

- d. Dorsal fin without distinct light or dark margin; head more than one-third trunk; teeth entire.
- e. Body dark brown, vaguely reticulated with narrow pale streaks and spots; belly with crosswise streaks of dark; a dark line on each side of base of anal, with short cross-branches; a black blotch on gill-opening; teeth strong.....MORDAX.\*
- ee. Body uniform chestnut-brown; no dark spot at gill-opening; sides of mandible with about 18 teeth; body rather stout.....CASTANEA.†
- dd. Dorsal fin with a black margin, its edge narrowly white; anal white-edged; head less than one-third trunk; sides of mandible with about 13 teeth; body slender; size small (?)......VERRILL.‡
- aa. Dorsal not beginning before gill-opening; teeth mostly biserial.
- f. Color plain brown; dorsal beginning nearly over gill-opening; inner teeth of sides of upper jaw long, slender, close-set; anterior teeth strong, serrate behind; mouth short; about 20 teeth on each side of lower jaw; size small (?)......PANAMENSIS.§
- ff. Color blackish, with rather distant yellow spots, confluent on the throat; dorsal beginning at end of first third of body (?). Fresh waters (exclusively ?).....AQUÆ-DULCIS.||

INDIANA UNIVERSITY, July 11, 1883.

**DESCRIPTION OF A NEW SPECIES OF RHINOBATUS (RHINOBATUS GLAUCOSTIGMA) FROM MAZATLAN, MEXICO.**

By **DAVID S. JORDAN** and **CHARLES H. GILBERT**.

*Rhinobatus glaucostigma* sp. nov.

*Rhinobatus productus* Streets, Bull. U. S. Nat. Mus., vii, 1877, 55. (Excl. Syn.; not of Ayres. San Bartholomé Bay, Lower California.)

*Rhinobatus leucorhynchus* Jordan & Gilbert, Bull. U. S. Fish Comm., 1882, 105. (Mazatlan; no descr.; not of Günther.)

Allied to the California species (*Rhinobatus productus* Ayres), and to the Panama species (*Rhinobatus leucorhynchus* Günther), but with the snout shorter than in either and the coloration different.

Disk comparatively long and narrow, the snout produced, but not acutely pointed, the anterior margins being very nearly straight. Greatest width of disk slightly less than its length to end of base of pectorals; length of snout from eye  $2\frac{1}{2}$  in length of disk; interorbital width  $3\frac{1}{2}$  in snout, a little less than length of eye and spiracle. Spiracle large, rather smaller than eye, with two conspicuous folds on its posterior border. Width of body opposite posterior part of base of ventrals, a little less

\* *Muræna mordax* Ayres, Proc. Cal. Acad. Nat. Sci., 1859, 30. Point Conception to Cerros Island.

† *Sidera castanea* Jor. & Gilb., Proc. U. S. Nat. Mus., 1883. Mazatlan (Gilbert).

‡ *Sidera verrilli* Jor. & Gilb., Proc. U. S. Nat. Mus., 1882. Panama (Bradley).

§ *Muræna panamensis* Steindachner, Ichth. Beitr., v, 1876, 19. Panama (Steind.); Pearl Islands (Bradley).

|| *Muræna aquæ-dulcis*, Hayden's Rept. Geol. Surv. Montana for 1871, 474, 1872. Rio Grande at San José de Costa Rica (Cope). This species is unknown to us.

than length of snout; width of head at front of eye equal to distance from tip of snout to posterior border of orbit. Rostral ridges moderately separated, slowly convergent anteriorly, but remaining separate as far as they can be traced.

Mouth nearly straight, its breadth  $2\frac{1}{3}$  in its distance from tip of snout. Length of nostril  $1\frac{2}{3}$  in breadth of mouth, its anterior valve narrow, extending but a slight distance towards the inner margin. Vent somewhat nearer tip of snout than base of caudal.

Dorsal fins similar, subequal, separated by an interspace which is  $2\frac{3}{4}$  times the length of the first. Distance from posterior root of base of ventrals to first dorsal about equal to length of snout. Sides of tail with a conspicuous fold.

Skin everywhere rough, with a fine, nearly uniform, shagreen. No spines along the rostral cartilages; a row of very small superciliary spines; one or two blunt spines on the shoulder-girdle; a series of low, bluntish spines along the median line of the back, becoming larger and farther apart posteriorly. Females without fimbriated appendage above tip of snout.

Color light olivaceous gray; translucent spaces on each side of snout becoming whitish in spirits, as in related species. Disk with a number of round, clear, slate-colored spots, as large as eye, these arranged symmetrically; one on middle of snout; one at the base of each rostral cartilage; a series of 6 or 7 forming an elliptical figure around each orbit; one at base of each pectoral behind and outside each shoulder. Vertical fins and caudal fold pale. Lower side of disk pale; a large oblong, blackish blotch on lower side of tip of snout, extending backward nearly half way to mouth. Blackish blotches below on edge of base of snout sometimes present.

This species is abundant in the astillero or estuary at Mazatlan, where it is known to the fishermen as "Guitarro." Several specimens were obtained by Professor Gilbert, the largest  $2\frac{1}{2}$  feet in length, all of them being females. These are numbered 28205, 28206, 29547, and 29602 on the Museum Register. This species was at first identified by us with *R. leucorhynchus*, but the discovery by Professor Gilbert of the latter species at Panama shows that the Mazatlan form is distinct, although closely related.

The color of *R. glaucostigma* is very peculiar and distinctive. The bluish spots do not disappear in spirits.

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