

2-3 mm wide; corollas apparently white, about 14.3 mm long (tube 8.5 mm, throat campanulate, 0.8 mm, teeth narrowly triangular, acute, recurved, 5 mm long); achenes oblong, greenish white, somewhat flattened, multi-striate, 4.8 mm long; pappus pure white, rather copious, 11 mm long; style branches elongate, linear, recurved, obtuse, dorsally densely short-hispid, the hairs extending to slightly below the fork.

MEXICO: Taxco, Guerrero, 12 Aug. 1937, *Ruth Q. Abbott* 353 (type, Gray Herb.).

Nearest *Psacalium konzattii* (Rob. & Greenm.) Rydb., but readily distinguished by the dense, soft, lanate tomentum of the lower leaf surface. The specimen was sent for identification by Dr. I. M. Johnston. The genus *Psacalium* Cass., reestablished by Rydberg, seems to be well defined, and the following species from Jalisco should be transferred to it.

***Psacalium eriocarpum* Blake**

Cacalia eriocarpa Blake, Journ. Washington Acad. Sci. 19: 279. 1929.

ZOOLOGY.—A new species of fish of the family *Disparichthyidae* from off Cuba.¹ LEONARD P. SCHULTZ, United States National Museum. (Communicated by L. STEJNEGER.)

***Disparichthys herrei* n. sp.**

This new species differs from *Disparichthys fluviatilis* Herre, first described in Field Museum Natural History, Publication 335, Zoological Series 18 (12): 383-384, fig. 31, 1935. Type locality, a brook at Marienberg, Sepik River, New Guinea and also in Herre's 1936 paper,² the only other species in the genus and the only genus in the family *Disparichthyidae*, by having different proportions of the body as indicated in the following description.³

Holotype.—A specimen 174 mm in total length taken in a dipnet by Dr. Paul Bartsch on the Smithsonian-Roebbing Exploring Expedition, April 8, 1937, at Corrientes Bay anchorage, as it came up to a submarine light. U. S. N. M. Cat. No. 107044.

Description.—An exceedingly slender eel, the length of the head (5.4 mm) contained in the total length 32.2 times and the depth of the body (1.7 mm at two head lengths behind the snout) 102 times; body scaleless, tapering from the head gradually to the tail which is almost thread-like, there is no caudal filament and none appears to have been broken off; a pair of small bony structures coming to the surface of the skin just back of the head (6.3 mm behind tip of snout) in midline of back. This pair stained red in alizarin and can be traced anteriorly a short distance in the flesh, appearing as though each might be a minute tube. The small size renders difficult the study of this organ and its significance is not known. Additional specimens should make possible its dissection and mounting but the author does not wish to spoil the only specimen known. Although this structure is in about

¹ Published with the permission of the Secretary of the Smithsonian Institution. Received September 6, 1938.

² HERRE, A. W., *Fishes of the Crane Pacific Expedition*, Field Mus. Nat. Hist., Zool. Ser. 21: 436. 1936.

³ The author is very grateful to Mr. Alfred C. Weed, Curator of Fishes, Field Museum of Natural History, Chicago, for several measurements of the type of *Disparichthys fluviatilis* Herre, used in this study.

the same position as a bony projection on the Fierasferidae, its structure is entirely different. In *D. fluviatilis* this same structure occurs as observed by Mr. Weed. I quote part of his letter of Aug. 12, 1938:

The peculiar bony structure is on the back of our specimen in about the position you describe. With the microscope equipment available it seems to be a bony tube about 0.2 mm in diameter.

No teeth at front of premaxillary, there being a toothless space about the size of the pupil; the first premaxillary tooth is a little enlarged and curved slightly inward followed by smaller teeth; the vomer is enlarged and its anterior portion is longitudinally sharp edged, followed posteriorly at each side by two small tooth-like projections with large bases; the teeth are in single series in both jaws, the maxillary is toothless.

Mr. Weed in his letter to me makes the following comments about the teeth of *D. fluviatilis*:

The premaxillary teeth are graduated in size from the very large ones in front to much smaller ones behind. The lower teeth are even height, smaller than the large, hooked ones at front of premaxillary but larger than others on that bone. The second tooth on vomer is about half as long as width of iris. It is very thick and heavy at base and strongly hooked. It is separated from the first by about the length of its base.

The anus is far forward, 6.6 mm behind the tip of the snout, and just below the rear edge of the head; the anal fin is well developed, beginning just behind the anus and continuing to end of tail, the rays becoming very feeble posteriorly, so much so it is not possible to correctly count them, the length of the anal rays anteriorly are a little greater than the diameter of the pupil; dorsal fin very feeble, its origin not definitely determinable but probably about 26 mm (4.8 head lengths) behind tip of snout. The jaws are short and blunt, the lower a trifle shorter than upper; premaxillary not protractile; the maxillary lies above the premaxillary and overlapping it, and when the jaws are closed it is almost completely shielded by the fleshy preorbital above.

The long, narrow tongue is adherent to the floor of the mouth; the anterior nostril, somewhat tubular, is a little in advance of midway between eye and tip of snout; the posterior nostril is in the form of a crescent-shaped opening in front of middle of eye, its length about the size of the pupil, and the convex side nearest the eye (in *fluviatilis* Mr. Weed remarks, "Posterior nostril a straight slit 0.5 mm high at front edge of iris. Its lower end is at center of height of eye."); the posterior edge of the large eye is at about the center of the head; the gill openings are wide and extend far forward, but are not confluent, joining the narrow isthmus at its anterior end; the pectorals are small, rounded, their bases somewhat fleshy; the branchiostegals number 6 or (?) 7.

The following measurements⁴ (recorded in mm) were made by use of a vernier on a mm rule: Length of head 5.4 (4.8); length of snout 1.6 mm; 0.30; diameter of eye 1.2; 0.22 (1.3; 0.21); length from tip of snout to rear edge of maxillary 2.3; 0.43 (2.2; 0.46); distance from tip of snout to center of anus 6.7; 1.24; tip of snout to center of anterior nostril 0.6; 0.11; depth

⁴ The measurements are first given in mm followed by this value divided by the length of the head. Figures inclosed in parentheses are Mr. Weed's measurements of the type of *D. fluviatilis* Herre, and those outside the parentheses are for the new species. The total length of *D. fluviatilis* is too uncertain to express the measurements in hundredths of the standard length.

of head at occiput 2.5; 0.46; depth of body at two head lengths behind tip of snout 1.7; 0.32 (1.3; 0.22); length of longest pectoral fin ray about 0.8; 0.15 (0.75; 0.16); tip of snout to origin of anal fin 7.0; 1.3 (8.0; 1.67); anal fin origin to anus 0.6; 0.11 (4.5; 0.94); tip of snout to bony structure back of head 6.3; 1.17 (5.1; 1.06); width of premaxillary toothless space 0.4; 0.07 (0.05; 0.14); height of base of pectoral fin 0.9; 0.17 (1.0; 0.13); width of iris 0.4; 0.07 (0.4; 0.08).

The pectoral fins have 17 and 18 rays (20 or 21 on left side of *fluviatilis*). By staining the specimen in alizarin it was possible to count with great difficulty about 165 vertebrae.

There are four mucous pores on the preorbital; 7 or 8 black pigment cells on each side of the midline on the upper surface of the snout just above the anterior nostril; about 1+2 or 3 pointed, rather short gill rakers on first gill arch; along midline of belly, a fleshy kiel extends from in front of anus to anterior end of isthmus (also present in *D. fluviatilis*).

The color before staining with alizarin was plain light gray in alcohol.

Although this genus is referred to the eels, it does possess characters which might place it somewhere among the elongate jugular fishes. However, until its skeleton is carefully studied, I believe it should be referred to the apodal fishes.

Only the holotype known.

Named in honor of Dr. A. W. T. Herre who discovered this remarkable family of fishes.

ZOOLOGY.—*List of the gray foxes of Mexico.*¹ E. A. GOLDMAN,
Bureau of Biological Survey.

Gray foxes occur throughout Mexico wherever local conditions are suitable. They favor rocky, partially wooded areas, where crevices or cavities afford suitable natural shelter, and are generally absent on broad expanses of open, level plain; but they also invade heavily forested regions in the eastern part of the republic. Gray foxes everywhere climb trees to some extent, especially to escape when hard pressed by enemies, but in the "cloud forests" along the eastern flank of the Mexican tableland and in the nearly unbroken lowland forests of the Yucatan peninsula the arboreal habit is more strongly developed. In these regions the claws are more recurved and sharper than in territory where the foxes are more terrestrial. In the gray foxes individual variation in size and color and in cranial and dental details covers a wide range, but combinations of characters distinguish closely allied geographic races.

The gray foxes in a broad belt extending nearly across the northern end of the Mexican mainland are referred to *Urocyon cinereoargenteus scottii*, which extends into the region from Arizona and Texas. The

¹ Received September 17, 1938.



1938. "A new species of fish of the family Disparichthyidae from off Cuba."
Journal of the Washington Academy of Sciences 28, 492–494.

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