

TWO NEW SOUTHEASTERN BRAZILIAN GENERA OF HYPOPTOPOMATINAE AND A REDESCRIPTION OF *PSEUDOTOCINCLUS* NICHOLS, 1919 (OSTARIOPHYSI, LORICARIIDAE).

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ABSTRACT

Schizolecis and *Pseudotothyris*, new genera, are described from small coastal rivers of southeastern Brazil. *Pseudotocinclus Nichols*, 1919 is redescribed. In contrast to all other genera of Hypoptopomatinae, these three genera have the tip of the snout formed by small platelets, covered with weak spines, identical to those on the head. The species included in this group are redescribed and *Pseudotocinclus janeirensis*, *sp.n.*, is proposed.

This work is part of a revision of the loricariid subfamily Hypoptopomatinae. Previously, one of the authors (Garavello, 1977) revised *Paratocinclus Eigenmann & Eigenmann*, 1889; we redescribe here the genus *Pseudotocinclus Nichols*, 1919, and describe two new genera.

Although most of the hypoptopomatines have the snout tip covered by large plates bearing strong and recurved spines, in the species herein studied it is covered by small platelets provided with small spines only slightly different from those on the head. We think that this is an important diagnostic character, but the relationships of the genera can only be established after the analysis of other morphological characters. In a forthcoming paper, all the genera of this subfamily will be studied, discussed and redefined.

Measurements and counts are the same utilized by Garavello (1977) and are in tables deposited in the Fish Section of the Museu de Zoologia da Universidade de São Paulo. The abbreviations used in the tables are as follows: BD — body depth, CPD — caudal peduncle length, HD — head depth, HL — head length, HW — head width, ID — interorbital distance, OD — orbital diameter, PD — predorsal distance, SL — standard length, SN — snout length, T — trunk.

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Genus *Pseudotocinclus* Nichols, 1919

Pseudotocinclus Nichols, 1919:534. Type species, *Pseudotocinclus intermedius* Nichols (monotypic).

Description

Body moderately long (maximum length: 67 mm S.L.). Orbit almost superior, formed by three circumorbital bones, antorbital, frontal and sphenotic. Three large posterior plates bordering the inferior part of the head; tip of snout formed by small platelets which sometimes leave relatively large naked areas in this region; these platelets bear small spines on the surface, identical to those on the head. Two preorbital plates. Preopercle below the circumorbital bones, arising as an elongate and inclined plate. Upper interopercular plate present. Capsule of the air-bladder usually well developed with a relatively large opening. Post-temporal bone with median size perforations occupying most of its surface. A small spiny area only on each side of the scapular bridge. Second nuchal plate large, fused to the first proximal radial; spine-locking mechanism of the dorsal fin not functional, the lock identical to an azygous plate in front of the fin. Abdomen entirely covered with numerous platelets, without the lateral series of wide plates between the scapular bridge and the pelvic fin. 33 to 34 vertebrae (counts of two specimens); 29 to 32 perforated plates on the lateral line; 14 branched rays in the caudal fin. Adipose fin absent. Males with urogenital papilla.

Range: Upper Rio Tietê, near the city of São Paulo, São Paulo state.

Pseudotocinclus tietensis (R.v. Ihering, 1907)

(Figs. 1 and 2)

Otocinclus tietensis R.v. Ihering, 1907: 26-27. Type-locality: Rio Tietê, São Paulo (type not seen); Eigenmann, 1910: 413 (ref.); Gosline, 1945: 100 (ref.); Fowler, 1954: 131 (ref.).

Pseudotocinclus intermedius Nichols, 1919: 4 and 10. Type-locality: Campo Grande, near São Paulo (paratypes MZUSP 714 and 1003 examined); Gosline, 1945: 99 (ref.); Fowler 1954: 134 (ref.).

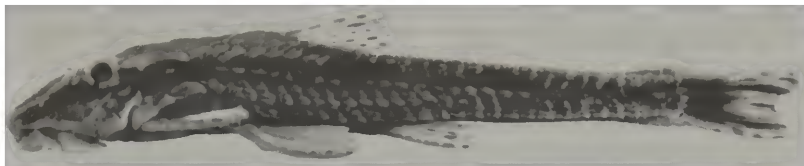
Microlepidogaster tietensis: Ribeiro, 1911: 89 (422) (transcription of description).

Material studied

MZUSP 714, Alto da Serra, São Paulo, SP, I.1895 (paratype); MZUSP 1003, Perus, São Paulo, SP, I.1896 (paratype); MZUSP 3779, Ribeirão Pires, São Paulo, SP, 1941 (2); MZUSP 4512, Paranapiacaba, São Paulo, SP, 19.II.1966 (3); MZUSP 13213, Alto da Serra, Paranapiacaba, São Paulo, SP, VII.1971 (1); MZUSP 16090 to 16095, Paranapiacaba, São Paulo, SP, 7.X.1977 (6); MZUSP 16096, Rio Grande, Paranapiacaba, São Paulo, SP, 30.XI.1979 (1); MZUSP 16097 and 16098, Rio Paraitinga, km 103 of the road Salesópolis to Caraguatatuba, SP, 3.XII.1979 (2).

Diagnosis

29 to 32 plates on the lateral line. A median crest on the supraoccipital bone and a reduced one on each side of the post-temporal; abdomen entirely covered with small platelets which also cover the median region on the scapular bridge. A naked area on the tip of snout. Transverse section of the caudal peduncle rectangular; 18 to 23 teeth on the premaxillary and 17 to 20 on the dentary.



Figs. 1 and 2, *Pseudotocinclus tietensis* (R.v. Ihering), MZUSP 16096, 55 mm.

Description

Body low, depth 6.2 to 8.3 in the standard length. Body width nearly constant from the scapular bridge to the ventral fin, tapering from this point to the caudal fin. A conspicuous ridge on the median part of the snout, from near its tip to the level of the eyes; another ridge on either side of the snout, becoming more prominent along the dorsal edge of the orbital rim. A median broad ridge on the supraoccipital bone and another one on the tip of each post-temporal bone. Small and numerous remaining spines of the head not forming regular series. Most of the plates on the head very small, leaving large naked areas in this region. Plates on the anterior part of the snout very small; a narrow area on the upper lip covered with platelets; a small naked area present on the tip of snout. Opening of the air bladder capsule nearly $\frac{3}{4}$ of the orbital diameter; several small perforations occupying $\frac{2}{3}$ of the area of the post-temporal bone. An inconspicuous ridge between the tip of supraoccipital bone and the origin of the dorsal fin; another on each side, between the post-temporal ridge and the end of the dorsal fin base. A prominent ridge from the posterior tip of the cleithrum, becoming less evident towards the posterior edge of anal fin. Upper and lower regions of the caudal peduncle flat, the scutes on each side angularly bent. Transverse section of caudal peduncle almost rectangular.

Abdomen entirely covered with platelets, which also cover the median part of the scapular bridge; area between base of pectoral and pelvic fins also covered with platelets; posterior area between pelvic fins and anal opening naked. Pectoral fin reaching beyond the origin of pelvic fin. Origin of pelvic fin halfway between tip of supraoccipital bone and origin of dorsal fin; pelvic fin not reaching anal; origin of anal fin halfway between the posterior edge of lower lip and origin of caudal fin. Caudal fin slightly notched.

The morphometric data are presented in figures 11 and 12, and tables 1 and 3.

Color of specimens preserved in alcohol

Ground color of body and head yellow-brown or grey. A lateral dark brown band of variable width, extending from the anterior part of the snout, along the lower edge of orbit, through the post-temporal bone and ending at the caudal fin. Four transverse dark bands on the upper part of the body, the first at the dorsal fin origin, the second behind the base of the dorsal fin, the third and fourth on the caudal peduncle. A basal dark brown blotch irregularly shaped and another one, submarginal, on the caudal fin; the submarginal blotch may be or not separated from the basal one by a light area. Dorsal and anal fins with small and inconspicuous dark spots; other fins hyaline. Unbranched rays of caudal and rays of the remaining fins with regular black pigments.

Range: Headwaters of Rio Tietê, near the city of São Paulo, São Paulo state.

Discussion

The type specimen of *Otocinclus (Microlepidogaster) tietensis*, originally deposited in the collection of the Museu Paulista, later Museu de Zoologia da Universidade de São Paulo (MZUSP) was not found (Britski, 1968). However R.v. Ihering's original description, quite accurate with respect to critical characters, enables us to assure that *Pseudotocinclus intermedius* is a synonym of *Pseudotocinclus tietensis*.

Genus *Schizolecis*, gen. n.

Type species: *Microlepidogaster guntheri* Ribeiro, 1918: 634

Description

Body short (maximum length 37.7 S.L.). Orbit almost superior, formed by three circumorbital bones, antorbital, frontal and sphenotic. Three large posterior plates bordering the inferior part of the head; tip of snout formed by a series of small platelets bearing small spines, identical to those on the head. Two preorbital plates. Preopercle, below the circumorbital bones, arising as an elongate and inclined plate. Upper interopercular plate present. Capsule of the air bladder usually well developed with a relatively large opening. Post-temporal bone with relatively large perforations occupying most of its surface; scapular bridge covered by skin in the middle, exposed and spiny on the sides. Second nuchal plate large, fused to the first proximal radial; spine locking mechanism of the dorsal fin not functional, the lock absent; second proximal radial supporting a dermal plate on each side of the dorsal fin. Abdomen naked except for a few scattered platelets. 29 to 30 vertebrae. 23 to 26 perforated plates on the lateral line. 14 branched rays in the caudal fin; adipose fin absent. Males with urogenital papilla.

Range: Coastal rivers of Southeastern Brazil, from Rio de Janeiro to Juquiá, state of São Paulo.

Etymology: from the greek, Schízo = to split, cleave and lekís = plate, fem. gender. Related to the very small plates on the tip of snout.

Schizolecis guntheri (Ribeiro, 1918)

(Figs. 3 to 6)

Microlepidogaster guntheri Ribeiro, 1918:634. Type-locality: Praia do Piraique, Ilha de São Sebastião, São Paulo (type examined); Gosline, 1945: 101 (ref.); Fowler, 1954:166 (ref.).

Microlepidogaster guentheri: Ribeiro, 1918:717 (ref.; emend.); Luederwaldt, 1929:40 (Ilha de São Sebastião).

Pseudotocinclus ribeiroi Gomes, 1953:222. Type-locality: Rio Branco, Bacia do Rio Itanhaém, São Paulo (type examined).

Material studied

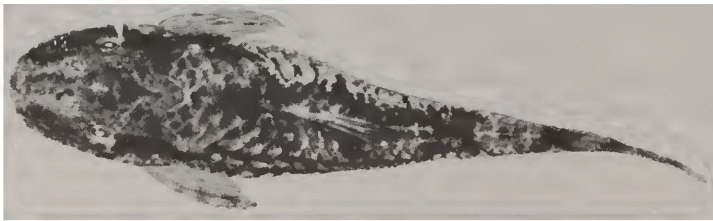
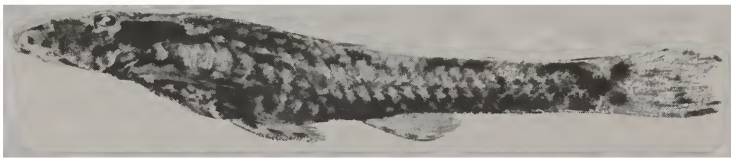
MZUSP 1015 and 5365 to 5380, Ilha de São Sebastião, SP, I.1906 (lectotype and 16 paralectotypes of *Microlepidogaster guntheri*); EEBP 110, Rio Branco, Itanhaém, SP, IX.1941 (holotype of *Pseudotocinclus ribeiroi*); MZUSP 2697, 8345 and 8346, Ilha de São Sebastião, SP, I.1906 (3); MZUSP 2700, Ilha de São Sebastião, SP, I.1906 (6-probably sorted out from the samples of type material of *Microlepidogaster guntheri*); MZUSP 960 and 8347, Ilha de São Sebastião, SP, XI.1896 (2); MZUSP 8381 and 8382, Ribeirão da Fazenda Cantagalo, Juquiá, SP, 5.IX.1969 (2); MZUSP 10305, Ribeirão da Fazenda Palmital, Juquiá, SP, 5.IX.1969 (4); MZUSP 8360 to 8376, 8378 to 8380 and 10306, Rio do Ouro, Reserva Florestal de Caraguatatuba, SP, 22.V. to 1.VI.1962 (21); MZUSP 10307, Caraguatatuba, SP, 29.III to 4.IX.1963 (3); MZUSP 8377, Caraguatatuba, SP, 14.XII.1946 (1); MZUSP 3647, 3648 and 8342 to 8344, Angra dos Reis, RJ, 1945 (5); MNRJ 4709, 9907 to 9926, Fazenda Japuiba, Angra dos Reis, RJ, 28.III.1945 (33); MNRJ 4994 and 9887 to 9906, Rio Ariró, Angra dos Reis, RJ, X.1945 (51); MNRJ 5559 and 9867 to 9886, Floresta, Rio Ariró Pequeno, Angra dos Reis, RJ (46); MNRJ 10006 and 9927 to 9937, Recreio dos Bandeirantes, RJ, XI.1943 (14); MNRJ 10067, Fazenda Japuiba, Angra dos Reis, RJ, 1945 (3); MNRJ 1028, Jacarepaguá, Rio de Janeiro, RJ, 1938 (12); MNRJ 9960 to 9979, Tinguá, RJ (20); MNRJ 4718 and 9940 to 9959, Córrego Barro Branco, Rio de Janeiro, RJ, VII.1941 (41); MNRJ 6387, 9938 and 9939, Estrada Velha de Petrópolis, 1 to 2 km of Estrada Nova to Raiz da Serra, RJ, 28.IX.1942 (3); MNRJ 3815 Estrada Rio de Janeiro to Magé, km 2, RJ, I.1944 (21); MZUSP 8359, 8348 to 8358 and 10308, Rio Afluente do Rio Piassaguera, Piassaguera, SP, 30.XII.1955 (15); MNRJ 6561 and 9854 to 9866, Serra Velha, Cubatão, SP, V.1960 (16).

Diagnosis

23 to 25 plates on the lateral line, rarely 22 or 26. Crests inconspicuous on the head; spines on the head forming longitudinal series. Abdomen almost entirely naked, or covered with one to three small plates on each side and one to five plates in front of the anus. 19 to 26 teeth on the premaxillary and 18 to 25 on the dentary in adult specimens.

Description

Body depressed, depth 6.7 to 8.2 in the standard length; orbits salient. Body width of males and young females narrowing gradually from the insertion



Figs. 3 and 4, *Schizolecis guntheri* (Ribeiro), MNRJ 9882, 32.4 mm; figs. 5 and 6, *Schizolecis guntheri* (Ribeiro), MNRJ 9865, 34 mm.

of the pectoral fins to the caudal peduncle. Body width of adult females nearly constant from scapular bridge to ventral fin. Spines of head forming more or less regular series in some specimens. Inconspicuous series of spines on the interorbital region, supraoccipital and post-temporal bones. Lateral ridges on the inferior margin of snout and on either sides of the nostrils formed by 2 or 3 irregular series of spines. Rostral margin of snout provided with small spines only slightly different from those on the head; superior part of snout covered with stronger recurved spines. Ridge at the median part of snout formed by several series of spines, 2 or 3 of which running on the frontal bone. Ridge along the dorsal edge of the orbital rim becoming more prominent posteriorly; ridges on the post-temporal and supraoccipital bones not prominent; a pair of crests on the supraoccipital bone. A variable number of series of spines along the interorbital region, the median ones going on with an unpaired ridge on the supraoccipital bone, the lateral ones sometimes going on with series on the post-temporal and supraoccipital bones; 8 to 10 series of spines between the ridge of the post-temporal bone and the unpaired one of the supraoccipital; spines on the remaining parts of the head not forming regular series. Inconspicuous depressed areas on the pterotic and limits of the post-temporal bones. 12 to 18 perforations, located below the post-temporal ridge, occupying almost the whole area of the post-temporal bone; 2 or 3 small anterior perforations located above that ridge; 1 to 3 perforations on the depressed area of the post-temporal bone. Vertical diameter of the opening of the air bladder capsule $1/3$ to $1/2$ as long as the orbital diameter; its horizontal diameter equalling the distance from its anterior margin to the orbit.

Plates on the body covered with long spines, generally not forming regular series; a series of spines on either side of the depressed areas of the trunk, behind the dorsal fin; one to several series of larger spines on both sides of the caudal peduncle; first ray of pelvic fin curved, very strong and covered with recurved spines. Abdomen naked, except for 1 to 3 small lateral plates behind the coracoid region, a group of 1 to 5 platelets in front of the anus, and one pair of plates meeting each other in front of the unpaired preanal scute. Pectoral fin reaching the anterior third to the middle of the pelvic fin; pelvic fin reaching the anus or the unpaired preanal scute. Caudal fin notched.

The morphometric data are presented in figure 13, and tables 1 and 3.

Color of specimens preserved in alcohol

Color pattern variable. Ground color of body light brown; a lateral dark brown band extending from the anterior part of snout to the caudal fin. Four transverse dark bands on the upper part of the body, the first at the dorsal fin origin, the second behind the base of the dorsal fin, the third on the middle of caudal peduncle and the fourth on the base of caudal fin; the last two bands wider than the anterior ones. Head as dark as the transverse bands; small light areas on nostrils and snout. Inferior part of trunk brown-yellowish. All fins, except the caudal, with brown pigment on the rays, forming 3 to 5 more or less transversal dark bars. Scattered dark spots sometimes present on the body at the boundary between the lateral and the transverse bands; these spots may also mask the described color pattern. Females and young specimens with a brown blotch on the caudal fin base, nearly extending to the tip of median rays; sometimes a small light area with scattered small dark spots on the middle of this brown blotch; a dark brown band extending along the margin of caudal fin. Caudal blotch sometimes replaced by several interrupted transverse brown bands or dark points on the rays.

Range: Coastal rivers of Southeastern Brazil from southern São Paulo to Baía de Guanabara, state of Rio de Janeiro.

Discussion

Specimens from the southern parts of the range have more prominent orbits. Specimens from Baixada Santista (Piassaguera and Cubatão) have a less deep body and head; the differences between these and the specimens from other localities are shown in figures 3 to 6 and 13. Since no other significant differences were found, we consider them as simple variations within the species.

Genus *Pseudotothyris*, gen. n.

Type species: *Otocinclus obtusus* Ribeiro, 1911:95

Description

Body short (maximum length 35.6 mm S.L.). Orbit almost lateral, formed by three circumorbital bones, antorbital, frontal and sphenotic bones. Three large posterior plates bordering the inferior part of the head; tip of snout formed by small platelets which bear small spines on the surface smaller than those of the head; one preorbital plate. Preopercle, below the circumorbital bones, arising as an elongate and inclined plate. Upper interopercular plate present or absent. Air bladder capsule usually well developed, with a relatively large opening. Anterior region of post-temporal plate depressed, with very large perforations. Scapular bridge usually entirely exposed, or sometimes with a small median area covered by skin. Second nuchal plate large, fused to the first proximal radial; spine-locking mechanism of dorsal fin not functional; the lock absent or vestigial; tip of second proximal radial arising at the surface, identical to two plates on the sides of the first dorsal ray. Abdomen naked or partially covered with small and scattered plates. 25 to 28 vertebrae, 22 to 24 perforated plates on the lateral line. 14 branched rays in the caudal fin; adipose fin absent. Males with urogenital papilla.

Range: Coastal rivers of Southeastern Brazil, from Baía de Guanabara, Rio de Janeiro, to Joinville, Santa Catarina state.

Pseudotothyris obtusa (Ribeiro, 1911) (Figs. 7 and 8)

Otocinclus obtusos (lapsus) Ribeiro, 1911:95. Type-locality: Brasil (holotype examined).

Otocinclus obtusus: Gosline, 1945:100 (ref.), Fowler, 1954:131 (ref.).

Material studied

MZUSP 8737 and 8738 to 8743, Ribeirão Poço Grande, Fazenda Poço Grande, Juquiá, SP, 5.IX.1969 (7); MZUSP 8429 to 8436, Ribeirão Poço Grande, Fazenda Poço Grande, Juquiá, SP, 1.1950 (8); MZUSP 10401, Fazenda Poço Grande, Juquiá, SP, 7.VI.1953 (4); MZUSP 8744 to 8763 and 8764, Ribeirão da Fazenda Cantagalo, Juquiá, SP, 5.IX.1969 (30); MZUSP 10399 and 10400, Ribeirão da Fazenda Palmital, Juquiá, SP, 5.IX.1969 (2); MZUSP 2699, Hansa, Joinville, SC, 1908 (1); MNRJ 6396 and 10269 to 10277, Rio da Vila, Estrada do Mar, km 9,5, Paranaguá, PR (10); MNRJ 4068 and 10268, Estado de Santa Catarina, 1934 (2).

Diagnosis

22 to 24 plates on the lateral line; abdomen entirely covered with small plates, 2 to 4 large plates on each side and 1 or 2 in front of the anus, the latter larger than the others. Three conspicuous ridges on the head. A fan-shaped blotch on the base and a dark band at the tip of caudal fin. 18 to 24 teeth on the premaxillary and 16 to 22 on the dentary. Lock of the dorsal fin absent.

Description

Posterior region of the head, at the post-temporal bone, swollen. Orbit salient. Dorsal profile of the head slightly convex from tip of snout to supraoccipital ridge. Lock of dorsal fin absent. Body width nearly constant from the insertion of the pectoral to below the dorsal fin, narrowing gradually from this point to the caudal fin. First series of platelets covering the anterior part of lip provided with small and feeble spines; plates of the anterior part of snout bearing strong and recurved spines. A median ridge on the snout, branched into 3 or 4 series of small spines. A lateral broad ridge on each side of the snout becoming inconspicuous posteriorly. A lateral broad ridge from the inferior part of snout reaching each nostril and continuing along the dorsal edge of orbital rim, becoming less prominent along the post-temporal bone. Supraoccipital with high crests: an anterior pair short and an unpaired one of median length, with a depression between them. Several series of spines at the interorbital region, the series behind the nostrils converging toward the orbital ridge, the remaining series converging toward the pair of crests of the supraoccipital bone. Spines on the lateral region of the post-temporal bone forming inconspicuous series; 10 to 15 series of spines between the ridge of the post-temporal bone and the unpaired one of the supraoccipital; median series converging toward the tip of the unpaired ridge; remaining series of the posterior part of head extending over the body. Opening of the air bladder capsule nearly $1/2$ to $1/3$ as wide as the orbital diameter; 3 or 4 series of spines on the inferior area of the capsule; interorbital region, concave; pterotic and region posterior to the post-temporal bone deeply depressed.

40 to 50 longitudinal series of spines on the scapular bridge, which is entirely exposed; 20 to 30 posteriorly on each side of the caudal peduncle; 2 to 4 large plates on each side of the abdomen; 1 or 2 in front of the anus; small scattered plates on the median area. Young specimens with the abdomen naked at the median area. Caudal fin notched; pectoral fin extending to the middle or beyond the pelvic fin; pelvic fin reaching the scute in front of the anus.

The morphometric data are presented in figures 11 and 12, and tables 2 and 4.

Color of specimens preserved in formalin

Ground color yellow-grey. A lateral black band from the anterior region of the snout, along the middle of body, reaching a fan-shaped brown blotch at the base of the caudal fin, and covering the basal part of the caudal fin. This band, a little wider than the orbital diameter, and more conspicuous on the head, becomes gradually inconspicuous and nearly 2 or 3 times wider than the orbital diameter at the anterior part of the trunk, narrowing gradually on the caudal peduncle. Dorsum with 4 transversal black bands: the first at the anterior part of the dorsal fin, the second at the base of dorsal fin, the third at the middle of the caudal peduncle, and the last one anterior to the caudal fin. The first and second bands are sometimes incons-

picuous. First ray of the pectoral fin brown, the remaining ones always hyaline. Pelvic fins hyaline, the first ray dark; dorsal and anal fins rays with several dark dots; base of caudal fin with a dark blotch; tip with a submarginal transverse line. Upper parts of body and head yellow-grey, darker at the posterior region of the head.

Range: Coastal rivers, from São Paulo to Santa Catarina states.

***Pseudotothyris janeirensis*, sp. n.**

(Figs. 9 and 10)

Holotype MNRJ 10278, Rio dos Macacos, Represa Engenho da Serra, Paulo de Frontin, RJ, 29.VI.1946. Paratypes MNRJ 4707 and 10279 to 10297, same data of holotype (134); MNRJ 5925, Rio da Taquara, Caxias, RJ, 1950 (1); MNRJ 10066, Tinguá, RJ (1).

Diagnosis

23 to 24 plates on the lateral line. Ridges and depressions on the head inconspicuous. Abdomen largely naked, with 2 or 3 plates on each side, 1 to 3 in front of the anus. A dark nearly round blotch on the base and a dark band at the tip of the caudal fin. 20 to 28 teeth on the premaxillary; 21 to 27 on the dentary. Lock of the dorsal fin ray present, vestigial.

Description

No conspicuous ridges on the head. Post-temporal and supraoccipital ridges inconspicuous in the adults, other ridges inconspicuous or absent; young specimens with low ridges and conspicuous series of spines on the interorbital region and posterior part of the head. Remaining spines of the head not forming regular series in the adults. Plates of the anterior part of the snout bearing spines slightly stronger than those on the head. Orbital rim not prominent. Opening of the air bladder capsule small, its vertical diameter nearly 1/2 as long as the orbital diameter. Pterotic bone with an inconspicuous depression; post-temporal bone with a conspicuous but not very deep depression. Body width nearly constant from the insertion of pectoral to below the dorsal fin, narrowing gradually toward the caudal fin. Lock of the dorsal fin present, sometimes vestigial. Scapular bridge usually entirely exposed and covered with small spines, sometimes with a pair of foramina at the median region. Abdomen almost entirely naked, only with 2 or 3 plates on each side, and 1 to 3 plates in front of the anus.

The morphometric data are presented in figures 11 and 12, and tables 2 and 4.

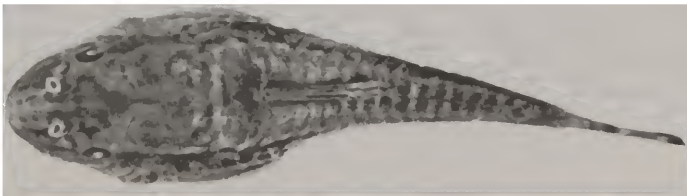
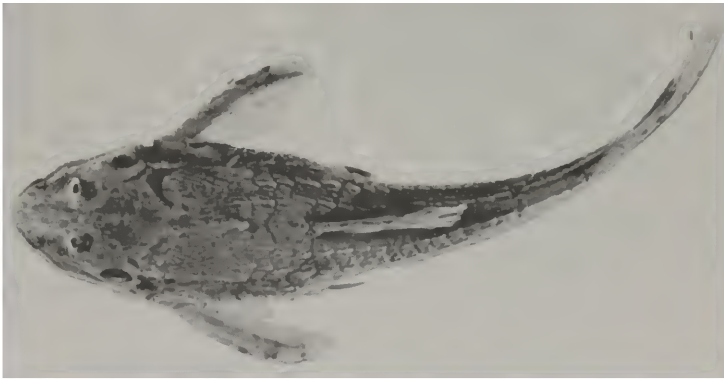
Color of specimens preserved in alcohol

Ground color brown. A lateral dark brown band of variable width very conspicuous on the head, and less conspicuous on the body, extending from the tip of snout along the lower edge of orbit to the end of caudal peduncle. Upper part of the head darker than dorsum of trunk; median part of snout very light. Dorsal and pectoral fins regularly stained with black. A round dark brown blotch on the base and a transverse dark submarginal band on the caudal fin.

Discussion

The specimens examined are faintly colored; it is difficult to say whether the transverse dark bars on the dorsum are present or not in this species.

Range: Baixada Fluminense, Rio de Janeiro state.



Figs. 7 and 8, *Pseudotothyris obtusa* (Ribeiro), MZUSP 8435, 26.7 mm; figs. 9 and 10, *Pseudotothyris janeirensis*, sp. n., MNRJ 10278, 34.6 mm.

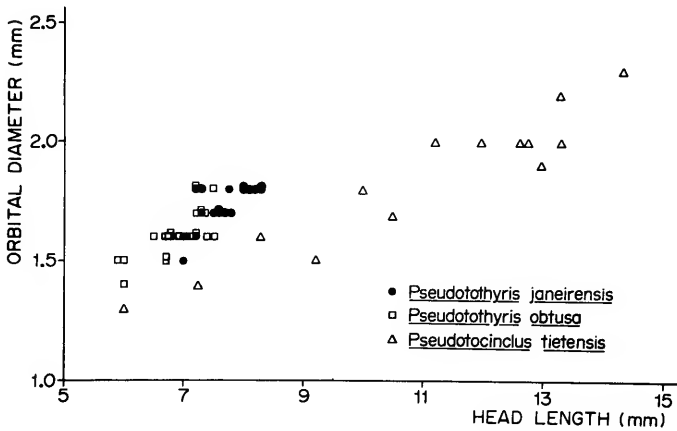
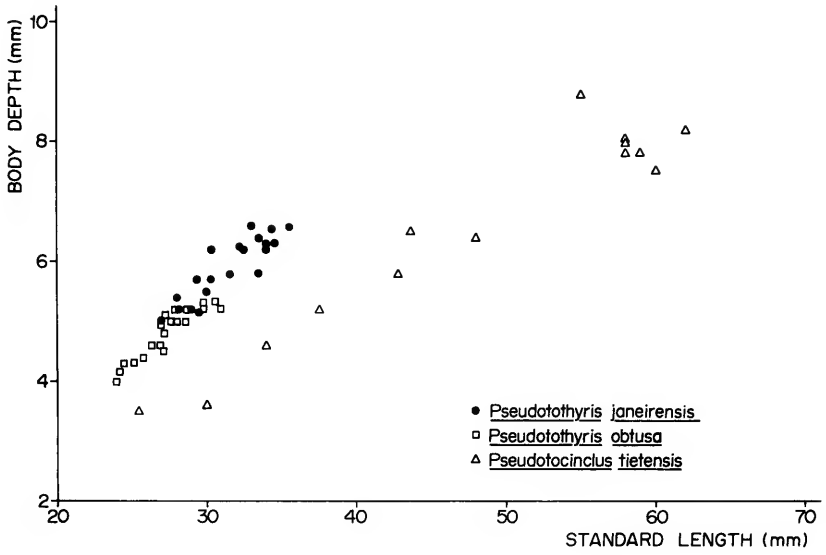


Fig. 11, *Pseudotocinclus tietensis*, *Pseudotothyris obtusa* and *P. janeirensis*. Linear regression of body depth on standard length and orbital diameter on head length.

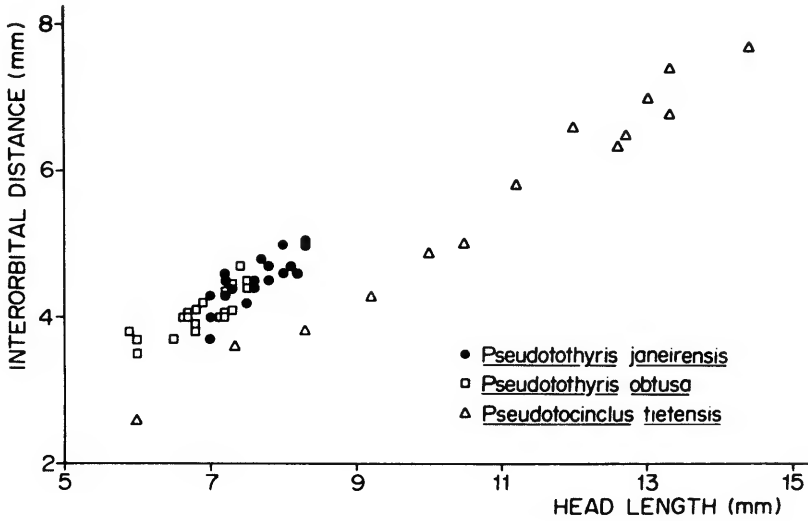


Fig. 12, *Pseudotocinclus tietensis*, *Pseudotothyris obtusa* and *P. janeirensis*. Linear regression of interorbital distance on head length.

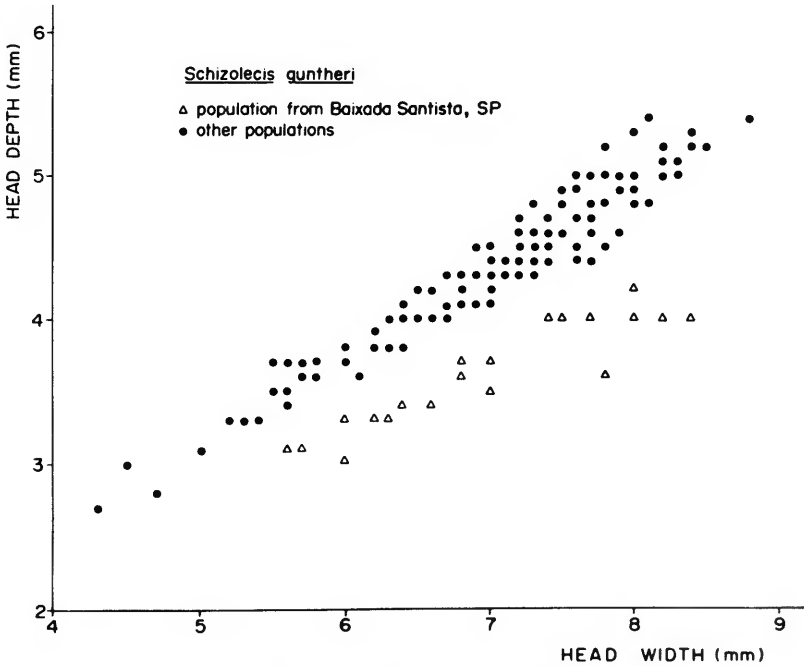


Fig. 13, *Schizolecis guntheri*. Linear regression of head depth on head width comparing the populations from Baixada Santista (Piassaguera and Cubatão) with the other populations.

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TABLE I

Linear regression analysis of morphometric characters

Pseudotocinclus tietensis

		N	Lo	Hi	\bar{x}	a	b	r ²	t(r)	P(t)
1.	S.L.	14	25.7	62.0	47.97	—	—	—	—	—
2.	T	14	19.7	47.6	37.30	—	—	—	—	—
3.	BD	14	3.5	8.8	6.55	0.1372	-0.0357	0.9286	12.497	0.0001
4.	PD	14	11.0	26.3	20.60	0.4077	1.0349	0.9846	27.656	0.0001
5.	CPD	14	2.3	4.2	3.39	0.0563	0.6911	0.9372	13.385	0.0001
6.	HL	14	6.0	14.4	10.98	0.2434	1.9045	0.9492	14.971	0.0001
7.	HW	14	4.8	13.6	10.13	1.5669	-0.1276	0.9466	14.591	0.0001
8.	ID	14	2.6	7.7	5.60	0.6172	-1.1807	0.9795	23.950	0.0001
9.	SN	14	4.0	10.8	8.05	0.8564	-1.3519	0.9826	26.061	0.0001

Schizolecis guntheri

		N	Lo	Hi	\bar{x}	a	b	r ²	t(r)	P(t)
1.	SL	146	18.4	37.7	30.08	—	—	—	—	—
2.	T	146	15.9	28.4	22.51	—	—	—	—	—
3.	BD	146	2.6	6.8	4.21	0.1374	0.0778	0.7430	20.403	0.0001
4.	PD	146	8.4	17.0	13.53	0.4343	0.4665	0.9699	68.119	0.0001
5.	CPD	146	1.6	3.3	2.49	0.0685	0.4374	0.7917	23.398	0.0001
6.	HL	146	5.0	9.7	7.57	0.2524	1.8888	0.8668	33.588	0.0001
7.	HW	146	4.3	8.8	7.09	1.1878	2.0923	0.7571	21.192	0.0001
8.	ID	146	2.4	4.7	3.86	0.4958	0.1079	0.8187	25.504	0.0001
9.	SN	146	3.2	6.8	5.40	0.7856	-0.5486	0.9354	45.658	0.0001

First three measurements after trunk length (3-5), x = standard length and y = measurement listed. Next one (6), x = trunk and y = head length. Next three after head length (7-9), x = head length and y = measurement listed.

TABLE II

Linear regression analysis of morphometric characters

Pseudotothyris obtusa

		N	Lo	Hi	\bar{x}	a	b	r^2	t(r)	P(t)
1.	SL	19	24.0	31.0	27.20	—	—	—	—	—
2.	T	19	17.5	23.5	20.30	—	—	—	—	—
3.	BD	19	4.0	5.3	4.78	0.1914	-0.4227	0.8251	8.954	0.0001
4.	PD	19	11.2	14.4	12.69	0.4860	-0.5263	0.9091	13.042	0.0001
5.	CPD	19	2.0	2.7	2.37	0.0726	0.3976	0.4915	4.054	0.0008
6.	HL	19	5.9	7.5	6.85	0.2502	1.7702	0.6080	5.135	0.0001
7.	HW	19	6.3	7.9	7.18	0.9258	2.7549	0.6043	5.102	0.0001
8.	ID	19	3.5	4.5	4.02	0.9699	0.4452	0.6901	6.153	0.0001
9.	SN	19	4.0	5.3	4.70	0.7580	-0.4945	0.9549	18.971	0.0001

Pseudotothyris janeirensis

		N	Lo	Hi	\bar{x}	a	b	r^2	t(r)	P(t)
1.	SL	20	21.0	35.6	31.30	—	—	—	—	—
2.	T	20	20.0	27.3	24.04	—	—	—	—	—
3.	BD	20	5.0	6.6	5.92	0.1328	1.7622	0.7136	6.696	0.0001
4.	PD	20	12.2	16.3	14.49	0.3141	4.6619	0.8373	9.623	0.0001
5.	CPD	20	2.4	3.2	2.75	0.0470	1.2821	0.6553	5.849	0.0001
6.	HL	20	7.0	8.3	7.60	0.1880	3.0824	0.8019	8.536	0.0001
7.	HW	20	7.5	10.2	8.88	1.2419	1.5278	0.8078	8.703	0.0001
8.	ID	20	3.2	5.0	4.45	0.6840	-0.7525	0.4781	4.061	0.0007
9.	SN	20	4.8	6.0	5.35	0.7666	-0.4752	0.8997	12.703	0.0001

First three measurements after trunk length (3-5), x = standard length and y = measurement listed. Next one (6), x = trunk and y = head length. Next three after head length (7-9), x = head length and y = measurement listed.

TABLE III
Morphometric characters expressed as percentages

		<i>Pseudotoцинclus tietensis</i>				<i>Schizolecis guntheri</i>					
		N	Range low high		\bar{x}	SD	N	Range low high		\bar{x}	SD
1.	SL	14	25.7	62.0	47.97	—	146	18.4	37.7	30.08	—
2.	BD	14	3.5	8.8	6.55	1.75926	146	2.6	6.8	4.21	0.65128
3.	PD	14	11.0	26.3	20.60	5.07588	146	8.4	17.0	13.53	1.80139
4.	CPD	14	2.3	4.2	3.39	0.71840	146	1.6	3.3	2.49	0.31458
5.	HL	14	6.0	14.4	10.98	2.52825	146	5.0	9.7	7.57	0.87476
6.	SN	14	4.0	10.8	8.05	2.18446	146	3.2	6.8	5.40	0.71055
7.	OD	14	1.3	2.3	1.03	0.29770	146	1.0	1.9	1.56	0.16628
8.	ID	14	2.6	7.7	5.60	1.57675	146	2.4	4.7	3.86	0.47935
9.	HD	14	3.4	9.0	6.87	1.88574	146	2.7	5.4	4.41	0.54584
10.	HW	14	4.8	13.6	10.13	2.83321	146	4.3	8.8	7.09	0.88904

First four measurements after standard length (2-5) are listed as percentages of standard length. Last five measurements (6-10) are listed as percentages of head length.

TABLE IV
Morphometric characters expressed as percentages

		<i>Pseudotothyris obtusa</i>				<i>Pseudotothyris janeirensis</i>					
		N	Range low high		\bar{x}	SD	N	Range low high		\bar{x}	SD
1.	SL	19	24.0	31.0	27.20	—	20	21.0	35.6	31.30	—
2.	BD	19	4.0	5.3	4.78	0.40587	20	5.0	6.6	5.92	0.52274
3.	PD	19	11.2	14.4	12.69	0.98176	20	12.2	16.3	14.49	1.14131
4.	CPD	19	2.0	2.7	2.37	0.19956	20	2.4	3.2	2.75	0.19324
5.	HL	19	5.9	7.5	6.85	0.48804	20	7.0	8.3	7.6	0.44423
6.	SL	19	4.0	5.3	4.70	0.37859	20	4.8	6.0	5.35	0.35905
7.	OD	19	1.4	1.8	1.60	0.12259	20	1.5	2.0	1.73	0.10894
8.	ID	19	3.5	4.5	4.02	0.26157	20	3.2	5.0	4.45	0.43949
9.	HD	19	4.4	5.5	5.05	0.31678	20	5.0	6.8	6.12	0.53861
10.	HW	19	6.3	7.9	7.18	0.48334	20	7.5	10.2	8.88	0.72227

First four measurements after standard length (2-5) are listed as percentages of standard length. Last five measurements (6-10) are listed as percentages of head length.

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