).
Scomber colias Gmel.
Trichiurus lepturus L.
Chromis enchrysurus Jor. & Gilb.
Chromis insolatus (C. & V.).

Platyglossus caudalis (Poey).
*Platyglossus bivittatus (Bloch).
Decodon puellaris (Poey).
†Xyrichthys? linearis (L.).
Scorpæna stearnsi Goode & Bean.
Prionotus scitulus Jor. & Gilb.
Peristedium imberbe Poey.
Ioglossus calliurus Bean.
Batrachus pardus Goode & Bean.
Opisthognathus lonchura Jor. & Gilb.
Gnathypops mystacinus Jordan.
Emblemaria nivipes Jor. & Gilb.
Blennius stearnsi Jor. & Gilb.
Ophidium omostigma Jor. & Gilb.
Ophidium beani Jor. & Gilb.
Ophidium marginatum Dekay.
Citharichthys pætulus (Bean).
Siphostoma zatropis Jor. & Gilb.
Hippocampus stylifer Jor. & Gilb.

INDIANA UNIVERSITY, *January* 25, 1884.

NOTE ON ÆLURICHTHYS EYDOUXII AND PORICHTHYS POROSISSIMUS.

By DAVID S. JORDAN.

In the fifteenth volume of the Histoire Naturelle des Poissons, page 43, Valenciennes describes, in a very brief and insufficient manner, a Catfish from Guayaquil, under the name of *Galeichthys eydouxii*. Suspecting that this species might be identical with *Ælurichthys pinnimaculatus* Steind., I wrote to Dr. H. E. Sauvage, of the Museum at Paris, for information concerning the type of *G. eydouxii*. The following is a translation from the letter received by me from Dr. Sauvage:

"I have before me the type of *Galeichthys eydouxii* Cuv. Val., coming from Guayaquil, through Eydoux. It is a fish of $0^{m}.225$ in length, the head $0^{m}.047$, the breadth $0^{m}.035$. The species is very near to *Ælurichthys pinnimaculatus* (Steindachner Ichth. Beitr. IV, p. 25, pl. VIII). It is, however, distinct, and differs in the following points:

"The head is broader in *A. eydouxii;* the ventrals and the anal are without spot; the anal is not emarginate in its median part, but cut squarely. The principal difference is in the shield which precedes the dorsal. In the species of Steindachner this shield is narrow, in the other it is as long as broad, the lateral edges being rounded. On the other hand the shield which precedes this is more narrow than in *A. pinnimaculatus.*

"D. I, 7; A. 30; P. 1, 14.

"Length of head $4\frac{3}{4}$ in total length; predorsal shield broad, rounded on the edges, granulated and grooved. Teeth of the palate forming a

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*In the Proc. U. S. Nat. Mus. 1882, 608, we have retained for this species the name of *Platyglossus radiatus.* This is an error. The *Sparus radiatus* of the twelfth edition of the Systema Naturæ, p. 472, received through Dr. Garden, from Charleston, is this fish, as stated by us. In the tenth edition, p. 288, there is, however, a *Labrus radiatus* based on Catesby's figure of the "Pudding wife," which is *Platyglossus cyanostigma.* The latter species must therefore be called *Platyglossus radiatus,* and the oldest tenable name of the other seems to be *bivittatus.*

†A specimen of a plain crimson color, without blue spots or markings.