

| | |
|------------------------------|---------|
| Anal: | |
| Length of base | 21 |
| Height of longest ray | 9 |
| Distance from ventrals | 25 |
| Caudal: | |
| Length of middle rays | 13 |
| Length of outer rays | 26 |
| Pectoral, length | 27½ |
| Ventral, length | 23 |
| Dorsal rays | X, 18 |
| Anal rays | III, 20 |
| Scales | 6-50-16 |

SAN FRANCISCO, CAL., March 2, 1880.

DESCRIPTION OF A NEW SPECIES OF DEEP-WATER FISH (ICICHTHYS LOCKINGTONI), FROM THE COAST OF CALIFORNIA.

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

Icichthys gen. nov.

Allied to *Icosteus* Lockington, but the body lower and more elongate, not compressed at the bases of the vertical fins. Head moderate; eyes lateral; mouth terminal, little oblique, with small, sharp teeth in one series, in the jaws only. Gill-openings very wide, continuous. Gill-rakers long. Pseudobranchiæ present. Branchiostegals 7. *Body entirely scaly*. Lateral line continuous, *unarmed*. Bases of fins without spinules.

Dorsal and anal fins long and low, composed of soft rays only. Pectoral fins moderate. Ventral fins small, thoracic, 1, 5. Pyloric cæca about 6, large. Bones all very flexible, cartilaginous.

The scaly body fully distinguishes this species from *Icosteus*, with which singular genus its affinities are intimate, although the known species do not resemble each other closely.

(Etymology: *ἰζωω*, to yield or submit; *ἰχθῆς*, fish—in allusion to the flexible skeleton.)

Icichthys lockingtoni sp. nov.

Body oblong, moderately elongate, somewhat compressed, the caudal peduncle rather slender.

Head moderate, compressed, with vertical cheeks, rather broad and slightly convex above, the snout abruptly descending, hence bluntish in profile. Profile nearly straight from upper part of snout to the nape.

Mouth moderate, little oblique, the slender maxillary scarcely widened at the tip, extending to rather below the front of the pupil, the anterior edge of the premaxillary on the level of the lower rim of the eye. Lips thin. Upper lip not protractile. Premaxillary tapering backward, not forming the whole margin of the upper jaw. Maxillary behind slipping entirely under the membranous edge of the preorbital. Preorbital rather

wide, with one or two series of rather large, thin cycloid scales. These scales perhaps covered the cheeks also in life. At present no other scales are present on the head in the typical example. Lower jaw prominent, projecting in front, but included at the sides. Teeth in jaws only, minute, sharp, closely and evenly set, much as in *Icosteus enigmaticus*, but rather larger and less numerous.

Eyes large, lateral, longer than snout, their diameter contained about 4 times in the length of the head. Cheeks rather wide. Preopercle with a prominent crest, behind which are some radiating mucous cavities; the bone with a broad, prolonged, flexible membranaceous edge, covered with radiating striæ, each of which ends in a slightly exerted flexible point. Opercle and subopercle rather large, extremely thin, and each crossed by numerous conspicuous radiating striæ.

Gill-openings wide, not separated by an isthmus, the membranes not connected. Pseudobranchiæ present. Branchiostegals 7. Gill-rakers long, slender, sharp, their length nearly three-fourths the diameter of the eye. They are rather close-set and moderately stiff. Gills 4, a slight slit behind the posterior gill.

No bony stay connecting suborbital and preopercle.

Scales very small, apparently cycloid, soft and smooth to the touch, covering the body evenly, but becoming smaller below. Lateral line nearly straight, apparently continuous, but not conspicuous on the middle part of the body. It does not run up on the caudal fin. There are on it no traces of the spinules, so conspicuous in *Icosteus enigmaticus*.

Scales (too small to be accurately counted) in about 120 transverse series.

Dorsal fin long and low, beginning opposite a point nearly midway between the vent and the base of the ventrals; the number of rays 39 to 40. All the rays are soft and articulated, and apparently all except the first are branched. The first rays are very low, the fin gradually rising posteriorly, the highest about one-third the length of the head. The base of the fin is somewhat scaly.

Anal fin entirely similar, but shorter, beginning slightly in front of the middle of the body (without caudal), and ending just in front of the last rays of the dorsal; its rays about 28.

Caudal broad, fan-shaped, on a slender peduncle; the accessory rays numerous and recurrent. The fin is broken, so that its outline cannot be ascertained.

Pectorals as in *Icosteus*, with the carpal bones slightly exerted, as if pedunculate, the base a little below the axis of the body, the outline rounded. The fin is short and small, its length less than that of the head.

Ventrals short and small, thoracic, placed a little behind pectorals, with one obsolete spine and five soft rays, one of which is slightly filamentous. The fin is about one-third the length of the head.

Fin rays not beset with spinules.

Vent normal, immediately in front of the anal, without papilla.

Air-bladder apparently wanting. Pyloric cœca about 6, rather long.

Bones all soft and flexible, as in *Icosteus enigmaticus*. The skin, however, not thick and tough, as in the latter species, but thin and scaled.

Coloration in spirits plain brown, lighter below; the skin somewhat punctulate.

Measurements of typical example.

| | |
|------------------------------------|------------------|
| Total length..... | 7.5 inches |
| Length to base of caudal..... | 6.8 inches = 100 |
| Greatest depth..... | 25 |
| Least depth..... | 9 |
| Length of head..... | 20 |
| Diameter of eye..... | 5½ |
| Interorbital width..... | 5½ |
| Distance from snout to dorsal..... | 37 |
| Length of base of dorsal..... | 51 |
| Height of dorsal..... | 7 |
| Distance from snout to anal..... | 50 |
| Base of anal..... | 32 |
| Length of pectoral..... | 11 |
| Length of ventral..... | 8 |
| Number of fin rays: | |
| Dorsal..... | 39 |
| Anal..... | 28 |
| Scales in lateral line..... | (ca) 120 |

The single example of this species at present known was obtained in the market of San Francisco by Mr. W. G. W. Harford, with two of the original types of *Icosteus enigmaticus*. It has been presented by the California Academy of Sciences, for whom it was originally obtained, to the United States National Museum. Its specific distinctness from *Icosteus enigmaticus* was first noticed by Mr. Lockington, and we have seen fit to name the species for him, in recognition of his important work in Californian ichthyology.

The two species are called "deep-water fish" by the dealers.

As before noticed, the relations of this genus are evidently with the associated genus *Icosteus*, but the two genera bear little resemblance to any form known to us. They will probably constitute a distinct family or subfamily, in the Trachinoid group.

This family (*Icosteidae*) may be defined as follows:

Body oblong, compressed. Head moderate, unarmed; the suborbital without bony stay. Mouth terminal, little oblique; the premaxillary not protractile; the maxillary slender. Teeth minute, sharp, erect, in one series on the jaws only. No barbels. Gills 4, a slit behind the fourth. Gill-openings wide; the membranes free from the isthmus. Gill-rakers slender. Branchiostegals 7.

Dorsal and anal fins long, without spines. Caudal fin, with many recurrent accessory rays, on a slender peduncle. Pectoral fins rounded, with the carpal bones slightly exerted. Ventral fins thoracic, I, 5, or I, 4. Vent normal, without anal papilla. Pseudobranchiæ present.

Skeleton imperfectly ossified, the bones flexible, so that the whole body is limp and destitute of firmness.

The two genera may be thus compared:

- * Head and body naked, covered with rather thick tough skin; lateral line and fin rays beset with spinules. Dorsal and anal rather high, the body at their bases closely compressed. Dorsal rays, 50 to 55; anal rays, 35 to 40; ventrals rather long, I, 4 ICOSTEUS.
- ** Head partly and the body wholly covered with small scales. Lateral line and fins rays smooth. Dorsal and anal fins low, their bases little compressed. Dorsal rays, 35 to 40; anal rays, 25 to 30; ventrals short, I, 5..... ICICHTHYS.

SAN FRANCISCO, CAL., *March 12, 1880.*

**CATALOGUE OF TROCHILIDÆ IN THE COLLECTION OF THE
UNITED STATES NATIONAL MUSEUM.**

By ROBERT RIDGWAY.

The following catalogue enumerates all the species of Humming Birds which are contained in the collection of the National Museum, with the localities represented, the latter being in many cases additional to those given in standard text-books relating to this family of birds. The chief aim of the list is to show what species are wanted to complete the collection, and exchanges to this end are respectfully solicited. Many of the species of the list are represented by an incomplete series of specimens, often by a single skin only, and of these additional specimens are desirable, especially if from a locality not mentioned in the list. Such species are indicated by an asterisk prefixed to the name.

The names¹ and numbers correspond with those of Elliot's "List of Described Species of Humming Birds," published by the Smithsonian Institution.²

- * 1. *Eutoxeres aquila* (Bourc.) Reich.
Veragua.
4. *Rhamphodon nævius* (Dumont) Reich.
Brazil.
6. *Glaucis hirsuta* (Gmel.) Boie.
Costa Rica; Trinidad; Grenada, W. I.; E. Peru (Pebas); Panama;
"Brazil".
- * 10. *Glaucis cervinicauda* (Gould) Salv. & Elliot.
E. Ecuador (Rio Napo); Brazil?
11. *Glaucis ruckeri* (Bourc.) Gould.
Panama; Costa Rica.³

¹A few names are here changed in consequence of recent emendations.

²List of Described Species of Humming Birds. By Daniel Giraud Elliot. Reprinted from a Synopsis of the Trochilidæ in the Smithsonian Contributions to Knowledge, Washington: Smithsonian Institution, 1879. (Smithsonian Miscellaneous Collections, No. 334.)

³Including the type of *G. anca* Lawr.