

IV. SOME SPECIES OF FARLOWELLA.¹

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(PLATES XXIX-XXXI.)

FARLOWELLA Eigenmann & Eigenmann.

Acestra (non Dallas, 1852) KNER, Denksch. Akad. Wiss. Wien, 1853, p. 93.

Farlowella EIGENMANN & EIGENMANN, Proc. Cal. Acad. Sci. (2), 1889, p. 32 (*acus*).

Type, *Acestra acus* Kner. Body slender, snout produced into a long rostrum; no orbital notch; teeth numerous, setiform. Dorsal I, 6, opposite to anal. Anal I, 5; pectorals I, 5-6; ventrals I, 4-5. Vertebrae 5+7+23 (in *F. kneri*); ribs absent.

Range.—Paraguay, Amazon, Essequibo, Orinoco, and Magdalena river-systems.

The genus *Farlowella* was reviewed in Eigenmann & Eigenmann, "Occasional Papers of the California Academy of Sciences," Vol. I, 1890, pp. 355-358, and by Regan, "Transactions of the Zoölogical Society," London, Vol. XVII, part III, 1904, pp. 302-305. The most notable contribution since the last mentioned monograph is in Steindachner's paper describing the new species *nattereri*, *boliviana*, and *pseudogladiolus* in the Annalen des K. K. Naturhistorischen Hofmuseums, Wien, 1910, pp. 403-406.

The known species of the genus *Farlowella* may be distinguished by the following key:

- a. Abdomen with a median series of plates between the lateral series.
- b. Length of produced part of snout (measured on the ventral surface from the edge of the naked area containing the mouth) two and one-quarter to three and one-quarter times in the distance from its tip to the anus.
- c. Distance from the supra-occipital to base of first dorsal ray six to six and four-tenths times in the total length.
- d. Diameter of eye eighteen times in the length of the head; length of postorbital part of head two and three-quarter times in that of the produced part of snout. 1. *gladius* (Boulenger).
- dd. Diameter of eye twelve and one-half times in the length of head; length of postorbital part of head three and three-quarter times in that of the produced part of snout. 2. *gracilis* Regan.

¹ Contributions from the Zoölogical Laboratory of Indiana University, No. 136.

- ddd.* Diameter of eye twelve times in the head to end of temporal plate; postorbital part of head three and one-half times in the snout.
3. *hargreavesi* Eigenmann.
- dddd.* Diameter of eye thirteen and one-half times in the head; postorbital part of head two times in snout. 4. *nattereri* Steindachner.
- cc.* Distance from supra-occipital to base of first dorsal ray five and a quarter to five and a half times in the total length. Diameter of eye sixteen times in the length of the head.
- e.* Sides of snout concave; width of head three and a half to three and three-quarters in its length. 5. *oxyrhyncha* (Kner.)
- ee.* Head tapering regularly forward; width of head four and two-thirds times in its length. 6. *boliviana* Steindachner.
- ccc.* Distance from supra-occipital to base of first dorsal ray seven times in the total length; eye thirteen times in head; length of postorbital part of head two and seven-tenths times in the length of the produced part of snout. 7. *azygia* Eigenmann & Vance, *sp. nov.*
- cccc.* Distance from supra-occipital to base of first dorsal ray six and eight-tenths times in total length; eye twelve times in the head; length of post-orbital part of head two and a quarter times in the length of produced part of snout. 8. *smithi* Fowler.
- bb.* Length of produced part of snout three and seven-tenths to three and eight-tenths times in the distance from its tip to the anus; distance from supra-occipital to first dorsal ray five and a quarter times in the total length. 9. *kneri* (Steindachner).
- bbb.* Length of produced part of snout four and one-fifth times in the distance from its tip to the anus; distance from supra-occipital to first dorsal ray five and one-half times in the total length.
10. *jauruënsis* Eigenmann & Vance, *sp. nov.*
- bbbb.* Length of produced part of snout about three and one-third times in the distance from its tip to the anus. Distance from supra-occipital to base of first dorsal ray six and one-fifth times in the total length.
11. *hasemani* Eigenmann & Vance, *sp. nov.*
- aa.* Abdomen without median series of plates, except one or two anteriorly.
- f.* Length of produced part of snout four to four and one-half times in the distance from its tip to the anus. 12. *acus* (Kner).
- ff.* Length of produced part of snout three times in the distance from its tip to the anus. 13. *amazona* (Günther).
- fff.* Length of produced part of snout two and one-third to two and one-half times in the distance from its tip to the anus; eye sixteen to eighteen times in the head. 14. *gladiolus* (Günther).
- ffff.* Length of produced part of snout about two and one-half times in the distance from its tip to the anus; a median plate in front of the ventrals; eye thirty-two times in the head; interorbital eight times in the head.
15. *pseudogradiolus* Steindachner.

1. *Farlowella oxyrhyncha* (Kner).

C. M. No. 3788, seven, 150-175 mm., San Joaquin, Sept. 5, 1909.
Haseman.

C. M. No. 3789, one, 104 mm., Villa Hays, Paraguay, April 11, 1909.
Haseman.

C. M. No. 3790, one, 98 mm., São Antonio, Rio Madeira, Nov. 3, 1909,
Haseman.

C. M. No. 3791, one, 88 mm., Santarem, Dec. 15, 1909. Haseman.

C. M. No. 3792, one, 153 mm., Maciél, Rio Guaporé, July 30, 1909.
Haseman.

Length of head to end of opercle three and four-fifths to four times in the length; distance between occipital and dorsal five and one-quarter to five and one-half in the length; width of head three and one-half to three and three-quarters in its length to end of opercle; interorbital four and three-quarters to five and one-fifth times in head; eye about fifteen times in the head; length of produced part of snout three to three and three-tenths in the distance from its tip to the anus; usually seven plates between the occipital and dorsal, rarely six (in one specimen); Regan gives the number of plates as eight.

2. *Farlowella azygia* Eigenmann & Vance, *sp. nov.* (Plate XXIX, figs. 1-2.)

C. M. No. 3782, type, 79 mm., Santarem. Haseman.

Head three and three-fifths in the length; width of head three and one-half in its length; eye thirteen times in head; interorbital six and one-half times in head; snout beyond naked area about mouth two and three-fifths in the distance from its tip to the anus, two and one-half times as long as the postorbital portion of the head; distance between supra-occipital and dorsal seven times in the length.

Sides of head without bristles; scutes 15+18, six between occipital and dorsal; abdomen with a median series of plates; outer caudal lobes produced, each lobe with a dark stripe; a dark streak from snout along sides to posterior part of body.

3. *Farlowella smithi* Fowler (Plate XXIX, figs. 3, 4).

Farlowella smithi Fowler, Proc. Acad. Nat. Sci. Phila., LXV, 1913 (1914), 574, fig. 24.

C. M. No. 3783, type, one, 64 mm. long, from Villa Bella, Brazil.
Haseman.

One small specimen probably belonging here. D. I, 5; A. I, 5; P. I, 5; V. I, 4.

Head three and one-fifth in length; width of head three and one-half in its length; eye twelve times in head; interorbital six in head; snout beyond naked area about mouth two and seven-tenths in the distance from its tip to the anus, two and one-quarter times as long as the postorbital part of the head; distance between supra-occipital and dorsal six and four-fifth times in the length.

Sides of head without bristles; snout swollen and rounded at end. Scutes 15+18, seven between supra-occipital and dorsal; abdomen with a median series of plates.

4. *Farlowella kneri* (Steindachner).

C. M. No. 3786, one, 130 mm., Caceres, May 23, 1909. Haseman.

C. M. No. 3787, two, 106-120 mm., Rio Jaura, June 3, 1909. Haseman.

Length of head to end of opercle from four to four and two-fifth times in the head; distance from occipital to dorsal five and one-fifth to five and one-third times in the length; width of head three and one-third times in its length, interorbital four and a half times; diameter of eye ten to thirteen times in head; length of produced part of snout three and three-quarters in the distance from its tip to the anus; seven or eight plates between the occipital and the dorsal; upper caudal lobe black, a narrow oblique black bar across the lower lobe beyond the tip of the middle rays.

5. *Farlowella jauruënsis* Eigenmann & Vance, *sp. nov.* (Plate XXX, fig. 3.)

C. M. No. 3780, Type, 133 mm., Jaura, June 2, 1909. Haseman.

Head four times in the length; width of head two and three-fifths in its length; eye eleven times in the head; interorbital five times in head; snout beyond naked area about mouth four and one-fifth in the distance from its tip to the anus, one and one-half times as long as the postorbital portion of the head; distance between supraoccipital and dorsal five and one-half in the length; anterior margin of orbit raised, snout slightly enlarged and rounded at end; anterior part of head depressed laterally; sides of head with a few minute bristles; scutes 15+19, six between the occipital and dorsal; abdomen with a median series of plates; outer caudal rays greatly produced, each lobe with a

dark stripe; fin-rays with dark spots; a wide stripe of black from snout along sides to below the dorsal.

6. **Farlowella hasemani** Eigenmann & Vance, *sp. nov.* (Plate XXX, figs. 1, 2.)

C. M. No. 3781a, type, 165 mm.; 3781b paratype, 170 mm., Para. Haseman.

Head three and four-fifths in the length; width three and one-fifth in its length; eye fifteen times in head; interorbital five and one-quarter times in head; snout beyond naked area about mouth three and two-fifths in the distance between its tip and the anus, two and a third times as long as the postorbital portion of the head; distance between occipital and dorsal about six and one-fifth in the length.

Sides of head without bristles; scutes 15+19, six between occipital and dorsal; abdomen with a median series of plates; outer caudal rays much produced, each lobe with a longitudinal black stripe; fin-rays with dark spots; snout swollen and rounded at end, compressed near the end.

In the paratype the head is three and nine-tenths in the length; width of head three and one-quarter in its length; eye sixteen and one-half times in head; interorbital five and three-quarters times in head; snout beyond naked area about mouth three and one-quarter in the distance between its tip and the anus; distance between occipital and dorsal about six in the length; scutes 16+18.

7. **Farlowella acus** (Kner). (Plate XXXI, figs. 1-4.)

I. U. M., No. 13199, six, largest 158 mm., Barrigona, Rio Meta, eastern Colombia. Manuel Gonzales.

I. U. M., No. 13200, two, 77 and 84 mm. to base of caudal. Quebrada, Cramalote, Villa Vicencio, eastern Colombia. Gonzales.

I. U. M., No. 13252, one, 44 mm., Rio Fozco, alt. 4,500 feet, eastern Colombia. Gonzales.

Description of the specimen from Barrigona:

Length of head to end of opercle four and one-third to four and three-quarter times length; distance between occipital and dorsal five times in the length; width of head about three times in its length to end of opercle; interorbital four times in the head; eye thirteen to sixteen times in the length of the head to end of opercle; produced part of snout three and two-third times the distance between its tip and the

anus; eight plates between occiput and dorsal; central membranes of caudal hyaline, the rays spotted, outer rays prolonged, spotted, the first or first and second membrane within the lower ray and the two to five rays and membranes within the uppermost rays black, the black interrupted near the middle by a narrow extension of the median hyaline and with a few hyaline spots in the black distad to the median interruption; rays of all other fins spotted.

8. *Farlowella amazona* Günther.

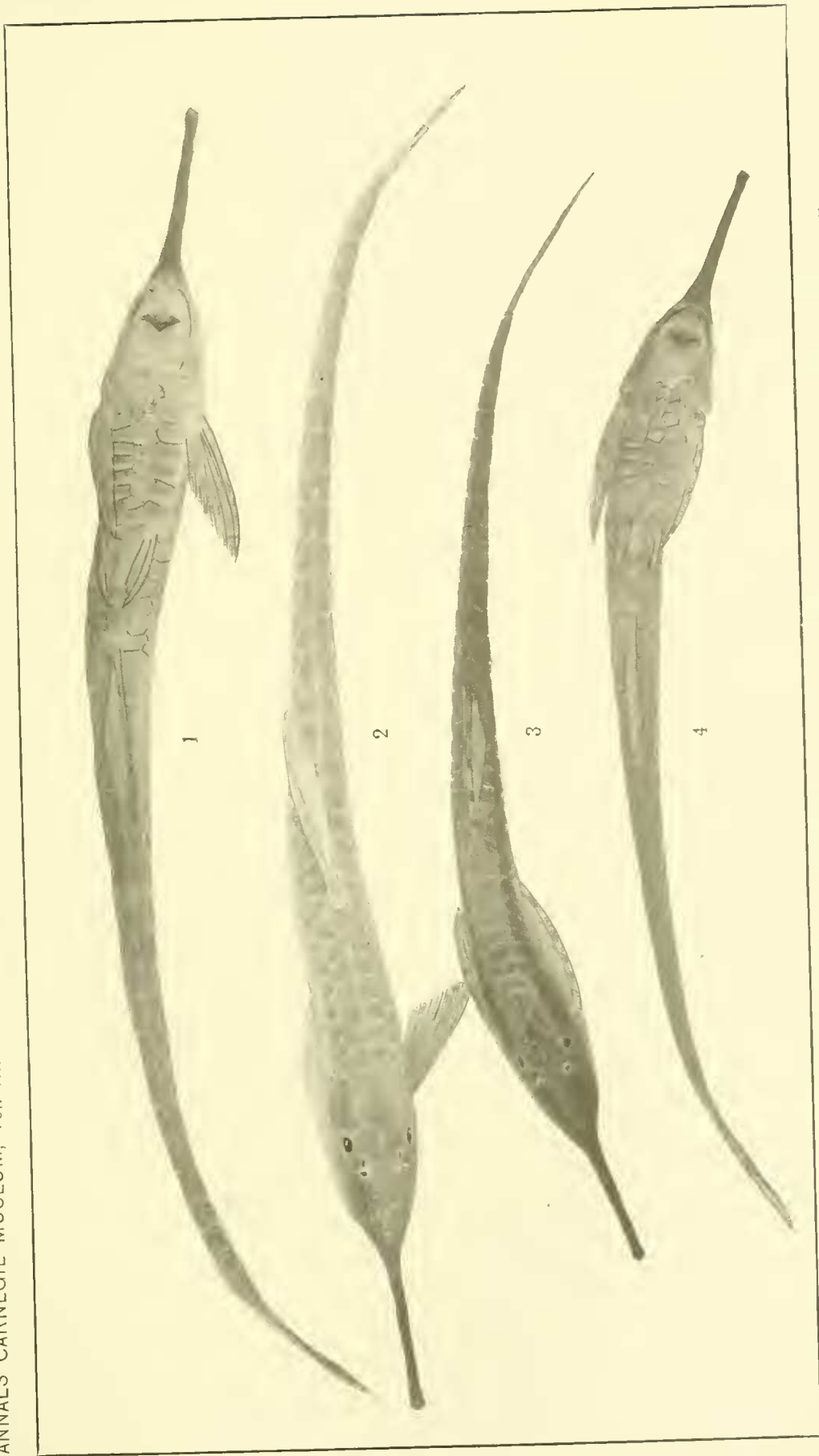
C. M. No. 3784, one, 188 mm., Santarem, Dec. 6, 1909. J. D. Haseman.

Head to end of opercle three and nine-tenths in the length; distance of occipital from dorsal six and one-fifth in the length; width of head four times in its length; diameter of eye sixteen times in head; interorbital a very little less than five times in the head; produced part of snout two and three-quarter times in the distance from tip of snout to anus; seven scutes between occipital and dorsal. Each caudal lobe with an interrupted dark stripe.

9. *Farlowella gladiolus* Günther.

C. M. No. 3755, two, 3755*a*, 141 mm., 3755*b*, 181 mm., Rio Tapajos, Dec. 6, 1909. Haseman.

Length of produced part of snout (from naked area about mouth to tip of snout) two and one-half times in the distance from the tip of snout to anus in 3755*a*, two and three-eighth times in 3755*b*; head to end of occipital three and one-third in the length in 3755*a*, two and two-fifth times in 3755*b*; head to end of opercle three and three-fifth times in the length in 3755*a*, three and two-fifth times in 3755*b*. Distance between occipital and dorsal six and one-fifth in both specimens; interorbital about one-sixth of length of head; seven plates between occipital and dorsal in 3755*a*, six in 3755*b*; a median plate in front of ventrals; eye eighteen times in length of head to end of opercle in 3755*b*, sixteen times in 3755*a*. Four series of plates between naked area of snout and the median plate between the pectorals; three plates in each series, not counting the marginal ones.



FIGS. 1-2. *Farlowella azygia* Eigenmann & Vance. Type, C. M. No. 3782, 79 mm., Santarem, Brazil.
FIGS. 3-4. *F. smithi* Fowler. C. M. No. 3783, 64 mm., Villa Bella, Brazil.