

To the recognized *Chromis caeruleus* (Cuvier and Valenciennes) we refer the following named species: *Heliases caeruleus* Cuvier and Valenciennes, *Histoire naturelle des poissons* **5**: 497. 1830 (New Guinea; Ulea); *H. frenatus*, *ibid.*: 498 (Guam); *H. lepisurus*, *ibid.*: 498 (New Guinea). *Heliases frenatus*, Sauvage, *Histoire naturelle des poissons* **16**: 436, pt. 28, fig. 1. 1887 (Madagascar); *Chromis lepisurus* Bleeker, *Atlas Ichthy.* **9**: pl. 403, fig. 7. 1877, and *Nat. Verh. Holland. Maatsch. Wet.* **2** (6): 164. 1877 (East Indies; Zanzibar; Andamans; Guam; Ulea). *Heliastes lepidurus* Günther, *Catalogue of the fishes in the British Museum* **4**: p. 63, 1862 (Amboina; emended spelling for *H. lepisurus* Cuvier and Valenciennes); Day, *Fishes of India* **2**: 389, pl. 82, fig. 1. 1877 (Andamans); Günther, *Fische der Südsee*, *Journ. Mus. Godeffroy* **15** (pt. 7): 238

(in part), pl. 128, fig. D (only). 1881. *Glyphiodon anabatooides* Day, *Proc. Zool. Soc. London* 1870: 696. *Glyphisodon bandanensis* Bleeker, *Nat. Tijdschr. Ned. Indie* **2**: 248. 1851 (Neira, Banda). *Chromis caeruleus* (in part), Jordan and Seale, *Bull. U. S. Bur. Fish.* **25** (1905): 290. 1906 (Samoa Islands; in a letter to Dr. Jordan, see p. 291, from Dr. Vaillant who examined the types of *caeruleus*, *frenatus* and *lepisurus*, all three are referred to a single species by him); Aoyagi, H., *Biogeographica*, *Trans. Biogeog. Soc. Japan* **4** (1): 186, fig. 14. 1941 (Japan).

Remarks.—Fowler and Bean, *U. S. Nat. Mus. Bull.* 100, **7**: 31, 61. 1928, have proposed the subgenus *Hoplochromis* for *C. caeruleus*, characterized by having the "front edge of lower jaw with 6 short conic teeth flaring outward."

ICHTHYOLOGY.—*A new genus and species of anacanthobatid skate from the Gulf of Mexico.* HENRY B. BIGELOW and WILLIAM C. SCHROEDER.* (Communicated by L. P. Schultz.)

In 1924 von Bonde and Swart¹ proposed a new genus *Anacanthobatis* for *Leiobatis marmoratus* von Bonde and Swart, a curious batoid from the Natal coast; skatelike in that its pelvic fins are so deeply concave outwardly that they are entirely subdivided with the anterior subdivision limblike, but differing from all typical skates in their perfectly naked skins and in lacking dorsal fins. A second new species, *dubia*, agreeing with *marmoratus* in naked skin and in filamentous prolongation of the snout, but differing from it in that the outer margins of the posterior subdivision of its pelvic fins are fused along their anterior one-half with the inner margins of the pectorals, was also referred to *Anacanthobatis* by von Bonde and Swart.² But the unique specimen seems to have lost most of its tail, so that the presence or absence of dorsal fins remains to be learned.

Anacanthobatis is included among the Dasyatidae by Barnard,³ by Fowler,⁴ and

by Smith.⁵ But the nature of its pelvic fins seems to us to place it among the rajoids, as a separate family, Anacanthobatidae, because of its naked skin and lack of dorsal fins.

No batoid resembling *Anacanthobatis* was seen again until the autumn of 1950, when trawlings by the U. S. Fish and Wild Life Service vessel *Oregon* in the northern side of the Gulf of Mexico, off the Mississippi, yielded two specimens that agree with the South African *A. marmoratus* von Bonde and Swart in structure of pelvics, wholly naked skin, and long slender tail without dorsal fins, but with *A. dubia* von Bonde and Swart in the fact that the outer margins of the posterior subdivision of the pelvic fin is fused along the anterior two-thirds with the inner margin of the pectorals, which is not the case in *marmoratus*. But the Gulf of Mexico form differs from both *marmoratus* and *dubius* in that the end of the snout is expanded in leaflike form (Fig. 1).

The marginal fusion of pelvic fins with pectorals now established for two species is so unusual a character as to justify a new genus, for which we propose the name *Springeria*, in recognition of Stewart Spring-

* Contribution no. 554 from the Woods Hole Oceanographic Institution.

¹ Mar. Biol. Surv. South Africa Rep. 3, spec. Rep. 5 [1922]: 18, pl. 23, and accompanying errata slip. 1924.

² Loc. cit., p. 19.

³ Ann. South African Mus. **21**: 79. 1925.

⁴ U. S. Nat. Mus. Bull. 100, **13**: 448. 1941.

⁵ *Sea fishes of southern Africa*: 71. 1949.

er's productive studies of the elasmobranchs of Florida and the Gulf. And the curious shape of the snout equally necessitates a new species, which we name *folirostris* for obvious reasons.

Springeria, n. gen.

Genotype.—*Springeria folirostris*, n. sp.

Generic characters.—Snout either prolonged as

a simple filament, or expanded terminally in shape shown in Fig. 1, terminating in a soft filament; firm rostral cartilage extending to base of filament; outer margins of posterior lobes of pelvis united along first two-thirds of their length with inner margins of pectorals; inner margins of posterior pelvic lobes attached nearly to tips to sides of tail. Tail without lateral folds, its lower side as well as its upper side with caudal membrane. Pelvic transverse, its anterior

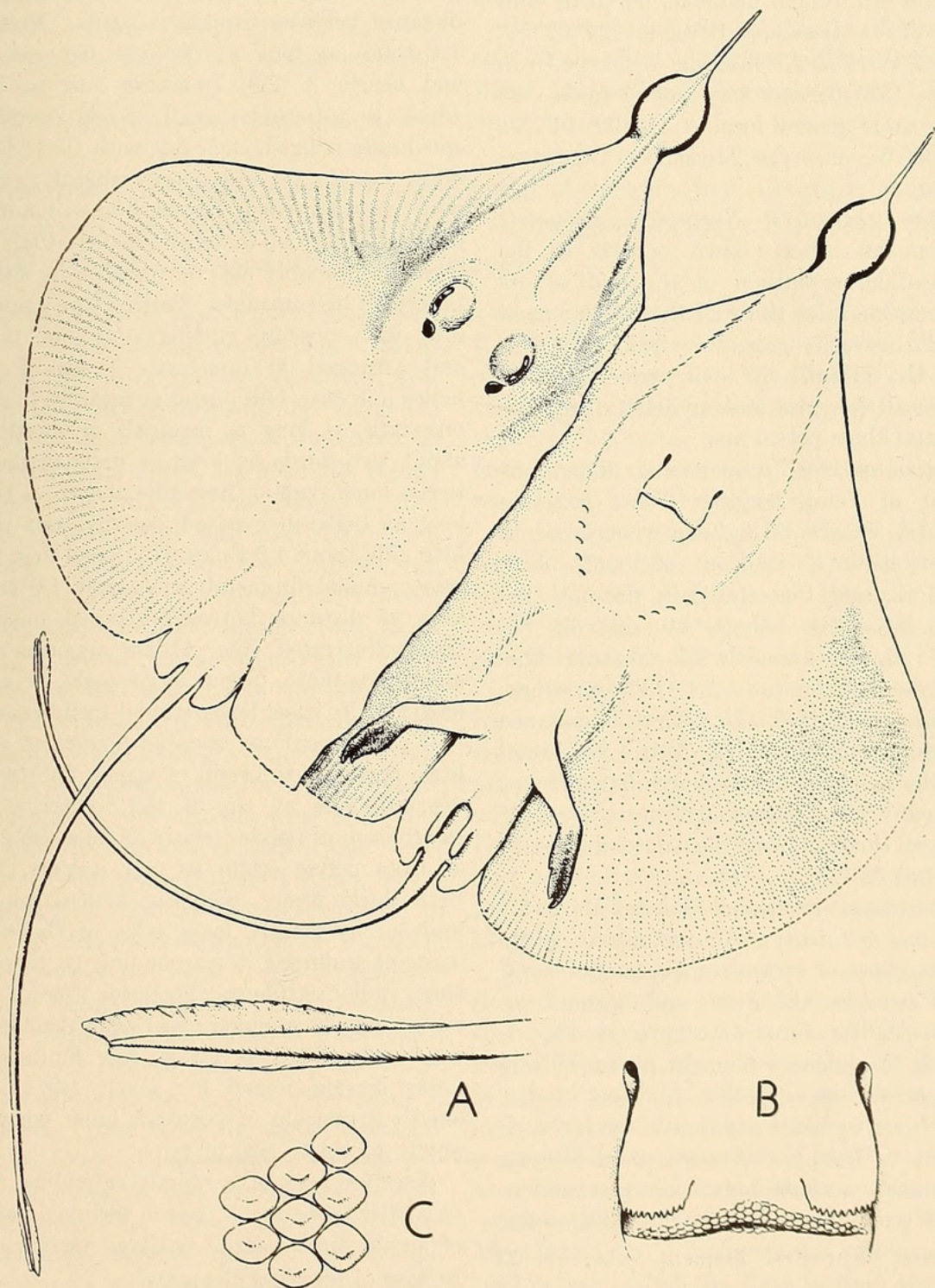


FIG. 1.—*Springeria folirostris*, n.sp., male, 400 mm long, holotype (U. S. N. M. no. 152546): A, End of tail, about $\times 1.8$; B, mouth and nasal curtain, about $\times 1.8$; C, three rows of teeth, upper, about $\times 10$.

profile slightly concave rearward, a long slender process at either end, directed forward, no radial cartilages along anterior half of basipterygial cartilages of pelvic fins.

Species.—Two species known, *S. folirostris*, n. sp., from the Gulf of Mexico, and probably also *dubia* von Bonde and Swart, 1924, South Africa.

***Springeria folirostris*, n. sp.**

Study material.—Immature male, 400 mm long to base of terminal filament; northern Gulf of Mexico off the Mississippi River, lat. 29° 02' N., long. 88° 34' W.; 232–258 fathoms; holotype, U. S. N. M. no. 152546; and very young male, 125 mm long, same general locality, lat. 29° 01' N., long. 88° 30' W., paratype, Museum of Comparative Zoology.

Distinctive characters.—*Springeria folirostris* differs from all other known batoids in the peculiar leaflike expansion of the end of its snout. Specimens with this and the tail damaged would still be easily separable from all other rajoids of the Atlantic by their perfectly naked skins; from all dasyatid and myliobatid rays by the nature of their pelvic fins.

Description of type (proportional dimensions in percent of total length).—Disc: Extreme breadth 51.6; length 55.3. Length of snout in front of orbits 21.8; in front of mouth 24.3. Orbits: Horizontal diameter 2.9; distance between 2.6. Spiracles: Length 1.0; distance between 5.1. Mouth: Breadth 4.5. Nostrils: Distance between inner ends 5.8. Gill openings: Lengths, first 0.75, third 0.75, fifth 0.50; distance between inner ends, first 9.2, fifth 4.8. Caudal fin: Length, base, upper 6.0, lower 5.0. Pelvics: Anterior margin 12.7. Distance from tip of snout⁶ to center of cloaca 47.6; from center of cloaca to tip of tail 52.4.

Disc from base of terminal filament about 1.1 times as long as broad; maximum anterior angle from level of base of terminal expansion of snout to level of spiracles about 85°; end of snout expanded in leaflike form as shown in Fig. 1, terminating in a slender filament about as long as distance between spiracles. Margins of disc rearward from terminal expansion weakly concave about to level of spiracles, then altering to continuously and strongly convex around to very short inner margins without definite outer

or posterior corners. Tail very slender, laterally compressed, increasingly so rearward; its width at axils of pelvic fins (where thickest) about as great as length of eye; its length from center of cloaca to tip about 1.1 times as great as distance from cloaca to base of terminal filament of snout. Skin perfectly naked everywhere, without dermal denticles of any sort. Snout in front of eyes about 8.4 times as long to base of terminal filament as distance between orbits, its length in front of mouth about 6.5 times as great as distance between exposed nostrils. Orbit about 1.1 times as long as distance between orbits, and nearly 3 (2.9) times as long as spiracle which is noticeably small. Nasal curtain conspicuously fringed, each side with 10–11 lobelets; outer margin of nostril only slightly expanded with irregular edge. Exposed nostril noticeably minute. Mouth on immature males a little arched forward, probably also on females, its shape not known for mature males. Teeth $\frac{3}{2}$ on young male, low, with obscure cutting edge but no cusp, and arranged in quincunx. Teeth of mature males not seen. Gill openings minute; first about one-sixth as long as breadth of mouth; fifth about two-thirds as long as first; distance between inner ends of first gills about 1.6 times as long as between exposed nostrils, and between fifth gills about 1.9 times. No dorsal fins. Base of upper caudal fin-membrane about 1.0 times as long as distance between exposed nostrils, of shape illustrated (Fig. 1), its maximum width about one-tenth (about 9 percent) as great as length of its base; lower caudal membrane about half (55 percent) as wide as upper, its origin a little posterior to origin of upper; the two lobes discontinuous at tip of tail. Anterior leglike subdivision of pelvics nearly as long (95 percent) as from pelvic origin to rear corners, broader than thick, fleshy, with one articulation about midway its length, inner edge of the terminal segment scalloped, corresponding to tips of the three radial cartilages. Posterior lobe of pelvics with narrowly rounded rear corner reaching rearward only about as far as rear limits of disc; outer margin joined for about two-thirds its length to margin of pectoral, inner edge joined nearly to tip to side of tail.

Anterior rays of pectorals extending forward to a little posterior to base of terminal expansion of snout; firm rostral cartilage reaching about to base of terminal filament.

⁶ Exclusive of rostral filament, which is 23 mm long.

Color: Ash gray above, except unpigmented and translucent in spaces between rostral ridge and anterior rays of pectorals; orbits dusky, terminal expansion of snout narrowly and irregularly margined with black, also the posterior part of the back with a sooty blotch on one side near midline, perhaps the result of injury. Lower surface pale grayish white, the outer posterior belt of pectorals sooty gray, terminal expansion of snout narrowly and irregularly edged with black; tail sooty at base.

Development stages.—Presumably *Springeria* is oviparous like other rajids, but its eggs have not been seen yet.

Size.—How large this skate may grow is not

known, for the larger of the two specimens seen so far, 400 mm long to base of terminal filament, is an immature male, its claspers not yet reaching as far as the tips of its pelvics.

Habits.—The two specimens seen so far were trawled at 232–258 fathoms, this with the improbability that this skate would have been overlooked if it occurred in shallow water, suggests that it is confined to depths greater than about 200 fathoms. Nothing else is known of its habits.

Range.—So far known only in the northern side of the Gulf of Mexico off the Mississippi River, at the localities listed on page 112 under Study material.

ORNITHOLOGY.—*Race names in the Central American jay, Cyanolyca argentigula.* FRANK A. PITELKA, Museum of Vertebrate Zoology, University of California. (Communicated by H. G. Deignan.)

The silver-throated jay, *Cyanolyca argentigula*, is a species of restricted distribution in montane forests of Central America, and at present two rather well marked races are recognized, *C. a. argentigula* (Lawrence) in central Costa Rica and *C. a. blandita* Bangs in northern Panama. When Bangs (Proc. Biol. Soc. Washington **19**: 109. 1906) described the latter from the Volcán de Chiriquí, he evidently did not see Lawrence's type of *argentigula* and assumed from Lawrence's description (Ann. Lyc. Nat. Hist. New York **11**: 88. 1875) that the latter referred to specimens with white throats rather than to those with violet-gray throats. Specimens of the white-throated form, representing *argentigula* as now known, were then and are now more numerous in collections than specimens of the gray-throated form, *blandita*. Reading of Lawrence's description in the light of current knowledge of the two races will reveal that the original description, rather vague as regards critical details, suggests *argentigula* more than it does *blandita*. Ridgway's description (*Birds of North and Middle America*, pt. 3: 319. 1904), based on specimens from both northern Panama and central Costa Rica, applies to and includes both races as now recognized. From these considerations Bangs, in 1906, evidently described *blandita* on the assumption that Lawrence's name applied to the best-

known population, that of central Costa Rica. The type of *argentigula*, however, which I examined in Washington, D. C., in December 1949, so closely resembles the type of *blandita*, examined in Cambridge two months earlier, that both evidently represent one and the same race.

Interestingly enough, the basic facts concerning the type of *argentigula* were published in 1889 by Ridgway (Proc. U. S. Nat. Mus. **11**: 541), when he compared it with specimens from the Volcán Irazú and stated: "Compared with the type [four adults] all have the throat-patch decidedly paler, its color being silvery white with a very faint purplish tinge, instead of light silvery grey, with a very strong tinge of purplish blue." Differences in the crown-band are also fully and correctly described by Ridgway. These are the differences used by Bangs to distinguish *blandita*.

There is ample evidence to support that provided by the types themselves. In the specimen register of the United States National Museum, the information on the type of *argentigula*, no. 67963, is as follows: Original number 320, female [inverted Venus's mirror sign on original label indicates female, as collector used usual sign for male], Talamanca, Costa Rica, received from William M. Gabb. In a subsequent entry, C. W. Richmond added the details that the speci-



Bigelow, Henry B. and Schroeder, William C. 1951. "A new genus and species of anacanthobatid skate from the Gulf of Mexico." *Journal of the Washington Academy of Sciences* 41, 110–113.

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