

DESCRIPTIONS OF SIXTEEN NEW SPECIES OF
PYGIDIIDÆ.¹

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The Pygidiidæ are a family of fishes found from southern Panama to Patagonia, and from sea level to the highest Andes. A monograph of this family, pretty well illustrated, is all but completed but may be delayed in publication. The new species and genera are here described in advance of the publication of the monograph.

Ecologically this family is one of the most interesting ones of South America. Some of the species attain considerable economic importance, especially in the higher altitudes, as on the plains about Bogotá and in Titicaca and other high Andean lakes of Peru. Others are minute and live as parasites in the gill-cavities of other fishes. The new genus, *Branchioica*, belongs to this ecological group. Still others attach themselves to other fishes and bathers like leeches, making slight abrasions in the skin and swallowing the blood. Still others have the evil reputation of entering the urethra of bathers, causing severe complications or even death. The new species *Vandellia sanguinea* belongs to this ecological group.

The specimens were collected in the region and during the expeditions mentioned in the preceding article and by Dr. John Hase-man, who travelled in South America for the Carnegie Museum between 1907 and 1910. A map showing his route was published in the *Memoirs of the Carnegie Museum*, Vol. VII., Plate I. Of particular interest is the new genus *Branchioica*, which lives in the gill cavities of other fishes.

The numbers followed by the letter "I." refer to the catalog

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of the Indiana University, those with the letter "C." to the catalog of the Carnegie Museum.

SCLERONEMA² gen. nov.

Type, *Scleronema operculatum* spec. nov.

Allied to *Pygidium*.

Ventrals nearer snout than caudal, outer pectoral rays shortest, without a filament; opercle with a long dermal flap; interopercular spines in much more restricted area than in species of *Pygidium*; accessory rays of the caudal inconspicuous; maxillary barbel with a large osseous base (maxillary bone). Teeth very narrow incisors; mouth wide, terminal.

I. *Scleronema operculatum* spec. nov.

7077 C., type, 79 mm. 7539 C., paratypes, 3, 65–80 mm. Cacequy, Uruguay Basin. Feb. 1, 1909. Haseman.

Head 5.66; D. 12.5; A. 7.5 counting the rudimentary rays; P. 7; eye in anterior half of the head; interocular 5 in the length of the head; width of the mouth nearly half the length of the head.

Nasal barbel short, reaching just beyond posterior nares; maxillary barbel reaching about half-way to the tips of the opercular spines, the bony base much longer than the soft filament; a broad, free membrane above from near the anterior nares to the tip of the osseous base of the barbel, a narrower membrane along the outer edge of the base of the barbel; six spines in the main row of the interopercle; opercular flap reaching to near base of the last pectoral ray; pectoral about as long as the head; origin of ventrals a little nearer to the snout than to the base of the middle caudal rays; ventrals reaching beyond the anus, not quite to the anal, equal to the portion of the head behind the nasal barbels; origin of anal under the antepenultimate dorsal ray, the distance from the base of its last ray to the caudal four times in the length; caudal narrow and long, equal to the length of the head; its margin slightly obliquely rounded; origin of dorsal over posterior half of ventrals,

² σκληρος = hard; νῆμα, τὸ = hard thread, in allusion to the hard base of the maxillary barbel.

the distance from the first ray to the caudal 1.34 in its distance from the snout.

Middle of sides with a series of faint, large spots, similar but smaller spots along the back.

2. *Hatcheria titcombi* spec. nov.

Pygidium arcolatum Everman & Kendall (non Cuv. & Val.), Proc. U. S. Nat. Mus., XXXI., 1906, p. 86. (Rio Comajo; tributary of Lake Traful, tributary to Rio Limay.)

11110 I., type, 164 mm. Arroyo Comajo. J. W. Titcomb.

This specimen is one of those mentioned by Everman and Kendall. It differs from the *arcolatum* as described by Cuvier and Valenciennes, whose specimen came from Chile, west of the Andes. The origin of the dorsal is further back, and its last ray is beyond the last ray of the anal.

Head 6.33; depth 6.5; D. 17.5 (3 + 14.5); A. 9.5 counting the minute imbedded rays in each case; P. 9; front margin of the eye in the middle of the head; interocular a little over three in the length of the head, eye three in the interocular. Teeth very narrow chisels; nasal barbel reaching to above first preopercular spines, maxillary barbel to middle of opercular spines. Pectoral rounded, its first ray not prolonged, nearly two thirds the length of the head; origin of the ventrals equidistant from snout and last fifth of the middle caudal rays; first anal ray under the sixth dorsal ray, the last anal ray under the fourth from the last ray of the dorsal; distance between anal and caudal 4.75 in the length; origin of dorsal equidistant from tip of caudal and middle of pectorals, its distance from the caudal two in its distance from the snout.

Sides without distinct markings; faint traces of longitudinal lines.

3. *Pygidium heterodontum* spec. nov.

13832 I., type, 83 mm., ♀, Rio Mendoza, Palmira, Argentine, 900 m. Purchased from Rosenberg.

Palmira is probably the southernmost locality on the eastern slope of the Andes from which species of this genus have been taken.

Head 6, as long as broad; D. 10.5 (4 + 6.5); A. 7.5 (2 + 5.5); P. 9; eye in middle of the head, interocular 3.5 in the head; teeth in three series in each jaw, those of the outer row narrow incisors, those of the second row much smaller incisors, those of the third row conic. Head much depressed, interopercular spines numerous, thirteen in the last row.

Nasal barbel extending to the posterior margin of the eye, maxillary barbel to the base of the opercular spines; first pectoral ray scarcely produced, equal to the portion of the head behind the posterior nares; origin of ventrals midway between opercle and caudal, reaching to the vent; origin of anal under posterior part of the dorsal, the distance between its last ray and the base of the middle caudal ray 4.4 in the length; depth of the caudal peduncle 2.5 in its length; caudal narrow, emarginate, a little more than five in the length; origin of dorsal midway between the tip of the caudal and the occiput, over the tip of the ventrals, its distance from the caudal 1.75 in its distance from the snout.

A faint lateral band and obscure spots or marblings.

4. *Pygidium latidens* spec. nov.

13801 I., type, 53 mm. Small creek near the mouth of Rio Calima.
May 7, 1913. Henn.

Head 5.5; D. 9.5; A. 7.5; P. 7; posterior edge of eye in advance of the middle of the head; interocular 3.5 in the head.

Nasal barbel extending beyond the tips of the opercular spines; maxillary barbel extending beyond the axil, longer than the head; pectorals broad, as long as head without snout; pectoral filament equal to the distance from the snout to the axil; ventrals not near reaching anus, their origin equidistant from the base of the middle caudal rays and the interopercle; origin of anal about under middle of the dorsal, distance between base of the last ray and the middle caudal rays five and one half in the length; caudal rounded, about six in the length; accessory rays well developed; origin of dorsal over anus, its distance from the middle caudal rays two in its distance from the snout; gill-membrane free to below the anterior

spine of the interopercle, without a free membrane across isthmus; both jaws with two series of thin, chisel-shaped teeth.

Color plain, without spots or stripes.

5. *Pygidium metæ* spec. nov.

13770 I., type, 78 mm. Barrigona. March, 1914. Manuel Gonzales.

Head 6.3 in the length; D. 10.5; A. 9.5 counting the rudimentary rays; P. 6; width of head nearly equal to its length; eye entirely in the anterior half of the head, snout 2.75 in the head, interocular 3.5. Teeth conic.

Nasal barbels reaching to tip of opercular spines, maxillary barbel slightly beyond origin of pectorals; pectorals small, equal to the postorbital portion of the head, the first ray with its filament equal to the head, origin of ventrals much nearer base of middle caudal rays than to tip of pectorals, their tips reaching the anal; origin of anal under fourth dorsal ray (second fully developed ray); the distance between the base of its last ray and the base of the middle caudal rays six times in the length; caudal rounded; origin of dorsal over tip of ventrals, its distance from the base of the middle caudal rays two and two fifths times in its distance from the snout.

Sides and back densely covered with spots about the size of the eye.

6. *Pygidium straminium* spec. nov.

All of the specimens examined were collected by Gonzales in Santander, Colombia.

| Catalog Numbers. | Number of Specimens. | Length in Mm. | Locality. |
|-----------------------------------|----------------------|---------------|--------------------------|
| 7101 C., type, 13818 I., paratype | 2 | 46 and 50 | Quebrada del Mango. |
| 7089 C., paratype | 1 | 35 | Quebrada del Maradat(?). |
| 7090 C., 13804 I., paratypes | 7 | largest 45 | Quebrada da Densino. |
| 7102 C., 13819 I. | 15 | largest 60 | Quebrada de Ocamante. |
| 7103 C., 13826 I. | 4 | largest 67 | Quebrada de la Zuerta. |
| 7104 C. | 1 | 41 | Quebrada de la Honda. |

Head 4.5-5.33; D. 10.5; A. 8.5-9.5; P. 9; posterior margin of

eye in the middle of the head; interorbital three in the length of the head; teeth bristle-like in about three series.

Nasal barbels reaching base of opercular spines or beyond origin of pectorals, maxillary barbels to tip of opercular spines or axil; pectoral filament a little longer or shorter than the length of the head, the rays equal to the length of the head without the snout; origin of ventrals equidistant from the base of the middle caudal rays and a point between the axil and a little in front of the opercle (and the tips of the opercular spines in the type), tips of the ventrals slightly behind the vent; origin of the anal behind the vertical from the base of the last dorsal ray or under the posterior half of the dorsal, the distance between the base of the last anal ray and the middle caudal rays 4.5-5 in the length; accessory caudal rays very large and numerous; caudal rounded, six and a half in the length; origin of dorsal over the origin of the ventrals or but slightly behind this point, always nearer the eye than the tip of the caudal, sometimes equidistant from tip of snout and tip of caudal, its distance from the base of the middle caudal rays one and a half or less in its distance from the snout.

Uniform straw-colored in alcohol.

7. *Pygidium dorsotriatum* spec. nov.

7093 C.; 13810 I., four, 18-76 mm., the largest the type. Villavicencio. Manuel Gonzales.

Distinguished by the eccentric, dark, lateral band.

Head 5; D. 12.5 (of which 4 minute); A. 9.5; P. 9; center of eye very little in advance of middle of the head, interocular three in the head. Teeth conic.

Nasal barbels extending to or slightly beyond origin of pectoral; maxillary barbel to the axil, equal to the length of the head; pectoral filament equal to the length of the head, the longest ray equal to the length of the head behind the nasal filament; origin of ventrals equidistant from base of middle caudal rays and tip of the interopercular spines, ventrals nearly reaching the anal; origin of the anal under the last quarter of the dorsal, the distance between the base of its last ray and the base of the middle caudal rays about 4.5

in the length; caudal rounded, six and five tenths to seven times in the length; the first rudimentary dorsal ray over the base of the ventrals, its distance from the base of the middle caudal ray equal to its distance from the tip of the opercular spine, 1.47 in its distance from the snout.

A dark band or row of spots from just above the gill-opening to the base of the upper caudal lobe; a few spots below the band in the front half of the body in the larger specimen.

This description is based on the two larger specimens, 68 and 77 mm. long. The two smaller specimens, 18 and 21 mm. long, are uniform in color.

8. *Pygidium latistriatum* spec. nov.

7450 C., type, 46 mm. Quebrada de Pinchote, Santander. Gonzales.

Head 8 mm., length to base of caudal 39 mm.; width of head 6 mm., interocular 2.5 mm., eye a little in front of the middle of the head; distance from snout to origin of dorsal 23 mm., to its last ray 27 mm.; distance between origin of dorsal and base of middle caudal rays 16 mm., distance from snout to origin of ventrals 22 mm., to origin of anal 28 mm., distance between base of last anal ray and base of middle caudal rays 9 mm., maxillary barbel 8 mm., nasal barbel 7 mm., length of outer pectoral ray with its filament 8 and 9 mm., the divided rays 5 mm., D. 8.5; A. 6.5, not counting the imbedded rays in either case; upper caudal rays 8 mm.; lower caudal rays about 6.5 mm. Accessory rays numerous.

A lateral band from above the opercle to the middle of the caudal, increasing in width backward; mid-dorsal line dark; a dark stripe in front of the dorsal between the lateral stripe and the mid-dorsal stripe.

9. *Pygidium regani* spec. nov.

?*Pygidium tania* Regan (*non* Kner & Steindachner), Ann. and Mag. Nat. Hist. (8), XII., 1913, p. 469 (R. Sipi and Rio Tamana).

13772 I., type, 55 mm. Tado, Rio San Juan. Purchased from Rosenberg.

Head 6; D. 10.5; A. 8.5; P. 8; eye in middle of the head, interorbital 4 in the length of the head.

Nasal barbel as long as the head, reaching beyond axil of pectoral; maxillary barbel reaching to near the end of the lower pectoral ray, considerably longer than the head; outer pectoral ray as long as the head; origin of ventrals equidistant from base of middle caudal ray and tip of opercle, not quite reaching to the vent; origin of anal under posterior half of dorsal, the distance from the base of the last ray to the middle caudal ray contained five and one half times in the length; caudal six times in the length; origin of dorsal equidistant from tip of caudal and opercular spines, over posterior third of the ventrals, its distance from the middle caudal ray one and four fifths in its distance from the snout.

A dark streak from opercular spines to middle of caudal; faint spots above and below the lateral stripe.

10. *Pygidium iheringi* spec. nov.

Trichomycterus punctulatus (non C. & V.) Ribeiro, Arkiv. för Zoologi, IV., No. 19, 1908 (Iporanga).

Trichomycterus dispar (non Tschudy) Ribeiro, Kosmos, V., 1908, and Fauna Brasiliense, IV. (A), 1912, p. 222 (Rio Iporanga, São Paulo).

Habitat, São Paulo in coastal streams and Parana Basin.

SPECIMENS EXAMINED.

| Catalog Number. | Number of Specimens. | Length in Mm. | Locality. | Collector. |
|------------------|----------------------|----------------------------------|--------------------|--------------|
| 7071 C. | 2 | 151-160 | Sapina, São Paulo. | Haseman. |
| 10785 I. | 4 | 104-161 the largest the type. | Santos. | Von Ihering. |

Allied to *P. punctatissimum* from Araguay.

Head 4.5-5 in the length; D. 11.5 or 12.5; A. 7.5 or 8.5 counting the two rudimentary rays in each case; P. 8; width of head equal to its length behind the nasal barbel; eye in middle of the head, interorbital 3.5-4 in the length of the head. Teeth incisors with expanded tips, in bands of four or five series.

Nasal barbels reaching about to middle of eye, maxillary barbel to above middle of opercle; pectoral rounded, very little longer than snout and eye, the first ray not prolonged or with only a trace of a projection; distance between origin of ventrals and eye a little greater or less than that between origin of ventrals and middle caudal rays; the ventrals equal to the snout in the length, not nearly reaching vent, nearly half way to anal; origin of anal on or behind the vertical from the base of the last dorsal ray; distance between bases of last anal ray and middle caudal rays five or a little over five in the length; caudal slightly rounded, seven to seven and a half in the length; dorsal low and long, the distance between its origin and the base of the middle caudal ray about one and a third in its distance from the snout, its first ray over posterior half of the ventrals.

Sides and back with numerous spots, smallest over pectorals, largest over anal, rarely coalescent.

11. *Pygidium paolence* spec. nov.

?*Trichomycterus proops* Ribeiro, Fauna Brasiliense, IV. (A), 1912, p. 221 (Ribeiro de Iguape).

Habitat, São Paulo in the Parana Basin and (?) in coastal streams.

7081 C., type, 68 mm. Alto da Serra, Rio Tieté, São Paulo. July 25, 1909. Haseman.

7117 C., ten, 25-27 mm. Mogy das Cruces, Rio Tieté. Haseman, may belong to this species.

Head 6; D. 8.5; A. 6.5 not counting hidden rudiments; P. 6; head nearly as wide as long; eye in anterior half of the head, greater than their distance from the posterior nares; snout 2.33 in the length of the head, interocular 3.5; teeth conic; nasal barbel reaching base of opercular spines, maxillary barbel reaching tip of opercular spines; outer pectoral ray with its filament equal to head behind the posterior nares, the filament extending very little beyond the other rays; ventrals nearly reaching anal, their origin nearer caudal than to tip of pectorals; caudal rounded, six in the length; origin of anal under middle of dorsal, distance between the

base of its last ray and the middle caudal ray 5.2 in the length; origin of dorsal equidistant from base of middle caudal rays with middle of ventrals, its last ray over the middle of the anal, the distance between the origin of the dorsal and the base of the middle caudal rays two in the distance between dorsal and snout.

With many faint spots about as large as the eye; a dark streak along the middle of the sides, another along the side of the back, and a third along the edge of the belly.

12. *Pygidium reinhardti* spec. nov.

7078 C., type, 65 mm. Burmier on the Rio Itabira, a tributary of the Rio das Velhas. May 14, 1908. Haseman.

Head 6.5; D. 9.5; A. 8.5 counting the minute rudimentary rays in both dorsal and anal; P. 6; eye in anterior half of head; interocular 3 in the head. Teeth conic.

Nasal barbel nearly as long as the maxillary barbel which reaches the edge of the gill-membrane. First pectoral ray with its filament equal to the length of the head, much longer than the divided rays; ventrals reaching beyond the vent, their origin very little nearer tip of pectorals than base of middle caudal rays; origin of anal under middle of dorsal; distance between the base of the last anal ray and the middle caudal rays five and a half in the length; caudal narrow, a little longer than the head, the accessory rays inconspicuous; origin of dorsal over middle of ventrals, its distance from the middle caudal rays nearly two in its distance from the snout (19 and 36 mm. respectively).

A broad, dark stripe with notched edges from opercle to middle of caudal, bordered above and below by light bands; an irregular series of spots below the lower light band; a series of small spots more or less confluent forming a narrow, dark stripe above the upper light band; back and fins lightly spotted, a short dark bar in front of the opercle, a longer one above the middle of preopercle.

13. *Pygidium vermiculatum* spec. nov.

Pygidium brasiliensis (non Lütken) Ribeiro (part), Fauna Brasileira, IV. (A), 1912, p. 225 (the specimens from Juiz de Fora).

Habitat, Rio Parahyba.

7074 C., type, 131 mm. Juiz de Fora. June 9, 1908, presented by Dr. Ribeiro.

In general appearance like Lütken's figure of *brasiliensis*, differing notably in the position of the ventrals.

Head 5.4 in the length; D. 8.5; A. 8.5 counting in each case the two rudimentary rays; P. 7; width of the head nearly equal to its length; eye in middle of the head, interocular three in the length of the head. Teeth conic, in bands. Right nasal barbels reaching to above base of the opercular spines, maxillary barbels of right side nearly as long as head, reaching to the second fourth of the pectoral, both shorter on left side; pectoral rather narrow, the outer ray much prolonged, as long as head behind the nasal barbel, the fin without the filament equal to the part of head behind a point midway between eye and posterior nares; origin of ventrals under origin of dorsal, equidistant between base of middle caudal rays and last third of pectorals, ventrals reaching much beyond vent, almost to anal, equal to the snout in length; origin of anal under penultimate ray of the dorsal, distance between the base of its last ray and the base of the middle caudal ray a little more than five in the length; caudal rounded, six and one third in the length; dorsal short, rounded, the distance between its origin and the base of the middle caudal rays one and sixty-seven hundredths in the distance between its origin and the snout.

Sides and back profusely covered with confluent spots which leave the light color as irregular vermiculations.

14. *Pygidium alternatum* spec. nov.

Pygidium brasiliensis Eigenmann & Eigenmann (part), Proc. Cal. Acad. Nat. Sci. (2), II., 1889, p. 51; id. (part), Occasional Papers Cal. Acad. Sci., I., 1890, p. 332; Ribeiro (part), Fauna Brasiliensis, IV. (A), 1912, p. 223.

Habitat, Rio Doce.

It is probable that the young specimens mentioned by E. & E. belong to this species.

7079 C., type and paratypes, 67, largest 81 mm. Rio Doce. May 25, 1908. Haseman.

Head 5-5.75; D. 10.5-11.5; A. 7.5 or 8.5 counting the rudimentary rays; P. 7 or 8; eye in middle of the head or slightly further forward; interocular 3-3.33 in the length of the head. Teeth conic, in bands.

Nasal barbel very little shorter than maxillary barbel which reaches to the base of the pectoral and is equal to the head in length; pectoral rays equal to length of head behind the nasal barbels, the first ray with the filament longer than the head; ventrals reaching to or just beyond the vent; origin of ventrals equidistant from base of middle caudal rays and a point between the posterior nares and the area just behind the eyes; origin of anal under posterior part of dorsal; distance between base of last anal ray and middle caudal rays four and one half to five and one third in the length; caudal subtruncate or rounded, very little longer than head; origin of dorsal over posterior half of ventrals; distance between origin of dorsal and base of middle caudal rays 1.54 in its distance from the snout.

Ten to fourteen large spots along the middle of the sides, an irregular series of much smaller ones below it. Large spots above the median series, frequently alternating with it, sometimes partly confluent into a longitudinal series, sometimes forming with a mid-dorsal series irregular bars across the back.

15. *Vandellia sanguinea* spec. nov.

7082 C., type, 62 mm. San Antonio de Rio Madeira. Nov. 3, 1909. Haseman.

Head 11.66; depth 12; D. 4 + 8.5; A. 3 + 7; P. 7; nearly the entire eye in the anterior half of the head, a little more than four in the length of the head to the tip of the opercular spines.

Maxillary barbel extending to the tip of the interopercular spines, two in the head; the lower barbel minute, only about half a millimeter long as compared with the 2.5 mm. of the maxillary barbel; two, flat, recurved teeth on the end of the maxillary concealed just in front of the barbel; five premaxillary teeth graduated from the long middle one to the minute lateral ones; the mandibles widely separated from each other, each with about five minute teeth; the teeth concealed by the lip; five spines in the

main row of the interopercle, the middle ones very strong, directed backward, about five spines in supplementary rows; five spines in the main row of the opercle, about ten in supplementary rows; distance between origin of ventrals and base of middle caudal rays two in its distance from the snout; origin of anal behind the origin of the dorsal, the last dorsal ray over the middle of the anal, distance between anal and base of middle caudal rays five and five tenths in the length; distance between origin of dorsal and base of middle caudal rays two and eight tenths in its distance from the snout; caudal truncate, with numerous accessory rays. Translucent, the eyes black.

*Branchioica*³ gen. nov.

Type *Branchioica Bertonii* spec. nov.

It is quite possible that this genus will, on direct comparison of specimens, prove a synonym of *Paravandellia*. It has the same general characters and comes from the lower Paraguay, while *Paravandellia* comes from the upper. The present species was taken from a fish, while *Paravandellia* seems to be free swimming. It is quite possible that teeth will be found in *Paravandellia* at the end of the maxillary (premaxillary?) and on the mandibles when they are examined minutely; *Paravandellia* is said to have the caudal forked, while *Branchiogaeum* has it subtruncate.

No nasal or mental barbels, two barbels at angle of the mouth of which the lower is minute; first pectoral ray not spinous, not prolonged in a filament; gill-openings small, the membrane perfectly confluent with the isthmus; mouth inferior; two series of teeth in the front of the upper jaw, a single series of much smaller teeth laterad of these; maxillary with claw-like teeth at its end, just in front of the barbel and entirely concealed; two short series of teeth on the ends of the mandibles, opposite the lateral series of teeth of the upper jaw; opercular and interopercular patches of spines separate from each other; caudal subtruncate.

³ βράγχιον, τὸ = gill, οἶκος, ὅ = a place to live in.

16. *Branchioica Bertoni*⁴ spec. nov.

13950 I., type, 24 mm., paratype about the same length over all, much curved. Taken from a large Characin. *Piaractus brachypomus* (Cuvier). Asuncion, Paraguay. Collected by A. de W. Bertoni.

Head about 5.5; depth 5.5; D. 10; A. 7; P. 6; eyes superior, nearly the entire eye in the anterior half of the head, 3.5 in the head, about equal to the length of the snout, considerably larger than the interorbital; maxillary barbel extending to very near the interopercular spines, the lower barbel very minute; caudal peduncle slender, abdomen well rounded; premaxillary with two irregular series of slender, pointed teeth, those of the posterior series much the larger, about five in number, subequal, both series graduated from the larger ones nearer the center outward, laterad of the median series (on the premaxillary?), four or five similar but smaller teeth, graduated from the larger proximal one; the rami of the lower jaw widely separated from each other, each with about five, recurved, pointed teeth in two series on its end, in apposition to the lateral series of the upper jaw; gill-opening minute, circular, gill-membranes perfectly confluent with the isthmus; opercle with a bundle of about twelve, subequal, upward directed spines; interopercle with about eleven curved, downward directed spines, arranged in two series; distance between origin of ventrals and caudal 1.6 in its distance from the snout, origin of anal behind the origin of the dorsal; distance between anal and caudal about 5 in the length; pectoral falcate, the outer ray not prolonged as a filament, about as long as the head; origin of the dorsal between that of the ventrals and anal; twice as far from snout as from caudal; caudal narrow, obliquely rounded or subtruncate, with few inconspicuous fulcra.

Translucent, eyes black, chromatophores on the snout, along the back, along the base of the anal, on the base of the caudal, along the side of the abdominal cavity and a few on the pectoral.

⁴In honor of the discoverer of the species, Mr. A. de W. Bertoni, of Asuncion, Paraguay.