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Two new species of *Pseudancistrus* from southern Venezuela (Siluriformes: Loricariidae)

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Two new species of *Pseudancistrus* are described from the upper Río Orinoco and Río Negro in Southern Venezuela. *Pseudancistrus pectegenitor* was collected in the main channel of the Río Orinoco near the mouth of the Río Ventuari and in the middle reaches of the Río Casiquiare. It differs from congeners by having 10-11 dorsal-fin rays (vs. seven), adpressed cheek odontodes reaching to three or more plates beyond the opercle in adults (vs. maximally to rear edge of the opercle), plates of ventral row of caudal peduncle with dorsal laminae strongly concave, accentuating the medial keel of the ventral plate row (shared with *P. sidereus*), and large oral papillae internal to the dentary tooth cup (shared with *P. coquenani*, *P. orinoco*, and *P. yekuana*). *Pseudancistrus yekuana* is known only from the type locality, immediately upstream of Salto Tencua in the upper Río Ventuari. It differs from congeners by having large oral papillae internal to the dentary tooth cup (shared with *P. coquenani*, *P. orinoco*, and *P. pectegenitor*), lower lip reaching to middle of pectoral girdle (vs. to anterior edge of pectoral girdle), pectoral-fin spine maximally reaching posterior base of the pelvic-fin spine when adpressed ventral to the pelvic fin (vs. at least halfway through pelvic-fin insertion) and by several morphometric differences.

Se describen dos especies nuevas del género *Pseudancistrus* (familia Loricariidae) de la parte alta del Río Orinoco y del Río Negro en el sur de Venezuela. *Pseudancistrus pectegenitor* fue colectado en el canal principal del Río Orinoco cerca de la boca del Río Ventuari y en los tramos medios del Río Casiquiare. Esta especie difiere de sus congéneres por presentar 10-11 radios en la altea dorsal (vs. siete), odontodos en la mejilla alcanzando tres o más placas por detrás del opérculo en adultos cuando se encuentran en posición retractada (vs. no extendiéndose mas allá del borde posterior del opérculo), placas de la fila ventral del pedúnculo caudal con láminas dorsales que presentan una profunda concavidad y acentúan la quilla medial de la fila de placas ventral (condición compartida con *P. sidereus*), papilas orales de gran tamaño situadas en posición interna a la caja dentaria (condición compartida con *P. coquenani*, *P. orinoco*, and *P. yekuana*). *Pseudancistrus yekuana* se conoce únicamente de su localidad tipo, en las inmediaciones superiores al Salto Tencua en la parte alta del Río Ventuari. Esta especie difiere de sus congéneres por presentar papilas orales de gran tamaño situadas en posición interna a la caja dentaria (condición compartida con *P. coquenani*, *P. orinoco*, and *P. pectegenitor*), labio inferior extendiéndose hasta la parte media de la cintura pectoral (vs. alcanzando únicamente el borde anterior de la cintura pectoral), espina de la aleta pectoral alcanzando a lo sumo el borde posterior de la base de la espina pélvica cuando se encuentra en posición extendida hacia la aleta pélvica (vs. alcanzando por lo menos hasta la parte media del inserción de la aleta pélvica) y por varias diferencias morfométricas.

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Introduction

The Proterozoic outcrops in the upper Orinoco are an incredibly species-rich and historically under-studied habitat for loricariid catfishes, as evidenced by this and several other recent species descriptions (for example, Werneke et al., 2005a; Werneke et al., 2005b; Armbruster, 2005; Armbruster et al., 2007). Recent fieldwork in Amazonas, Venezuela by AUM, ANSP, and MCNG has yielded several hundred lots of loricariids collected largely from rocky habitats in the upper Río Orinoco, upper Río Negro, and many tributaries thereof. Included in these are at least two new species of *Pseudancistrus* with enlarged dentary papillae.

Armbruster (2004a-b) redescribed and diagnosed the genus *Pseudancistrus* and treated *Lithoxancistrus* and *Guyanancistrus* as junior synonyms. Armbruster (2004b) listed 14 nominal species in *Pseudancistrus* of which 12 are currently considered valid. Of these, two species, *P. coquenani* and *P. orinoco* have large oral papillae on each dentary just internal to the tooth cup (Fig. 1). This character was used by Isbrücker et al. (1988) to propose the new genus *Lithoxancistrus* for their new species *L. orinoco*; however, dentary papillae also occur in *Chaetostoma* and some *Cordylancistrus* (Armbruster, 2004a-b; JWA, pers. obs.). The purpose of this paper is to describe two new species of *Pseudancistrus* that share with *P. coquenani* and *P. orinoco* the presence of dentary papillae. One of these species, *P. pectegenitor*, is large with an increased number of dorsal-fin rays, making it very easy to diagnose from other *Pseudancistrus* despite a sample size of only four adults. The second species, *P. yekuana*, is small and very similar to *P. orinoco*. In fact, *P. yekuana* may not have been easily diagnosed from *P. orinoco* if they were not sympatric.

Methods

Counts and measurements follow Armbruster (2003). Character numbers and states are from Armbruster (2004b) and are presented in parentheses. One specimen of each species was cleared and stained (cs.) for examination of bone and cartilage using the methods of Taylor & Van Dyke (1985). Institutional abbreviations are as in Leviton et al. (1985). Dentary papillae are defined as a simple papilla or clusters of papillae located proximally along each dentary, internal to the tooth cup (Fig. 1). These papillae vary within individuals in those species that have them, ranging from a single large papilla to one to three clusters of smaller papillae. Comparative specimens of other loricariids examined are listed in Armbruster (2004a-b) and a list of members of *Pseudancistrus* with dentary papillae is below. A principal components analysis for the morphometric data was performed using a covariate matrix and log-transformed measurements in JMP (Vers. 5.01a, SAS Institute, 2002). The data for *P. coquenani* and *P. orinoco* were combined in the PCA because there are no discernable morphometric differences between the two species.

Pseudancistrus pectegenitor, new species
(Figs. 2-3)

Holotype. MCNG 54797 (formerly AUM 42130), 241.6 mm SL; Venezuela: Amazonas: Río Casiquiare, bedrock in stream, 73 km NE of San Carlos de Río Negro (2°21'09"N 66°34'31"W); 9 March 2005, N. K. Lujan, D. C. Werneke, M. H. Sabaj, M. Arce, R. Betancur & T. E. Wesley.

Paratypes. AUM 42202, 227.0 mm SL; Venezuela: Amazonas: Río Casiquiare, 153 km NE of San Carlos de Río Negro (2°47'56" N 66°00'23"W); 24 March 2005, N. K. Lujan et al. – AUM 43192 (cs.), 173.6 mm SL; Venezuela: Amazonas: Río Orinoco, beach and bedrock outcropping, 50 km E of San Fernando de Atabapo. – ANSP 182801 (formerly AUM 42181), 225.1 mm SL; Venezuela: Amazonas: Río Orinoco, Punto de Maraya, Isla Maraya, 80.8 km W of San Fernando de Atabapo (4°01'23" N 66°58'19" W); 31 March 2005, N. K. Lujan et al.

Diagnosis. *Pseudancistrus pectegenitor* can be diagnosed from all other *Pseudancistrus* by having 10-11 dorsal-fin rays (vs. 7) and adpressed cheek odontodes reaching to three or more plates beyond the opercle in adults (vs. maximally to rear edge of opercle); from all other described *Pseudancistrus* except *P. sidereus* by having the plates of the ventral row of the caudal peduncle with dorsal laminae strongly concave, accentuating the medial keel of the ventral plate row (vs. ventral plate row slightly convex; Armbruster, 2005); and from all *Pseudancistrus* except *P. coquenani*, *P. orinoco*, and *P. yekuana* by having large oral

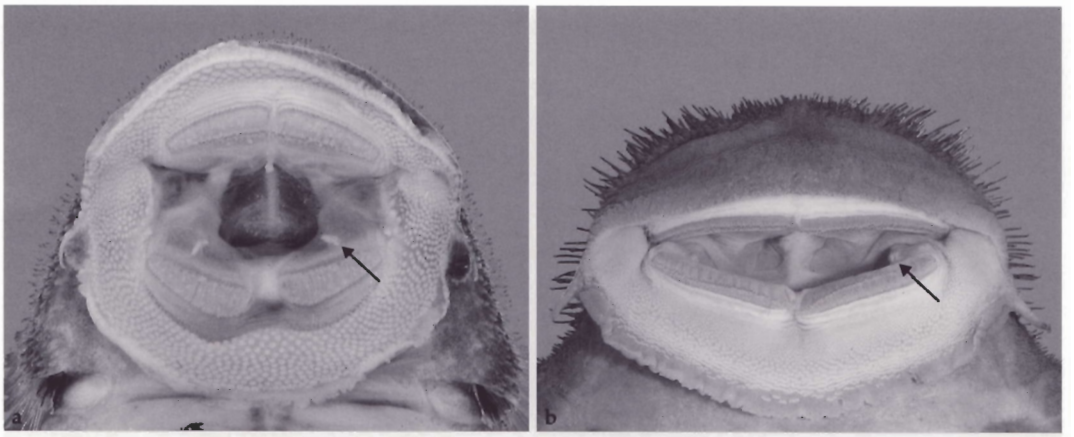

Fig. 1. Mouth of: **a,** *Pseudancistrus yekuana;* and **b,** *P. pectegenitor*. Arrows point to dentary papillae.

papillae proximally on each dentary just internal to the tooth cup (vs. papillae absent; Fig. 1). *Pseudancistrus pectegenitor* can be further diagnosed from *P. coquenani, P. orinoco,* and *P. yekuana* by having a larger pectoral-fin spine (38.3-42.2 % SL vs. 22.0-31.4) and from *P. coquenani* and *P. orinoco* by having a smaller head-dorsal length (5.6-6.8 % SL vs. 8.0-12.2).

Description. Morphometrics presented in Table 1. Meristics based on four individuals. Large loricariids, largest specimen 241.6 mm SL. Body squat with large, dorsoventrally depressed head and stout trunk. Snout sloped at ~30° angle to orbit; dorsal profile slightly arched from orbit to posterior insertion of adipose fin with depth at adipose fin shallower than depth at orbit; body depth greatest in nuchal region. Eyes set far posteriorly on head with orbits oriented at ~45° from sagittal plane. Ventral profile angled slightly downward from snout to coracoid, then flat to caudal fin.

Anterior margins of snout with small to medium-sized hypertrophied odontodes. Evertible cheek plates with highly hypertrophied, distally hooked odontodes (range 44-57), longest extending beyond posterior edge of pectoral fin. Head contours smooth with slightly raised supraorbital crest from anterolateral corner of nares to posterior edge of pterotic. Lateral surfaces of supraorbital crest covered with odontodes slightly enlarged relative to those on surrounding plates. Nuchal region forming a broad hump slightly raised above supraoccipital and dorsal-fin base.

Mouth large with broad, straight jaws nearly as wide as head. Tooth cups of upper jaw slightly wider than those of lower jaw. Premaxillary teeth 119-164 (median 131); dentary teeth 126-134 (median 128). Teeth villiform and bicuspid with medial cusp larger than lateral cusp. Worn teeth with cusps approaching equal length. Lateral edge of oral disk extending slightly beyond lateral margins of head. Maxillary barbel short and occasionally bifurcated distally. Ventral surface of lips papillose. Papillae increasing in size and decreasing in density from labial rictus (smallest and most dense), to regions proximal and posterior to dentary tooth cups (intermediate), to larger and less-densely spaced papillae restricted to band along middle of lower lip; posteroventral edge of lower lip devoid of papillae. Dentary papillae present. Buccal papilla present, with a long stalk-like base.

Dorsal fin II,10; dorsal-fin spinelet short and V-shaped; dorsal-fin lock functional. Dorsal fin large, as high or higher than body depth. Anterior dorsal-fin rays longer than dorsal-fin spine and decreasing in length posteriorly, forming a gentle arc towards adipose spine. Pectoral fin I,6; pectoral spine extending beyond posterior insertion of pelvic fin when adpressed. Pectoral-fin spine stout with odontodes increasing in size and density distally. Distal odontodes very hypertrophied, intermediate in size to those of evertible cheek plates and those of snout. Anterior pectoral-fin rays as long as pectoral-fin spine, decreasing to less than half of length of spine posteriorly. Pelvic fin I,5; pelvic-fin spine stout, reaching end of base of anal fin when adpressed; anterior pelvic-fin rays as long as or longer than pectoral-fin

Fig. 2. *Pseudancistrus pectegenitor*, AUM 42202, 227.0 mm SL; Venezuela: Rio Casiquiare; freshly dead. Photo by N. K. Lujan.

spine with posterior margin of fin curving out beyond posterior tip of spine. Anal fin I,5; anterior anal-fin rays slightly longer than unbranched anal-fin ray, posterior anal-fin rays slightly shorter than unbranched anal-fin ray. First anal-fin pterygiophore not exposed to form a plate-like structure. Adipose-fin spine straight with adipose membrane not extending beyond posterior extent of spine. Caudal fin I,14,I; caudal-fin spines longer than caudal-fin rays. Dorsal and ventral procurrent caudal-fin rays four to five. Posterior caudal-fin margin straight. Rays of all fins supporting small odontodes.

Body broad at base and compact in length, with short and stout caudal peduncle. Lateral body plates in median series 25. Ventral plates forming right angle on caudal peduncle with dorsal lamina of plates concave, accentuating strong rounded keel along lower portion of caudal peduncle. Plates in middorsal row weakly arched submedially forming low ridge from cleithrum to posterior insertion of pelvic fin. Five rows of plates on caudal peduncle. Abdomen naked.

Color. Alcohol preserved adults with gray-tan to charcoal ground color on head and plated regions of body. Unplated ventral surface of snout and outer surface of upper lip gray brown; unplated breast and abdominal region lighter, pale dusky white and without distinct markings. Papillated surfaces of ventral oral disk pale white with dusky posterior margin (darkest near base of maxillary barbel). Lighter specimens with faint pattern of small light spots and fine vermiculations on head (particularly pterotic region), body plates, and skin along dorsal-fin insertion; and gray-tan body plates outlined with darker gray-brown skin. Dorsal-, adipose-, caudal- and anal-fin spines, rays and membranes nearly uniform gray brown, without conspicuous pattern. Paired fins similar or with faint pattern of small light spots and vermiculations on rays and to a slightly lesser degree on membranes. Hypertrophied odontodes orange to straw colored. Small preserved juveniles (< 13 mm SL) with body more or less uniformly brown except ventral surface from oral disk to vent white; fins darker brown with distal margins and / or tips hyaline (depigmented).

Fig. 3. *Pseudancistrus pectegenitor*, holotype, MCNG 54797, 241.6 mm SL; Venezuela: Río Casiquiare. Photos by M. H. Sabaj.

In live adults ground color dull olive to charcoal with lighter spots and vermiculations yellowish to tan (Fig. 2).

Sexual dimorphism. Darwin (1882) used *Pseudancistrus barbatus* to illustrate an example of sexual dimorphism in which males are adorned with highly hypertrophied odontodes and females are not; however, both sexes in *P. barbatus* and other species of *Pseudancistrus* are more recently known to exhibit such armament although males may be better adorned than females (Armbruster & Provenzano, 2000). The only specimen of *P. pectegenitor* collected in an ecological context allowing reasonable deduction of sex, a presumably adult male (AUM 42202, 227.0 mm SL) collected while guarding young in a nest, exhibited extreme hypertrophy of odontodes on the evertible cheek plates and, to a lesser extent, on the pectoral spines and snout. A single immature *P. pectegenitor* in-

Table 1. Selected morphometrics of *Pseudancistrus pectegenitor* and *P. yekuana*. Landmarks represent the two landmarks the measurement is between (see Armbruster, 2003).

		P. pectegenitor n=4			*P. yekuana* n=3		
	landmarks	range	mean	SD	range	mean	SD
Standard length (mm)	1-20	173.6-241.6	216.8	29.7	32.7-42.7	38.6	5.2
In percents of standard length							
Predorsal length	1-10	42.0-44.2	43.5	1.0	49.1-50.1	49.6	0.5
Head length	1-7	35.9-38.1	37.0	0.9	39.9-43.8	42.4	2.1
Head-dorsal length	7-10	5.6-6.8	6.2	0.6	6.0-8.0	6.9	1.0
Cleithral width	8-9	29.2-34.1	31.4	2.1	28.6-30.4	29.3	1.0
Head-pectoral length	1-12	30.6-32.9	31.9	1.2	38.3-38.9	38.6	0.3
Thorax length	12-13	22.9-25.1	24.0	1.0	22.8-24.5	23.9	0.9
Pectoral-spine length	12-29	38.3-42.2	40.1	1.9	22.0-24.6	22.9	1.5
Abdominal length	13-14	22.3-24.7	23.5	1.0	17.2-22.7	19.4	2.9
Pelvic-spine length	13-30	23.1-27.4	24.7	2.0	21.9-23.6	22.6	0.9
Postanal length	14-15	27.8-31.5	29.5	1.5	28.2-30.0	29.2	0.9
Anal-fin spine length	14-31	11.2-13.3	12.2	1.0	7.0-9.6	8.4	1.3
Dorsal-pectoral depth	10-12	24.6-26.4	25.7	0.8	25.1-27.4	26.4	1.2
Dorsal spine length	10-11	28.8-35.2	32.0	4.5	20.8-22.9	22.2	1.2
Dorsal-pelvic depth	10-13	22.6-25.5	23.9	1.5	19.9-20.8	20.5	0.5
Dorsal-fin base length	10-16	34.0-38.0	35.6	1.8	21.5-22.2	21.8	0.3
Dorsal-adipose depth	16-17	8.8-11.1	10.2	1.0	10.2-12.1	11.3	1.0
Adipose-spine length	17-18	5.6-7.8	6.6	1.1	7.8-9.5	8.9	0.9
Adipose-upper caudal depth	17-19	8.9-10.5	9.6	0.8	15.0-16.5	15.8	0.8
Caudal peduncle depth	15-19	12.1-13.6	12.7	0.7	10.0-11.6	10.9	0.8
Adipose-lower caudal depth	15-17	17.4-18.5	17.8	0.5	19.9-22.7	21.5	1.5
Adipose-anal depth	14-17	18.9-20.5	19.8	0.7	17.0-17.7	17.3	0.4
Dorsal-anal depth	14-16	14.7-16.4	15.5	0.8	14.0-14.7	14.3	0.4
Pelvic-dorsal depth	13-16	30.0-34.8	32.3	2.5	20.9-22.8	22.2	1.1
In percents of head length							
Head-eye length	5-7	25.3-29.9	27.5	1.9	24.6-31.1	28.4	3.4
Orbit diameter	4-5	14.6-16.0	15.0	0.6	13.1-13.8	13.4	0.4
Snout length	1-4	66.1-69.1	68.0	1.4	68.6-74.0	70.8	2.8
Internares width	2-3	11.0-12.2	11.4	0.5	9.1-10.2	9.6	0.6
Interorbital width	5-6	33.0-41.7	36.8	3.6	39.0-40.1	39.7	0.6
Head depth	7-12	62.8-64.4	63.4	0.7	54.0-56.9	55.5	1.4
Mouth length	1-24	49.4-58.4	52.3	4.1	70.5-77.2	73.8	3.4
Mouth width	21-22	62.3-75.9	70.3	6.2	73.3-78.0	75.6	2.4
Barbel length	22-23	9.3-10.9	10.1	0.8	5.4-9.7	8.1	2.3
Dentary tooth cup length	25-26	23.0-27.2	24.8	1.8	24.9-31.3	28.7	3.4
Premax. tooth cup length	27-28	21.5-26.5	24.9	2.3	27.0-28.3	27.8	0.7

dividual (AUM 43192, cs., 173.6 mm SL) of undetermined sex lacked especially hypertrophied odontodes. Two other individuals (ANSP 43192, 225.1; MCNG 54797, 241.6 mm SL) with hypertrophied odontodes similar to that of the male above were also collected but their sex was not determined.

Range. Found in the main channel of the Río Orinoco above Raudales Autures (near mouth of Río Ventuari), and in the Río Casiquiare, Amazonas, Venezuela (Fig. 4).

Habitat. All specimens collected from flowing water associated with large rock outcrops in main river channel. One specimen collected at night with a seine in swift shallow run over bedrock. All others collected by hand from within rock crevices.

Reproductive biology. In the majority of loricariids for which parental care is known, the male is the caregiver (Evers & Seidel, 2005; Gross & Sargent, 1985). One presumably adult male (AUM 42202, 227.0 mm SL) was collected while caring for young in a vertical crack in bedrock immediately below the water's surface (Fig. 2). Crevice spawning is common among the Hypostominae (Suzuki et al., 1985) and almost universal among the Ancistrini (Evers & Seidel, 2005). Water level in the Casiquiare at this locality would have recently risen with the onset of the rainy season just a few weeks before, when this individual likely spawned. Seasonal spawning timed to coincide with the onset of the rainy season has been observed in *Hypostomus luetkeni* in the Paraiba do Sul in Brazil (Mazzoni & Caramaschi, 1997), but would be in contrast to the aseasonal breeding cycle that Winemiller (1989) observed for hypostomines *(Ancistrus* sp. and *Hypostomus argus)* in the piedmont of northern Venezuela. An incredible number of juveniles (n = 486, SL < 13 mm) were collected with the father, and dozens more from the same nest were not collected. Among the Hypostominae, this level of fecundity is less than some (e.g., *Rhinelepis aspera*, a broadcast spawner from which have been recorded up to 181 200 oocytes, avg. 47 370; Agostinho, 1985), but more than others (e.g. *Ancistrus* sp. reported by Sabaj et al., 1999, to have 20-200 offspring, and *Lithoxus* reported by Armbruster, 1998, to have 15-17 mature oocytes in two females).

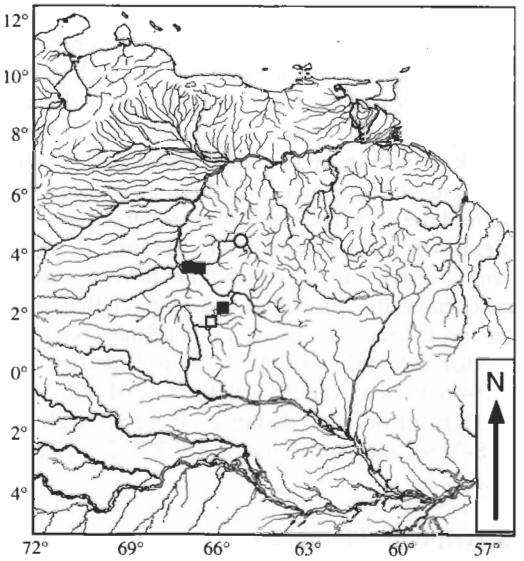

Fig. 4. Range of *Pseudancistrus pectegenitor* (■,□) and *P. yekuana* (●,○), open symbols show type localities. Base map by M. J. Weitzman.

Etymology. From the Latin *pecten*, meaning quill, and *genitor*, meaning father, in reference to the hypertrophied odontodes of the snout, pectoral spine, and evertible cheek plates, and the fact that one presumably adult male was collected while caring for a large brood of young. A noun in apposition.

Pseudancistrus yekuana, new species
(Fig. 5)

Holotype. MCNG 54798 (formerly AUM 39473), 42.7 mm SL; Venezuela: Amazonas: Río Ventuari, above Salto Tencua, 58 km ESE of San Juan de Manapiare (5°02'52"N 65°36'57"W); 21 April 2004, N. K. Lujan, O. León, A. Luna & A. Yarumare.

Paratypes. AUM 39473, 2, 40.5-35.0 mm SL (1 cs.); ANSP 182802, 32.7 mm SL, same data as holotype.

Diagnosis. *Pseudancistrus yekuana* can be diagnosed from all other *Pseudancistrus* except *P. coquenani*, *P. orinoco*, and *P. pectegenitor* by having dentary papillae (vs. dentary papillae absent; Fig. 1); from *P. coquenani*, *P. orinoco*, and *P. pectegenitor* by having the lower lip reaching to the middle of the pectoral girdle (vs. to anterior edge of the pectoral girdle), by having the pectoral-fin

spine maximally reaching the posterior edge of the pelvic-fin spine when adpressed ventral to the pelvic fin (vs. at least halfway through pelvic fin); and from *P. pectegenitor* by having 7 dorsal-fin rays (vs. 10-11) and by having the evertible cheek odontodes maximally reaching the posterior end of the opercle (vs. three or more plates behind the opercle). In addition, several measurements serve to separate *P. yekuana* from *P. coquenani*, *P. orinoco*, and *P. pectegenitor*; however, these ratios have little predictive power given that there are only four specimens of *P. yekuana* known: predorsal length (49.1-50.1 % SL in *P. yekuana* vs. 41.5-46.0), head length (39.9-43.8 % SL vs. 31.2-38.1), head-pectoral distance (38.3-38.9 % SL vs. 26.8-32.9), and mouth length (70.5-77.2 % HL vs. 49.4-67.5).

Description. Morphometrics presented in Table 1. Meristics based on four individuals. Fairly small loricariids, largest specimen 42.7 mm SL. Head distinctly large relative to body, with long, spatulate snout. Small eyes placed high and far back on head with orbits oriented at ~45° to sagittal plane. Dorsal contour of head smooth except for slightly elevated plateau formed by modest supraorbital crests and elevated, flat interorbital region. All dorsal and lateral surfaces of head plated and with small odontodes. Odontodes slightly larger along anterior and lateral margins of snout, along midline of snout over mesethmoid, and along supraorbital crest posterolateral to nares. Evertible cheek odontodes longest, numbering 11-13 (median 12).

Dorsal profile forms gentle arc from anterior margin of snout to posterior process of supraoccipital, horizontal to insertion of dorsal-fin spine, then ventrally sloping at shallow angle to insertion of dorsal caudal-fin spine. Ventral profile of head sloped slightly downward from snout to coracoid such that ventral surface of large oral disk is even with flat, horizontal ventral profile of trunk. Median plates 22-24 (mode=24). Five caudal peduncle plate rows. Abdomen naked.

Mouth large with lips occupying almost entire ventral surface of head. Maxillary barbel short and connected along most of length to lower lip by flap of skin. Jaws wide with slight angle of tooth cups and inward curvature of tooth arrangement in ventral view. Left premaxillary teeth 50-69 (median 67). Left dentary teeth 63-71 (median 66). Dentary papillae present. Buccal papilla present, with long, stalk-like base.

Dorsal fin II,7; dorsal-fin spinelet short and V-shaped; dorsal-fin lock functional. First dorsal-fin ray slightly longer than dorsal-fin spine; remaining rays decreasing in length. Last dorsal-fin ray when adpressed reaching insertion of adipose-fin spine. Pectoral fin I,6; pectoral spine maximally reaching posterior edge of pelvic-fin spine when adpressed ventral to pelvic fin. Anterior and ventral surface of pectoral-fin spine with odontodes along entire length, slightly hypertrophied distally. Pelvic fin I,5; first pelvic-fin ray as long as pelvic-fin spine and remaining rays decreasing in length. Anal fin I,5; first anal-fin pterygiophore not exposed to form a plate. Adipose-fin membrane extending slightly posterior to adipose-fin spine. Caudal fin I,14,I; caudal fin emarginate. Dorsal procurrent caudal-fin rays five; ventral procurrent caudal-fin rays four. Rays of all fins supporting odontodes.

Color. Alcohol preserved specimens with gray-brown ground color on head and sides, dorsally with faint pattern of three to four lighter, tan saddles, the first either at the dorsal-fin origin or beneath the middle of its insertion; posterior ventral sides similarly with fain tan bars, some united midlaterally with saddles (lighter bars and saddles more evident in smaller specimens). Undersurfaces lighter, pale tan on unplated breast and abdomen becoming dusky with scattered melanophores near vent and onto plated caudal peduncle. Oral disk with papillated surfaces pale white and dusky posterior margin (darkest near base of maxillary barbel). All fin spines and rays with alternating wide dark and narrow light bands (pattern most evident in dorsal fin, least evident in pectorals); fin membranes hyaline or with melanophores scattered along rays. Small but distinct black spot present at base of anteriormost dorsal-fin membrane in largest specimen.

Sexual dimorphism. None observed.

Range. Known only from the Río Ventuari immediately above Salto Tencua (Fig. 4). The ranges of at least four other fish species (all undescribed) are currently restricted to the Ventuari above Salto Tencua: *Lithoxus* sp., *Harttia* sp., *Brachyglanis* sp., and *Geophagus* sp. Thus, Salto Tencua may function as a partial faunal barrier. The barrier does not appear to be complete because *Pseudancistrus orinoco*, a species very simi-

Fig. 5. *Pseudancistrus yekuana*, holotype, MCNG 54798, 42.7 mm SL; Venezuela: Río Ventuari. Photos by M. H. Sabaj.

lar to *P. yekuana*, was collected both above and below the falls.

Habitat. All individuals collected by cast net from torrential sheet flow over bedrock in the main channel of the upper Ventuari.

Etymology. The species name, *yekuana*, refers to the Ye-kuana, the indigenous peoples inhabiting the upper Río Ventuari and other areas of southern Venezuela and northern Brazil, whose generous cooperation made this research possible. Treated as a noun in apposition.

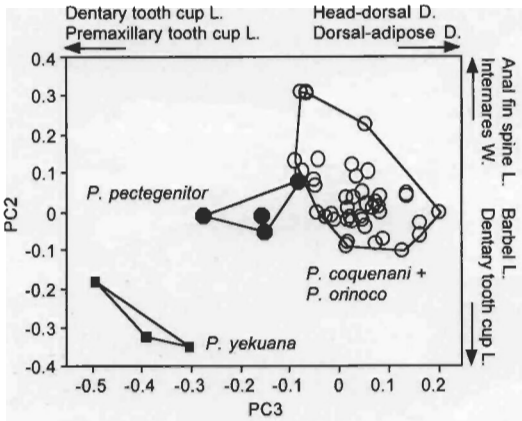

Fig. 6. Principal Components Analysis of species of *Pseudancistrus* with dentary papillae. Strongest loading characters shown with their direction of influence.

Discussion

Armbruster (2004a) diagnosed *Pseudancistrus* with the following: no suture between pterotic-supracleithrum and hyomandibula (34-0, reversal; character numbers and states from Armbruster, 2004b), no contact of the hyomandibula with the prootic (35-1), straight, spoon-shaped anterior process of metapterygoid (58-1), nasal bone not much wider than laterosensory canal running through it (105-0), sphenotic not contacting posteriormost infraorbital externally (117-1), and a short ventral ridge on the pelvic basipterygium (172-1, lost in some species). *Pseudancistrus pectegenitor* has four of these five characteristics, varying only in that the sphenotic does contact the posteriormost infraorbital externally. *Pseudancistrus yekuana* also has four of these characteristics; varying only in that there is a suture between the pterotic-supracleithrum and the hyomandibula; however, the suture present is very weak.

Pseudancistrus pectegenitor is unique among *Pseudancistrus* in having an increased number of dorsal-fin rays (i.e., greater than seven). An increased number of dorsal-fin rays is not common in hypostomines; however, there are several examples: one species of *Pogonopoma* has ten dorsal-fin rays (Quevedo and Reis, 2002), *Pterygoplichthys* usually has 10 or more dorsal-fin rays, and the *Acanthicus* group (*Acanthicus*, *Leporacanthicus*, *Megalancistrus*, and *Pseudacanthicus*) and the *Chaetostoma* group (*Chaetostoma*, *Cordylancistrus*, *Dolichancistrus*, and *Leptoancistrus*) have eight or more dorsal-fin rays (Armbruster, 2004b). Although an increased number of dorsal-fin rays may be useful for diagnosing genera (i.e., *Pterygoplichthys*) and clades within Hypostominae (i.e., *Acanthicus* group, *Chaetostoma* group); it seems that in the case of *P. pectegenitor* (as in *Pogonopoma obscurum*), the increased number of dorsal-fin rays is an autapomorphy diagnostic only at the species level. *Pseudancistrus pectegenitor* shares a number of synapomorphies with the genus *Pseudancistrus*, therefore erection of a new genus is not warranted. Indeed, much of the morphology of *P. pectegenitor* is rather autapomorphic. For examples, there are a very high number of teeth, the body seems relatively short, and the cheek odontodes are very elongate whereas the trend in *Pseudancistrus* is towards the reduction of the size of the cheek odontodes. Regardless, *P. pectegenitor* has all but one of the synapomorphies of *Pseudancistrus* and it shares the synapomorphy of the dentary papillae with *P. coquenani*, *P. orinoco*, and *P. yekuana*, a characteristic seen elsewhere only in *Chaetostoma* and some *Cordylancistrus*.

If the specimens of *Pseudancistrus yekuana* were not collected sympatrically with *P. orinoco* they might not have been readily separated as a unique species. The two species are similar in general form and color; however, seeing the two species side by side in the same collection makes the identification of *P. yekuana* as a new species rather obvious. The shape of *P. yekuana* is also quite different from the other species of *Pseudancistrus* as suggested by the Principal Components Analysis (Fig. 6). Although this PCA is based on few individuals of *P. yekuana*, the degree of difference between it and the other *Pseudancistrus* in the analysis is large, and presumed indicative of true differences.

Pseudancistrus yekuana appears to be fully mature at a small size. The cleared and stained specimen (35.0 mm SL) had ova more mature than would be seen in juveniles, and the largest specimen is only 42.7 mm SL, whereas the largest specimen of either *P. orinoco* or *P. coquenani* examined is 105.8 mm SL. The dorsal surface of the head supports more odontodes at a smaller size in *P. yekuana* than in *P. orinoco*. The 42.7 mm SL type of *P. yekuana*, for example, has the head fully supporting odontodes while similarly sized *P. orinoco* from the same locality have large naked patches on the frontal and supraoccipital. Several morphometric ratios separated *P. yekuana*

and *P. orinoco*; however, only three specimens of *P. yekuana* were measured, and these characters are suspect until more specimens become available. The snout of *P. yekuana* is much more elongate when compared against specimens of similar size, the pectoral fins much shorter, and the lower lip is so long that it almost reaches beyond the pectoral girdle (see Diagnosis).

Comparative material. *Pseudancistrus coquenani*: Venezuela: AMNH 31023, 6, 53.9-62.9 mm SL; Bolivar: Río Paragua at Gusano Rapids, Río Caroni dr., 1-1.5 hours upriver from Río Carapo mouth (5°30'N 63°36'W). – MCNG 17525, 2, 64.6-94.4 mm SL; Bolivar: Río Caroni dr., Río Supamo 12 km N of la Piedra del Supamo (6°59'N 62°23'W). – MCNG 18339, 5, 58.8-94.4 mm SL; Río Caroni dr., middle Río Tocomo below entrance of railway below high tension cables (7°50'40"N 40°63' 05"W). – MCNG 18410, 6, 52.2-62.9 mm SL; Bolivar, Río Caroni dr., Río Claro east of Los Tanques (7°55'20"N 63°06'05"W). – NMW 48023, 2 syntypes, 75.5-78.6 mm SL; Bolivar: Río Caroni dr., Río Coquenan.

P. orinoco: Venezuela: ANSP 160600, 5, 79.5-79.0 mm SL; Amazonas: Río Orinoco, Raudales de Atures, at Culebra, ca 7 km S of Puerto Ayacucho (5°35'N 67°31'W). – ANSP 165824, 1, 78.1 mm SL; Apure: Río Arauca dr., caño near El Yagua (7°30'N 68°20'W). – AUM 39479, 5, 56.7-82.4 mm SL, same data as types of *P. yekuana*. – AUM 39542, 5, 67.5-105.8 mm SL; Amazonas: Río Orinoco dr., Rio Ventuari at Raudales Tencua, 56 km ESE of San Juan de Manapiare (5°02'59"N 65°37'38"W). – AUM 42179, 1, 93.1 mm SL; Amazonas: Río Casiquiare dr., Río Siapa, rapids 154 km E of San Carlos de Río Negro (1°36'12"N 65°42'57"W). – AUM 42184, 1, 80.6 mm SL; Amazonas: Río Casiquiare dr., Río Siapa, Raudales Gallineta, 142 km E of San Carlos de Río Negro (1°49' 00"N 65°47'41"W). – MCNG 20204, 1, 61.0 mm SL; Apure: Rio Capanaparo dr., at CORPOVEN camp and Laguna Larga, Río Apure dr. (6°31'50"N 67°23'48"W). – MCNG 21631, 1, 70.7 mm SL; Amazonas: Río Orinoco dr., Río Cataniapo at the bridge just S of Puerto Ayacucho (5°36'N 67°35'30"W). – MCNG 25794, 1, 48.2 mm SL; Amazonas: Río Orinoco dr., Río Ocamo at Raudal Arata (3°8"N 64°34'W). – MCNG 30407, 2, 45.5-58.4 mm SL; Amazonas: Río Orinoco at Raudales de Atures.

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