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Schroederichthys saurisqualus sp. nov. (CARCHARHINIFORMES, SCYLIORHINIDAE), A NEW SPECIES OF CATSHARK FROM SOUTHERN BRAZIL, WITH FURTHER DATA ON *Schroederichthys* SPECIES

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Schroederichthys saurisqualus sp. nov. is the fifth species of the genus *Schroederichthys* and the third in Brazilian waters. Morphologically similar to *Schroederichthys tenuis*, the new species is distinguished by longer size at maturity, maximum length, interdorsal space, pelvic-anal space, greater number of precaudal and diplospondylous vertebrae, morphology of dermal denticles, and color pattern. New data about the other species of the genus are also noted, including a new identification key and the first description of the adult of *S. tenuis*.

Schroederichthys saurisqualus sp. nov. é a quinta espécie do gênero *Schroederichthys* e a terceira em águas brasileiras. Morfologicamente similar a *Schroederichthys tenuis*, a nova espécie é distiguida pelo maior tamanho de maturidade, comprimento máximo, espaço interdorsal, espaço pélvico-anal, maior número de vértebras pré-caudais e diplospôndilas, morfologia dos dentículos dermais e padrão do colorido. Novos dados quanto as demais espécies do gênero também são fornecidos, incluindo uma nova chave de identificação e a primeira descrição do adulto de *S. tenuis*.

Catsharks of the genus *Schroederichthys* are characterized by having: short and rounded snouts; no nasoral grooves; anterior nasal flaps small and not reaching mouth; labial furrows present on both jaws, short to moderately long, not reaching upper symphysis; dorsal fins equally large at midbases; caudal fin short, without enlarged denticles on dorsal margin; supraorbital crests present on cranium; colour pattern of spots and saddles (Compagno, 1984b, 1988a). This genus includes four previously described species distributed only on Central and South American coasts: *S. tenuis* Springer (1966) (northern Brazil to Suriname), *S. maculatus* Springer (1966) (Honduras and Nicaragua), *S. bivius* (Smith, 1838) (Pacific and Atlantic coasts of southern South America, central Chile to southern Brazil), and *S. chilensis* (Guichenot, 1848) (southern Chile to Peru) (Springer, 1966, 1979; Gosztonyi, 1973; Menni *et al*., 1979; Uyeno & Sasaki, 1983; Compagno, 1984b, 1988a; Matallanas *et al*., 1993; Gomes & Carvalho, 1995; Gadig *et al.*, 1996; Soto, 1997).

In 1988, numerous unusual catsharks were captured off State of Rio Grande do Sul, southern Brazil, by experimental fishing (baited trap). A small part of this material was placed in the Centro de Estudos Bio-ecológicos Costeiros, Limnológicos e Marinhos (CEBECLIM) and later transferred to Museu Oceanográfico do Vale do Itajaí (MOVI). In 1993, a revision of the fish collection of this museum revealed a new species described herein.

Materials and Methods

Measurements were taken according to Compagno (1984a) for the specimens and Gomes & Carvalho (1995) for the egg capsules (except the diameter of the tendrils), and converted to percent of total length (TL). Vertebral counts were made according to Springer & Garrick (1964) and photographs were taken through one ocular of a stereoscopic microscope (Olympus SZPT with U-PMTVC camera) and software Image-Pro® Plus 3.0. Terminology for anatomical structures of the claspers follows Compagno (1988a). Institutional acronyms: BMNH - British Museum, Natural History (London, England); CEPNOR - Centro de Pesquisa e Extensão Pesqueira do Norte (Belém, PA, Brazil); MCP - Museu de Ciências e Tecnologia da Pontifícia Universidade Católica do Rio Grande do Sul (Porto Alegre, RS, Brazil); MOVI - Museu Oceanográfico do Vale do Itajaí (Itajaí, SC, Brazil); MZUSP - Museu de Zoologia da Universidade de São Paulo (São Paulo, SP, Brazil); NSMT - National Science Museum of Tokyo (Tokyo, Japan); UERJ - Universidade do Estado do Rio de Janeiro (Rio de Janeiro, RJ, Brazil); UFPB - Universidade Federal da Paraíba (João Pessoa,

PB, Brazil); USNM - National Museum of Natural History (Washington, DC, United States).

***Schroederichthys saurisqualus* sp. nov.**
(lizard catshark / tubarão-lagartixa)
Figures 1-10, Tables 1-5

HOLOTYPE – MOVI 05949, mature male (582 mm TL), 27º30'16"S, 047º36'03"W, 122-130 m depth, off Santa Catarina State, Brazil, 15 Nov. 1996, baited trap, R/V "Diadorim".

PARATYPES – MOVI 10199, mature female (692 mm TL), 33º43'20"S, 051º26'40"W, 280 m depth, off Rio Grande do Sul State, Brazil, 27 Aug. 1994, meshed net, F/V "Margus II". Six specimens, all captured with baited trap by F/V "Icanhema" off Rio Grande do Sul State, Brazil: MOVI 00160, immature male (328 mm TL), 30º00'S, 048º03'W, 370 m depth, 3 Apr. 1988; MOVI 00095, immature male (352 mm TL), MOVI 00098, embryo male (96.5 mm TL), MOVI 00099, egg capsule (63 mm TL) with embryo female (92 mm TL) and MZUSP 52903 (formerly MOVI 00094), immature male (404 mm TL), 30º14'S, 048º03'W, 430 m depth, 4 Apr. 1988; MCP 21788 (formerly MOVI 00096), immature male (326 mm TL), 30º33'S, 048º23'W, 350 m depth, 5 Apr. 1988.

OTHER MATERIAL EXAMINED – MOVI 06246 / 06247, photographs of two mature males (588 and 578 mm TL, respectively), off Paraná State, Brazil, 1996; MOVI 04907, egg capsule (57 mm TL), 30º06'26"S, 047º53'35"W, 425-435 m depth, off Rio Grande do Sul State, Brazil, 21 Apr. 1995; MOVI 04908, egg capsule (64 mm TL) with embryo (36 mm TL), sex not determined, 30º06'26"S, 047º53'35"W, 425-435 m depth, off Rio Grande do Sul State, Brazil, 21 Apr. 1995; MOVI 10163, egg capsule (65 mm TL), 30º57'26"S, 049º16'42"W, 280-300 m depth, off Rio Grande do Sul State, Brazil, 27 Aug. 1997; MOVI 10164, egg capsule (56 mm TL), 31º03'57"S, 049º24'37"W, 300-320 m depth, off Rio Grande do Sul State, Brazil, 22 Aug. 1997.

COMPARATIVE MATERIAL – *Schroederichthys tenuis* - USNM 188052 (holotype), immature male (230 mm TL), 01º49'N, 046º48'W, 410 m depth, off the mouth of the Amazon River, Brazil, 17 Nov. 1957; USNM 188053 (paratype), immature male (180 mm TL), taken with the holotype; UERJ 1106, mature male (406 mm TL), 450 m depth, off Amapá State, Brazil, Nov. 1989; Eleven specimens, all captured by R/V "Alte. Paulo Moreira" off Amapá and Pará States, northern Brazil, and stored in CEPNOR (uncat.): immature female (232 mm TL), 02º55'N, 047º53'W, 474 m depth, 19 Nov. 1996; immature male (260 mm TL), 319 m depth, 06 May 1997; immature female (256 mm TL), 01º30'N, 046º42'W, 354 m depth, 12 Dec. 1996; immature female (177 mm TL); immature male (179 mm TL) and mature male (447 mm TL), between 03º09'24"N / 03º06'53"N and 048º02'29"W / 048º00'58"W, 457 m depth, 19 Nov. 1996; mature male (466 mm TL) and mature male (468 mm TL), 03º09'24"N, 048º02'29"W, 457 m depth, 19 Nov. 1996; immature male (336 mm TL) and mature male (428 mm TL), 103 m depth; ovigerous mature female (426 mm TL), 03º18'10"N, 048º16'46"W, 341 m depth, 18 Nov. 1996. *Schroederichthys maculatus* - USNM 185556 (holotype), mature male (328 mm TL), 16º39'N, 082º29'W, from about 410 m depth, NNW of Cape Gracias a Dios, Honduras, 21 Aug. 1957; MOVI 16661, mature male (292 mm TL) and MOVI 16662, ovigerous mature female (296 mm TL), sta. 3622, 16º01'N, 081º08'W, 274 m depth, off Rosalind Bank, western Caribbean Sea, F/V "Oregon". *Schroederichthys bivius* - MOVI 00116, mature male (702 mm TL), 33º10'S, 051º55'W, 56 m depth, off Rio Grande do Sul State, Brazil, Jul. 1988; MOVI 01384, ovigerous mature female (539 mm TL), 10 km off Mar del Plata, Argentina, 8 Aug. 1982; MOVI 01385 / 01386 / 01387, egg capsules (64, 62 and undet. mm TL, respectively), Puerto Deseado, Provincia de Santa Cruz, Argentina, 1986; MOVI 03597, immature male (140 mm TL), Puerto Madryn, Provincia de Chubut, Argentina, 24 Jan. 1995. *Schroederichthys*

Figure 1. *Schroederichthys saurisqualus* sp. nov., MOVI 05949, holotype, 578 mm, mature male. Drawing by author.

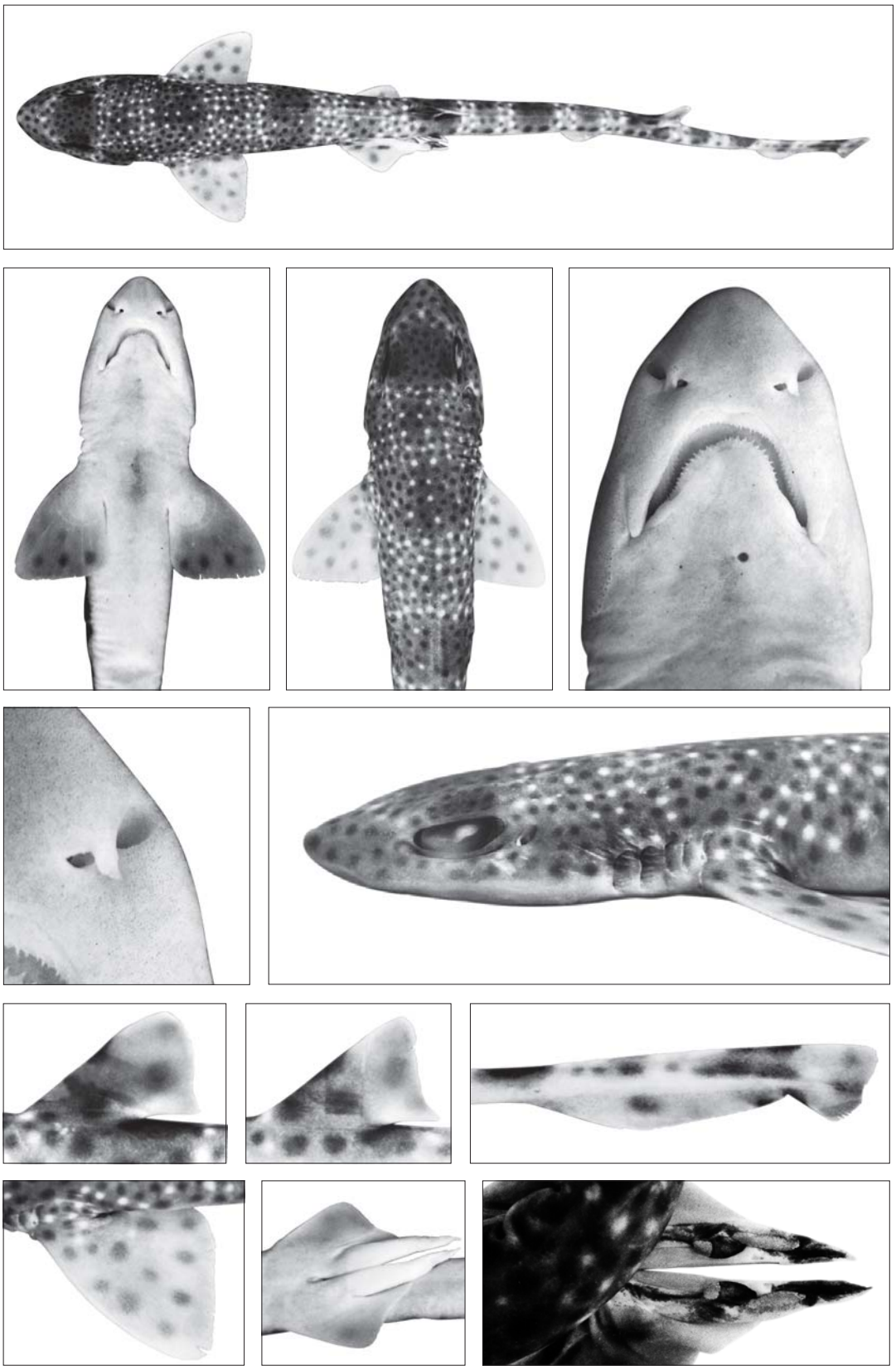

Figure 2. *Schroederichthys saurisqualus* sp. nov., MOVI 05949, holotype, 578 mm, mature male. Left to right and upper to lower: dorsal view, anterior ventral view, anterior dorsal view, ventral view of head, nostril, lateral view of head, first dorsal fin, second dorsal fin, caudal fin, dorsal view of pectoral fin, ventral view of pelvic fins with claspers, and dorsal view of claspers.

chilensis - MOVI 03942, ovigerous mature female (518 mm TL) and MOVI 03943, mature male (533 mm TL), 33º35'S, 2 km off San Antonio, Chile, 7 Nov. 1991.

DIAGNOSIS – *S. saurisqualus* has been confused with *S. tenuis*. However, they are distinguished by the size at maturity, 578 vs 428 mm and 692 vs 370 mm, males and females respectively; maximum total length, 588 vs 468 mm and 692 vs 426 mm, males and females respectively; colour pattern, presence vs absence of white spots; longer interdorsal space, 20.7-22.3% vs 17.2-20.6%; longer pelvic-anal space, 19.2-20.8% vs 14.7-19.4%; dermal denticles morphology, rounded vs pointed; and greater number of precaudal vertebrae, 120-123 (n=4) vs 108-113 (n=8), respectively. The new species is easily distinguished from *S. bivius* by the number of saddles in the interdorsal space, 4 vs 2; longer interdorsal space, 20.7-22.3% vs 16.1-17.1% TL; longer pelvic-anal space, 19.2-20.8% vs 14.5-15% TL; longer anal-caudal space, 16.1-18.8% vs 11.5-13% TL; dermal denticles morphology, rounded vs pointed; greater number of precaudal and diplospondylous vertebrae, 120-123 (n=4) vs 97-98 (n=2) and 34-37 (n=4) vs 33 (n=2), respectively; and first dorsal fin origin behind vertical from posterior insertion of pelvic fins in *S. saurisqualus* and slightly anterior in *S. bivius*. The two other species, *S. maculatus* and *S. chilensis*, are not closely related to new species herein described, the first is a dwarf form with whitish color pattern and the second has a shorter interdorsal and dorsal-caudal space (Fig. 3).

DESCRIPTION – Body extremely slender, cylindrical; head short, depressed; tail long; anterior nasal flaps enlarged; eyes dorsolateral; subocular ridges and labial furrows pronounced; fifth gill slits above pectoral fins; second dorsal fin slightly larger than first; first dorsal fin origin behind vertical from posterior insertion of pelvic fins; second dorsal fin origin over vertical from posterior insertion of anal fin; caudal fin short; supraorbital crests present on cranium; dermal denticles of the lateral trunk with monocuspid platelike crown attached by a pedicel to a basal plate imbedded in the dermal tissue (Fig. 4); teeth in upper and lower jaws similar and multicuspid (Fig. 5); clasper short and robust, hooks absent, cover rhipidion vestigial and exorhipidion flat and lacking free posterior end (Fig. 6); color (based on holotype) dark grey (fresh) or dark brown (fixed) with small, dark and luminous (fresh) or white (fixed) spots, 3 to 5 mm diameter on trunk and 4 to 6 mm on pectoral, pelvic and dorsal fins; claspers bicolor; ten dusky dorsolateral saddles, three between pectoral and first dorsal fins, four between dorsal fins and three between second dorsal fin and caudal peduncle. Body proportions, in percentage of total length, are given in Table 1.

SEXUAL DIMORPHISM – Both mouth and tooth morphology have secondary sexual dimorphism (Fig. 7). The same characters mentioned by Gosztonyi (1973) for *S. bivius* are also noted in lesser degree in *S. saurisqualus*. Mouth dimorphism is characterized by a much longer mouth in males; mature male teeth are much larger than those of females, and they are tricuspid in the symphisial region and unicuspid in the remainder of the jaws, with smooth and bulbous bases; mature female teeth are pentacuspid in the symphisial region and tricuspid in the remainder of the jaw, with grooves in their bases; juvenile males have pentacuspidate dentition.

BIOLOGICAL AND ECOLOGICAL NOTES – Males range in size from 326 to 582 mm (n=7), and are still immature at 404 mm TL. The only available female is an ovigerous mature specimen, 692 mm TL. Organisms taken near *S. saurisqualus* collecting sites indicate the species inhabits a deep-reef habitat on the shelf break, generally found in depths greater than 250 m (122-435 m), with deepwater gorgonians, hard corals, tube sponges, crinoids, ophiuroids, and a great number of the sympatric scyliorhinid shark *Scyliorhinus haeckelii* (Miranda-Ribeiro, 1907).

REPRODUCTION – An ovigerous female and six egg capsules (three with embryos) collected in gorgonians, confirm that *S. saurisqualus* is an oviparous species with one egg per oviduct laid at a time.

EGG CAPSULE – The egg capsule of *S. saurisqualus* is grayish olive (fresh) or brownish (fixed), with filamentous superficial texture (Figs. 8, 9, and 10). General morphometric data about egg capsules of all species of *Schroederichthys* are available in Table 5.

DISTRIBUTION – Eight specimens and 6 egg capsules were collected in 8 stations off Rio Grande do Sul and Santa Catarina States, southern Brazil (27º30'16"S to 33º43'20"S and 047º36'03"W to 051º26'40"W), between the depths of 122 and 435 m (Fig. 11). In addition, a photograph of two mature males taken off Paraná State, establishing the northernmost record. The species is probably endemic of the southern Brazilian waters.

ETYMOLOGY – From the vernacular name, lizard catshark, *saurus* (lizard) and *squalus* (shark).

HISTORIC AND INTERSPECIFIC COMPARISON OF THE *SCHROEDERICHTHYS* SPECIES

Schroederichthys bivius (narrowmouthed catshark / tubarão-lagarto). Smith (1838) described *Scyllium bivium* from a stuffed dried female, 690 mm TL (BMNH

1857.10.20, holotype), putatively collected off Cape of Good Hope, after two *nomen nudum* citations of the same species. The uncertain story of the holotype and type locality was related by Springer (1966, 1979), and *S. bivius* is, in fact, restricted to the southern South America. The type locality (Cape of Good Hope, South Africa), evidently a mistake; Springer (1979) suggested it might be Cape Horn, Tierra del Fuego, South America.

Stomach contents of *S. bivius* (Menni *et al.*, 1979; Matallanas *et al.*, 1993), indicate a shallow benthic habitat on continental shelves in cool or moderately cool waters on the Humboldt and Malvinas currents. Is usually found in depths less than 130 m (28-179 m) (Menni *et al.*, 1979), although Ojeda (1983) reported its bathymetrical distribution extended to 359 m in extreme southern Chilean cold waters, where it is seemingly sympatric with *S. chilensis*. Possibly, *S. bivius* reaches a larger maximum size [820 mm TL for males (n=923) and 700 mm for females (n=420) (Menni *et al.*, 1979)] than other species of the genus.

The distribution of this species is southwest Atlantic, southern Brazil (33º10'S) (Soto, 1997) to Beagle Channel

Figure 3. Ovigerous mature females of *Schroederichthys* species. Left to right: *S. chilensis* (MOVI 03942, 518 mm), *S. bivius* (MOVI 01384, 539 mm), *S. saurisqualus* sp. nov. (MOVI 10199, paratype, 692 mm), *S. tenuis* (CEPNOR uncat., 426 mm), and *S. maculatus* (MOVI 16662, 299 mm).

Table 1. Measurements (% of TL) of the *Schroederichthys* species.

Species	*S. saurisqualus* sp. nov.					*S. tenuis*							*S. maculatus*				*S. bivius*			*S. chilensis*	
Status	Holotype	Paratypes				Holotype	Paratype						Holotype								
Sex	male	female	males	female	male	male	male	male	males	female	males	females	male	males and females	male	female	female	male	male	female	male
Development stage	mature	mature oviger.	immature	embryo	embryo	immat.	immat.	mature*	mature	mature	immat.	immat.	mature	mature and immature	mature	mature oviger.	mature oviger.	mature	embryo	mature oviger.	mature
Number of specimens	1	1	4	1	1	1	1	1	4	1	3	3	1	49	1	1	1	1	1	1	1
Total length (TL) (mm)	582	692	326-404	92	96.5	230	180	406	428-468	426	179-336	177-256	328	145-342	292	299	539	702	141	518	533
Weight (g)	230	455	30-40	-	-	-	-	-	120-130	130	7-45	6-15	-	-	30	45	420	540**	-	395	555
Collection number.	MOVI 05949	MOVI 10199	MCP 21788; MOVI 00095, 00160; MZUSP 52903	MOVI 00099	MOVI 00098	USNM 188052	USNM 188053	UERJ 1106	CEPNOR uncat.	CEPNOR uncat.	CEPNOR uncat.	CEPNOR uncat.	USNM 185556	USNM 187684	MOVI 16661	MOVI 16662	MOVI 01384	MOVI 00116	MOVI 03597	MOVI 03942	MOVI 03943
Morphometrics			mean (S)	range					range		range	range		range							
Precaudal length (PRC)	82.2	82.4	78.6 (0.6)	77.9-79.3	77.5	77.7	79.4	79.1	80.0	81.2-83.3	80.8	78.8-81.5	79.7-81.9	80.8	79.3-83.5	81.8	81.6	76.4	72.6	75.9	81.7	85.9
Prenarial length (PRN)	2.1	2.7	3.0 (0.3)	2.7-3.4	4.5	4.2	3.3	3.0	2.5	2.5-2.8	3.2	2.5-3.1	2.5-3.0	3.4	2.4-3.9	3.1	3.0	3.3	2.8	3.0	3.3	3.4
Preoral length (POR)	3.6	3.5	3.9 (0.3)	3.7-4.3	5.9	5.8	3.9	3.9	3.7	3.4-3.5	3.9	3.6-3.9	3.9-4.5	4.3	3.1-4.7	4.1	4.0	4.3	3.4	4.4	3.9	3.9
Preorbital length (POB)	4.5	4.0	4.3 (0.2)	4-4.5	6.7	6.9	4.4	4.4	4.7	4.3-4.9	4.5	3.9-4.8	4.3-4.5	4.6	3.7-5.2	4.5	4.7	4.1	5.7	5.1	5.4	5.6
Prespiracular length (PSP)	8.5	7.4	8.0 (0.2)	7.7-8.2	12.1	13.0	9.7	-	8.9	8.7-9.3	8.7	7.8-8.6	7.8-8.2	9.2	-	8.4	8.0	9.1	9.4	9.5	8.5	9.6
Prebranchial length (PGI)	12.1	10.5	10.9 (0.4)	10.4-11.3	16.1	15.5	11.1	10.4	11.8	12.1-13.2	11.5	10.6-11.8	10.2-11.3	13.1	9.9-13.1	11.8	11.5	13.2	14.7	13.3	14.1	16.7
Head length (HDL)	15.2	13.9	13.9 (0.4)	13.4-14.3	18.2	18.7	14.4	13.9	15.0	15.9-16.6	15.0	13.1-15.2	12.9-14.8	16.2	12.9-17.0	15.2	14.9	16.9	18.2	17.0	18.5	21.6
Prepectoral length (PP1)	14.7	13.2	12.9 (0.5)	12.4-13.4	17.1	18.2	13.3	13.0	14.0	14.1-15.2	13.8	12.3-14.3	12.5-13.7	15.2	12.0-16.3	14.7	14.4	15.0	16.1	15.6	16.8	19.3
Prepelvic length (PP2)	32.5	32.2	29.6 (0.1)	29.5-29.8	34.5	35.9	30.0	29.4	-	32.0-34.0	32.6	30.0-32.4	29.9-30.2	30.5	28.9-33.6	30.8	30.8	34.1	34.2	33.0	37.3	40.2
Snout-vent length (SVL)	35.5	33.4	31.7 (0.3)	31.3-32	34.9	36.9	30.9	30.5	-	34.0-38.0	33.3	27.7-33.6	31.0-32.0	31.7	28.7-36.4	32.9	32.6	36.7	37.5	35.0	40.0	43.3
Preanal length (PAL)	56.6	57.5	53.1 (0.9)	52.4-54.5	53.3	55.4	52.2	49.4	54.4	54.8-56.8	56.3	49.7-53.9	48.6-51.3	52.4	49.4-54.5	51.4	50.5	55.1	44.4	51.3	56.4	62.5
Pre-first dorsal length (PD1)	39.1	39.3	35.4 (0.6)	34.9-36.2	38.4	39.7	35.6	34.4	38.4	38.8-40.1	40.4	35.2-38.1	35.0-36.2	38.4	34.7-40.8	37.3	39.1	41.0	39.6	36.9	41.5	43.9
Pre-second dorsal length (PD2)	64.5	63.7	60.8 (0.8)	59.8-61.4	59.8	61.0	59.2	57.2	62.8	63.1-64.2	62.2	58.1-61.6	57.3-59.0	61.3	58.3-62.6	60.3	60.5	63.3	62.3	58.7	62.5	67.2
Interdorsal space (IDS)	21.5	20.7	21.6 (0.6)	21-22.3	16.8	18.9	19.4	18.3	20.0	18.7-20.6	17.4	18.4-18.8	17.2-19.2	19.8	17.2-20.0	17.8	16.2	16.1	17.1	15.8	14.5	15.0
Dorsal-caudal space (DCS)	12.8	12.0	14.8 (0.5)	14.4-15.6	14.3	13.9	15.0	-	13.5	13.3-14.7	13.8	13.1-14.0	14.1-15.5	13.4	-	14.2	14.2	11.3	10.3	10.9	9.7	10.9
Pectoral-pelvic space (PPS)	13.8	15.3	13.5 (0.9)	12.9-14.9	16.3	14.5	11.5	-	-	13.7-14.3	13.8	13.1-15.0	13.0-13.8	9.6	-	11.3	12.0	13.4	15.4	13.5	16.2	17.1
Pelvic-anal space (PAS)	19.4	19.9	19.8 (0.7)	19.2-20.8	15.4	16.4	15.9	-	-	17.4-19.4	16.0	15.1-18.8	14.7-16.8	-	-	16.1	14.4	14.5	15.0	13.5	12.9	15.8
Anal-caudal space (ACS)	16.1	17.9	18.0 (0.7)	17.1-18.8	15.4	14.7	19.5	-	-	17.5-19.0	17.8	16.2-18.7	17.8-19.1	22.1	-	19.2	19.6	13.0	11.5	16.7	17.6	14.8
Eye length (EYL)	3.6	2.9	3.2 (0.1)	3-3.4	4.3	4.7	3.1	3.0	3.7	3.5-3.8	3.8	3.3-3.9	3.1-3.4	3.4	2.7-3.5	3.3	3.3	3.5	3.3	3.5	2.7	3.0
Interorbital space (INO)	4.8	4.5	4.6 (0.2)	4.5-4.9	9.1	8.7	-	-	4.7	4.7-5.2	5.6	5.4-5.6	5.6-6.0	-	-	5.7	5.7	6.3	5.1	6.5	5.8	6.0
Nostril width (NOW)	1.7	1.4	2.0 (0.2)	1.8-2.3	3.3	2.7	-	-	1.6	1.7-1.9	2.1	1.9-2.0	1.9-2.2	-	-	2.2	2.3	2.0	1.6	2.2	2.5	2.6
Internarial space (INW)	2.4	2.0	2.1 (0.1)	2-2.1	3.7	3.6	2.5	2.4	2.5	2.5-2.8	2.9	2.2-2.5	2.3-2.6	2.4	1.9-2.5	2.2	2.0	2.4	2.3	2.5	2.1	2.4
Anterior nasal flap length (ANF)	0.9	0.9	1.1 (0.2)	0.9-1.2	1.1	1.0	-	-	1.1	1.1-1.3	0.9	1.1-1.2	0.8-1.1	-	-	1.2	1.0	1.5	1.3	1.0	1.2	1.5
Spiracle length (SPL)	0.7	0.7	0.6 (0.1)	0.5-0.6	0.4	0.4	-	-	0.6	0.7-0.9	0.7	0.6-1.1	0.6-0.9	0.5	-	0.5	0.5	0.9	0.9	0.9	0.6	1.3
Mouth length (MOL)***	2.1	2.5	2.9 (0.4)	2.5-3.4	3.5	4.1	2.8	2.6	3.8	3.8-4.3	2.9	2.7-3.4	2.5-3.1	3.4	1.8-3.9	2.7	2.2	3.3	4.6	3.0	2.3	4.3
Mouth width (MOW)	5.0	5.6	5.0 (0.2)	4.7-5.2	7.6	6.4	6.1	5.7	5.3	6.3-7.2	6.7	6.1-6.3	6.3-6.8	5.8	5.2-6.8	7.5	7.4	6.3	6.4	6.4	9.1	9.6
Upper labial furrow length (ULA)	1.9	1.6	1.4 (0.1)	1.2-1.5	1.8	2.3	1.7	1.3	2.3	2.1-2.4	1.9	1.7-1.8	1.7-2.0	1.2	0.6-1.2	1.0	0.8	2.0	3.0	2.2	1.9	3.4
Lower labial furrow length (LLA)	1.4	1.6	1.4 (0.1)	1.2-1.5	1.8	2.1	1.7	1.7	2.0	2.1-2.4	2.1	0.8-1.8	1.4-2.0	1.2	0.8-1.7	1.5	1.5	2.0	2.7	1.8	2.5	3.4
First gill slit height (GS1)	1.6	1.9	1.5 (0.2)	1.2-1.7	2.0	1.7	1.7	1.1	1.7	1.4-2.0	1.6	1.2-1.8	1.0-1.1	1.5	1.2-2.1	1.5	1.8	1.9	1.4	1.7	1.9	1.7
Second gill slit height (GS2)	1.7	2.0	1.6 (0.2)	1.5-1.8	2.1	1.8	-	-	1.5	1.4-2.0	1.6	1.2-2.0	1.1-1.3	-	-	1.5	1.7	1.7	1.9	1.7	1.9	1.9
Third gill slit height (GS3)	1.7	2.0	1.4 (0.1)	1.2-1.5	2.4	2.3	-	-	1.5	1.1-1.9	1.4	1.2-1.8	1.1-1.5	-	-	1.4	1.5	1.5	2.1	1.1	1.9	1.9
Fourth gill slit height (GS4)	1.4	1.9	1.1 (0.1)	0.9-1.2	1.7	1.6	-	-	1.2	0.8-1.7	1.4	1.0-1.4	1.0-1.3	-	-	1.2	1.3	1.3	1.0	0.9	1.7	1.3
Fifth gill slit height (GS5)	1.2	1.3	0.9 (0.1)	0.9-1	1.1	1.0	0.7	0.4	1.0	0.7-1.2	1.2	0.8-1.4	0.6-1.1	0.6	0.3-0.7	0.7	1.0	0.9	0.6	0.7	1.0	1.3
Caudal peduncle height (CPH)	1.9	1.6	1.8 (0.1)	1.7-1.8	3.9	3.9	2.2	-	1.7	1.5-1.6	1.5	1.5-2.2	1.7-2.0	2.0	-	1.7	1.8	2.4	2.1	2.5	2.7	2.8
Caudal peduncle width (CPW)	1.6	1.3	1.4 (0.2)	1.2-1.5	3.4	2.6	-	-	1.0	1.1-1.2	1.2	1.2-1.4	1.3-1.6	-	-	1.2	1.2	1.9	1.7	1.8	2.1	2.3
Pectoral length (P1L)	9.2	9.5	8.5 (0.4)	8.2-8.9	11.0	10.4	-	-	9.4	8.7-9.6	9.4	8.3-9.5	8.2-9.1	-	-	10.3	9.7	10.9	9.0	9.4	11.4	12.8
Pectoral anterior margin (P1A)	10.6	11.8	9.9 (0.4)	9.5-10.2	11.0	10.6	-	-	10.8	10.7-11.0	11.5	9.6-10.6	9.6-10.8	-	-	11.0	10.0	13.5	10.4	9.4	12.0	12.9
Pectoral base (P1B)	3.8	4.0	4.0 (0.2)	3.7-4.3	3.8	3.7	-	-	3.7	3.1-4.2	3.3	3.6-4.0	2.8-4.3	4.1	-	4.3	4.3	5.6	4.4	4.6	5.0	5.8
Pectoral height (P1H)	8.3	9.8	8.1 (0.2)	7.9-8.4	8.4	9.5	-	-	8.6	7.9-9.2	9.4	7.7-8.6	7.3-7.8	-	-	8.2	8.4	10.8	8.5	7.8	8.9	9.8
Pectoral inner margin (P1I)	4.5	5.3	4.8 (0.2)	4.6-5	4.8	4.8	-	-	4.7	4.0-5.1	5.2	2.8-13.4	3.9-5.1	-	-	5.1	4.7	5.9	4.8	4.6	6.4	6.6
Pectoral posterior margin (P1P)	7.6	8.4	6.3 (0.7)	5.5-7.1	8.2	8.1	9.6	9.4	-	7.0-7.8	8.2	5.8-6.5	4.5-6.3	9.8	8.2-11.8	6.2	7.0	11.5	8.7	4.5	9.8	10.9
Pelvic length (P2L)	9.5	9.8	8.3 (0.3)	7.9-8.5	8.7	8.2	-	-	-	8.5-9.3	9.2	7.8-8.6	7.3-8.2	8.9	-	10.6	10.9	11.3	9.3	7.4	11.4	13.3
Pelvic anterior margin (P2A)	6.6	6.6	5.7 (0.3)	5.4-6	6.3	5.2	-	-	-	5.8-6.4	6.6	6.1-6.3	5.1-6.6	5.0	-	7.2	6.4	8.0	6.1	5.2	8.7	9.0
Pelvic base (P2B)	4.8	5.1	3.5 (0.2)	3.2-3.7	3.7	3.8	-	-	-	4.7-5.1	5.4	4.5-4.6	3.9-4.3	7.1	-	3.8	5.0	5.6	3.7	4.5	7.3	7.9
Pelvic height (P2H)	4.2	3.3	3.1 (0.1)	3-3.1	3.5	3.3	-	-	-	3.0-3.7	3.8	1.7-3.8	2.5-2.8	3.0	-	3.1	3.0	5.2	4.4	2.6	6.4	6.8
Pelvic inner margin (P2I)	5.4	4.2	4.9 (0.5)	4.3-5.4	4.8	4.7	-	-	-	3.0-4.9	4.9	3.4-4.6	3.4-3.9	4.5	-	5.5	5.0	5.9	5.7	3.3	4.6	5.8
Pelvic posterior margin (P2P)	5.0	7.2	4.5 (0.5)	4-5	5.8	6.7	-	-	-	4.3-5.1	5.4	3.9-5.2	3.7-4.1	5.9	-	5.3	6.7	8.2	5.7	3.8	7.1	8.4
Clasper outer length (CLO)	7.6	-	2.2 (0.3)	1.8-2.5	-	1.8	-	-	-	6.9-7.7		1.1-2.2	-	6.2	-	6.5	-	-	5.3	0.9	-	7.9
Clasper inner length (CLI)	10.4	-	4.5 (0.2)	4.3-4.7	-	4.2	-	-	-	10.1-10.9		2.8-5.1	-	9.0	-	9.6	-	-	9.3	3.8	-	12.6
Clasper base width (CLB)	1.6	-	0.7 (0.1)	0.6-0.9	-	1.2	-	-	-	1.3-1.5		0.8-0.9	-	-	-	1.4	-	-	1.6	0.7	-	1.5
First dorsal length (D1L)	6.9	7.9	7.4 (0.3)	7-7.7	8.3	8.2	7.1	-	6.4	7.3-8.3	7.7	7.3-7.8	7.3-7.9	8.3	-	8.7	8.5	8.3	9.5	8.5	10.6	11.4
First dorsal anterior margin (D1A)	7.1	7.5	7.5 (0.2)	7.3-7.7	8.3	8.2	7.8	7.2	7.9	7.7-8.7	8.2	7.3-7.7	7.3-8.2	7.0	6.1-8.4	9.6	8.4	9.8	8.1	7.9	11.0	11.6
First dorsal base (D1B)	4.7	4.5	6.0 (1.5)	4.6-7.7	4.3	3.2	4.4	4.4	3.9	4.7-5.2	4.9	4.5-4.6	4.5-4.9	4.3	3.5-5.1	6.0	6.0	6.1	6.1	5.7	7.7	7.9
First dorsal height (D1H)	4.3	4.2	3.4 (0.4)	3-3.7	7.3	7.0	4.2	-	4.2	4.3-4.9	4.9	2.8-5.1	2.8-3.9	5.6	-	4.8	5.0	6.3	4.4	3.8	5.6	6.6
First dorsal inner margin (D1I)	2.4	3.5	3.0 (0.3)	2.7-3.4	5.3	4.7	2.0	-	2.5	2.2-2.6	2.6	2.5-3.1	2.3-2.6	2.9	-	2.7	2.5	2.8	2.4	3.2	3.1	3.6

Table 1. Cont.

First dorsal posterior margin (D1P)	4.3	4.0	3.4 (0.4)	3-3.7	6.0	5.9	3.3	-	3.7	3.6-4.4	4.5	2.2-4.2	2.2-3.5	4.2	-	4.1	4.5	6.1	4.8	2.7	5.6	6.6
Second dorsal length (D2L)	8.5	10.3	8.9 (0.5)	8.3-9.4	10.0	9.9	8.9	-	7.6	8.7-10.3	9.9	8.8-10.6	8.4-9.6	10.5	-	10.6	10.4	10.9	9.4	9.7	11.6	12.6
Second dorsal anterior margin (D2A)	8.3	9.5	8.9 (0.5)	8.3-9.4	10.4	10.3	8.9	8.7	8.6	9.2-10.1	11.0	8.8-9.5	8.6-9.8	8.8	6.8-9.9	10.8	9.7	11.9	9.3	9.8	12.0	12.2
Second dorsal base (D2B)	6.1	6.8	6.0 (0.2)	5.8-6.2	6.5	5.9	6.5	6.1	5.4	6.0-7.1	7.3	6.3-6.7	6.5-6.8	5.5	5.2-8.1	7.2	7.5	7.8	6.8	3.6	8.7	9.0
Second dorsal height (D2H)	4.3	4.9	3.7 (0.1)	3.7-4	6.1	5.5	5.3	-	4.4	4.5-5.6	5.6	3.4-5.1	3.4-4.3	5.2	-	4.8	5.0	6.7	5.0	4.3	6.4	5.8
Second dorsal inner margin (D2I)	2.6	3.5	2.8 (0.2)	2.6-3	3.3	3.9	2.7	-	2.5	2.4-2.6	2.6	2.5-3.0	2.7-2.8	3.8	-	3.1	2.8	3.0	2.6	3.0	3.3	3.9
Second dorsal posterior margin (D2P)	4.8	4.2	4.0 (0.2)	3.7-4.3	5.7	6.0	4.7	-	4.4	4.2-4.7	4.7	3.4-4.6	2.8-4.3	4.6	-	4.3	4.8	6.5	5.3	3.6	6.4	6.2
Anal length (ANL)	9.2	9.8	10.8 (0.2)	10.7-11.1	12.5	11.4	12.4	-	-	10.1-10.5	9.9	10.3-10.6	10.7-11.6	11.7	-	10.8	12.4	11.5	12.3	11.5	11.6	11.8
Anal anterior margin (ANA)	5.2	5.5	5.7 (0.4)	5.2-6.3	6.7	6.4	7.2	6.1	-	5.2-6.2	5.9	5.8-6.7	6.3-6.9	5.5	3.4-6.8	6.5	5.7	8.2	6.6	5.4	7.3	8.1
Anal base (ANB)	7.3	7.4	7.9 (0.3)	7.6-8.2	8.7	7.7	9.1	7.8	-	8.0-8.5	8.0	7.9-8.9	5.9-9.1	7.3	6.6-9.0	8.2	9.5	8.9	10.5	9.2	8.9	8.4
Anal height (ANH)	2.2	2.0	2.2 (0.4)	1.8-2.6	4.5	5.0	2.9	-	-	2.8-3.0	3.5	1.7-3.1	2.3-3.2	3.0	-	2.2	2.7	3.7	3.1	2.9	3.9	4.7
Anal inner margin (ANI)	1.7	2.5	3.0 (0.2)	2.7-3.1	4.1	3.8	3.1	-	-	2.2-2.6	2.5	2.5-2.5	2.3-2.7	4.3	-	2.9	3.0	2.6	1.7	2.8	2.5	3.2
Anal posterior margin (ANP)	5.2	5.3	5.6 (0.6)	4.9-6.3	7.8	8.5	7.3	-	-	4.9-6.2	5.6	4.5-5.7	5.1-6.0	5.7	-	4.8	7.0	5.6	6.8	4.7	5.8	6.2
Dorsal caudal margin (CDM)	17.6	15.6	17.5 (0.8)	16.8-18.3	18.7	18.8	20.5	16.5	18.5	16.7-18.8	19.2	18.5-21.2	18.5-20.3	18.3	15.9-20.7	18.3	18.2	20.8	18.8	23.2	18.3	13.7
Preventral caudal margin (CPV)	5.9	6.1	7.6 (0.7)	6.8-8.4	7.6	8.9	6.8	-	-	6.8-7.7	7.5	7.0-8.9	7.4-9.0	6.4	-	7.0	7.0	9.8	9.0	-	8.7	8.4
Postventral caudal margin (CPL+CPU)	7.8	6.4	8.1 (0.8)	7.2-9.1	11.0	10.6	9.4	-	-	7.9-8.9	8.7	7.4-8.7	7.5-9.3	10.5	-	7.5	8.7	9.3	9.1	-	10.0	-
Subterminal caudal margin (CST)	2.8	3.3	3.8 (0.2)	3.7-4	2.9	3.7	3.9	-	2.5	3.1-3.4	3.3	3.1-3.9	2.5-3.4	2.8	-	3.8	3.2	3.3	2.6	4.3	2.9	-
Terminal caudal margin (CTR)	4.2	3.8	3.3 (0.1)	3.2-3.4	5.7	5.3	4.2	-	3.0	3.4-4.1	4.0	2.7-3.6	2.0-3.2	3.6	-	3.9	4.3	5.4	4.3	3.5	4.6	-
Terminal caudal lobe (CTL)	4.8	4.9	5.3 (0.2)	5.1-5.5	6.3	6.0	6.2	-	4.4	4.8-5.5	5.4	5.0-5.9	4.5-5.3	4.9	-	5.5	5.0	6.5	5.1	6.0	4.4	-

* Damaged.

** Eviscerated.

*** According to Compagno (1988b), this measurement was incorrectly shown in the diagram (Compagno, 1984a: 12) as extending from the lower symphysis to the mouth corners, but should be from the upper symphysis to the mouth corners.

Table 2. Color pattern and counts of saddles and teeth of the *Schroederichthys* species.

Species	Black spots	White spots	Predorsal saddles*	Interdorsal saddles	Postdorsal saddles**	Total saddles	Tooth counts		
							Values	n	References
S. bivius	yes	yes	2	2	2	6	(23-27)-1-(23-27) (19-25)-1-(19-25)	40	Gosztonyi (1973)
S. chilensis	yes	yes[1]	2	2	2	6	(35-36)-1-34 (23-24)-1-26	2	Present paper
S. maculatus	no	yes	?[2]	3-4[2]	3	6-9	(24-26)-(1-2)-(24-26) (18-21)-2-(18-22)	3	Springer (1966) and present paper
S. tenuis	yes	no	3	4	3	11	(22-30)-(0-1)-(22-29) (16-28)-(1-2)-(16-27)	6	Springer (1966) and present paper
S. saurisqualus	yes	yes	3	4	3	10	(28-32)-1-(28-33) (18-24)-1-(18-25)	5	Present paper

* Between pectoral and dorsal anterior bases.

** Between second dorsal insertion and the end of the caudal peduncle (including).

[1] Usually present.

[2] Inconspicuous or absent anteriorly in some mature specimens.

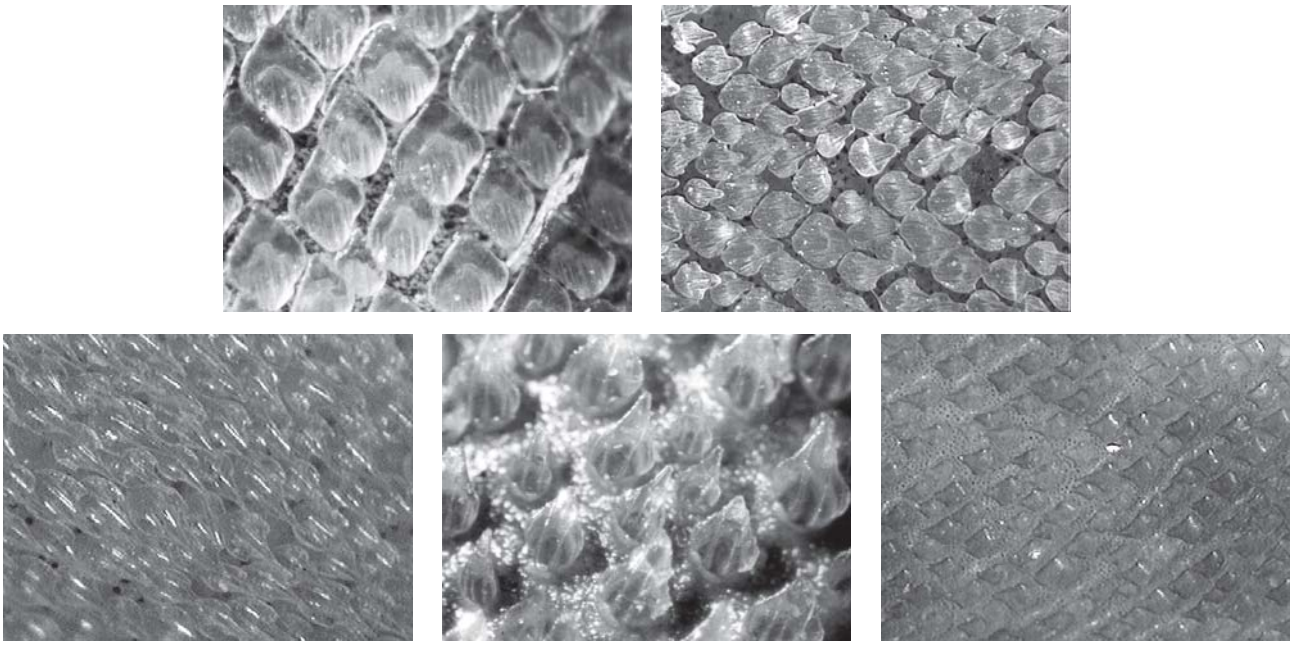

Figure 4. Dermal denticles of mature male *Schroederichthys* species, taken just below first dorsal fin. Left to right and upper to lower: *S. saurisqualus* (MOVI 05949, holotype, 578 mm), *S. tenuis* (CEPNOR uncat., 468 mm), *S. maculatus* (MOVI 16661, 292 mm), *S. bivius* (MOVI 00116, 702 mm), and *S. chilensis* (MOVI 03943, 533 mm).

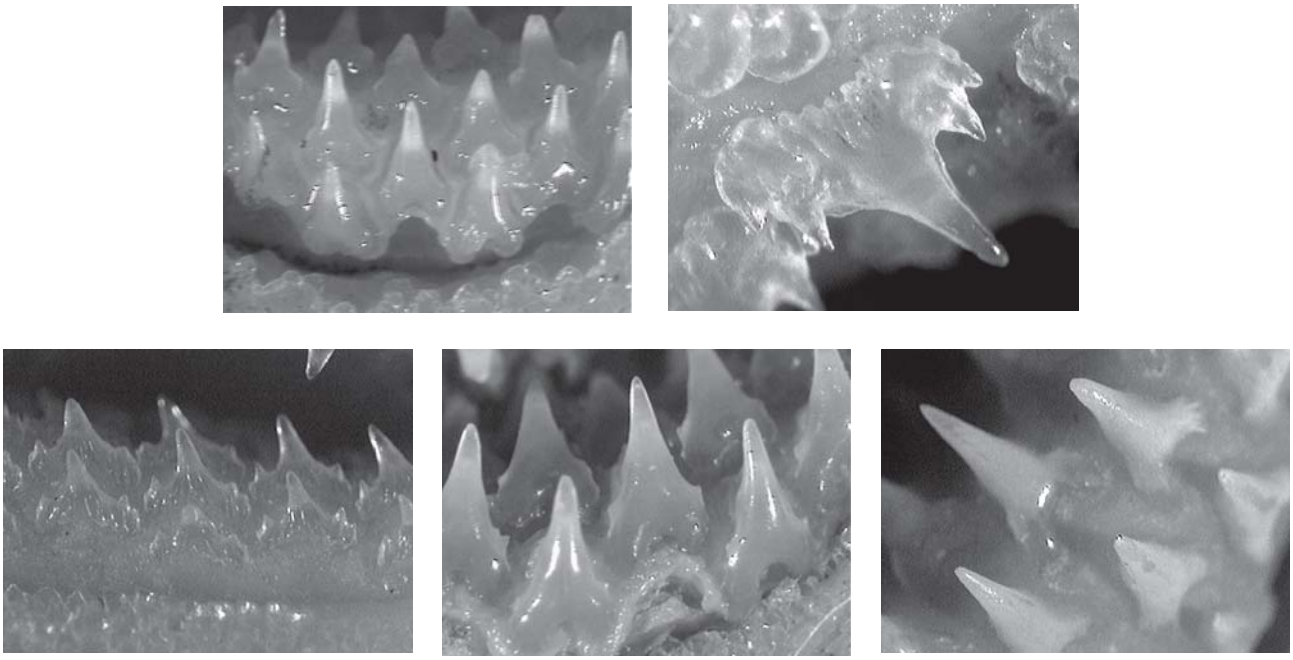

Figure 5. Teeth of mature male *Schroederichthys* species, taken just behind symphisial region. Left to right and upper to lower: *S. saurisqualus* (MOVI 05949, holotype, 578 mm), *S. tenuis* (CEPNOR uncat., 468 mm), *S. maculatus* (MOVI 16661, 292 mm), *S. bivius* (MOVI 00116, 702 mm), and *S. chilensis* (MOVI 03943, 533 mm).

Table 3. Counts of precaudal vertebrae of the *Schroederichthys* species. Holotype value is underlined.

	precaudal vertebrae																																
	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	n
S. saurisqualus																												2		1	1	4
S. tenuis																2	1	2	1	1	1											8
S. maculatus													2																			2
S. chilensis	1	1																														2
S. bivius					1	1																										2

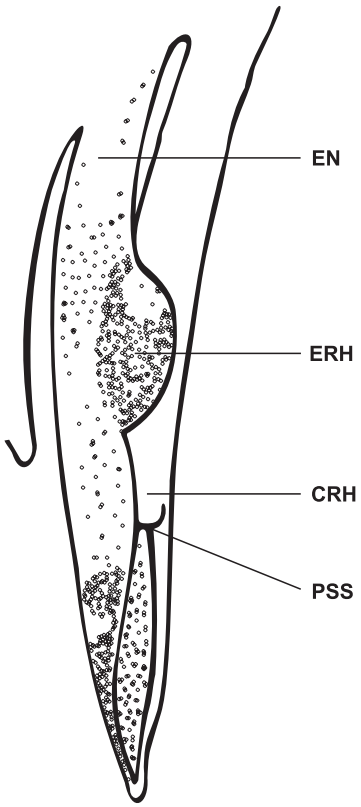

Figure 6. Morphology of the clasper of mature *Schroederichthys saurisqualus* (MOVI 05949, holotype, 578 mm). Abbreviations: EN, envelope; ERH, exorhipidion; CRH, cover rhipidion; PSS, pseudosiphon. Drawing by author.

Table 4. Counts of diplospondylous vertebrae of the *Schroederichthys* species. Holotype value is underlined.

	diplospondylous vertebrae									
	29	30	31	32	33	34	35	36	37	n
S. saurisqualus						1	1		2	4
S. tenuis					1	4	1			6
S. maculatus	2									2
S. chilensis				1		1				2
S. bivius					2					2

(55ºS) (Lloris & Rucabado, 1991), and southeastern Pacific, Magallanes Province to Valparaíso (33ºS) (Sielfeld & Vargas, 1992). Distribution limits showed by Compagno (1984b) (aprox. 24ºS - Antofagasta) is unconfirmed. The mature male, 702 mm TL (MOVI 00116), collected in 33º10'S, 051º55'W, State of Rio Grande do Sul, Brazil, marks the first record in the Brazilian coast and the northernmost in the Atlantic (Soto, 1997). The neonate male, 140 mm TL (MOVI 03597), collected in Puerto Madryn, Provincia de Chubut, Argentina, suggests that the Patagonian coast is a nursery area of this species.

Schroederichthys chilensis (redspotted catshark / tubarão-lagarto-chileno). Guichenot (1848) described this species from a lost specimen collected off the Chilean coast. Springer (1966) redescribed it based on two other Chilean specimens. No data about the biology of the species are available and it occur from southeastern Pacific, Isla de Chiloé, Chile (43ºS) (Sielfeld & Vargas,

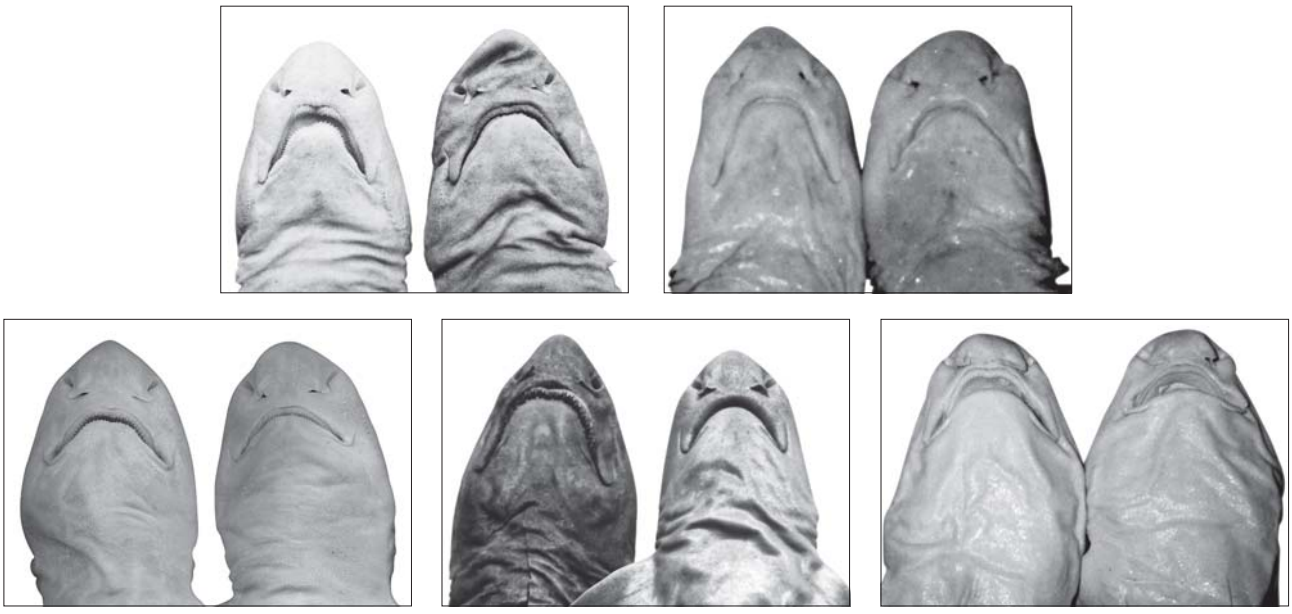

Figure 7. Secondary sexual dimorphism in the mouth of mature *Schroederichthys* species. Left to right and upper to lower: *S. saurisqualus* male (MOVI 05949, holotype, 578 mm) and female (MOVI 10199, paratype, 692 mm), *S. tenuis* male (CEPNOR uncat., 468 mm) and female (CEPNOR uncat., 426 mm), *S. maculatus* male (MOVI 16661, 292 mm) and female (MOVI 16662, 299 mm), *S. bivius* male (MOVI 00116, 702 mm) and female (MOVI 01384, 539 mm), and *S. chilensis* male (MOVI 03943, 533 mm) and female (MOVI 03942, 518 mm).

Figure 8. Egg capsules removed from the oviduct of *Schroederichthys* species. Left to right: *S. saurisqualus* (MOVI 10199, paratype, 70.4 mm), *S. tenuis* (CEPNOR uncat., 40.1 mm), *S. maculatus* (MOVI 16662, 35.5 mm), *S. bivius* (MOVI 01385, 62.0 mm), and *S. chilensis* (MOVI 03942, 53.4 mm).

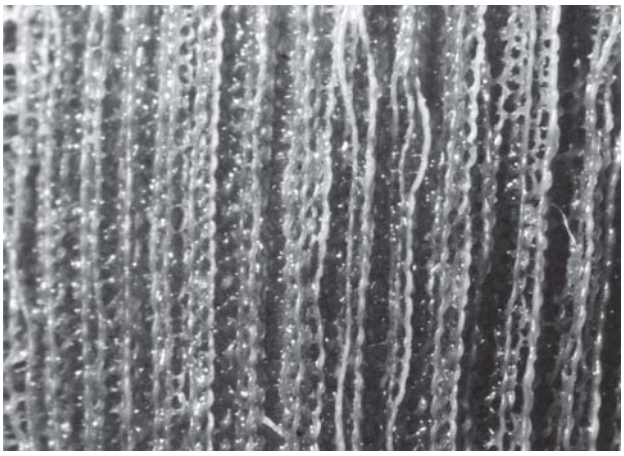

Figure 9. Microphotography of superficial texture of egg capsule of *Schroederichthys saurisqualus* sp. nov., MOVI 04908.

Figure 10. Egg capsule (63 mm TL) with female embryo (92 mm TL) of *Schroederichthys saurisqualus* sp. nov., MOVI 00099, paratype.

Table 5. Measurements (% of TL) and texture of the egg capsules of *Schroederichthys* species.

Species	*S. saurisqualus* sp. nov.								*S. tenuis*			*S. maculatus*		*S. bivius*			*S. chilensis*	
Texture of the surface	filamentous								filamentous			filamentous		flat			flat	
Nº. Col.	1 MOVI 00099	2 MOVI 04907	3 MOVI 04908	4 MOVI 10163	5 MOVI 10164	6 MOVI 10199		mean (S)	7 UFPB 2563*	8 CEPNOR uncat.		9 MOVI 16662		10 MOVI 01385	11 MOVI 01386	12 MOVI 01387	13 MOVI 03942	
TL (mm)	63.1	57.4	64.0	64.9	56.3	70.4	69.6	61 (4.2)	39	40.1	40.0	35.5	34.0	62	65	63	53.4	51.9
Width	34.9	-	35.9	35.4	39.3	33.5	33.8	36.4 (2.0)	43.6	46.9	47.0	36.1	40.9	41.9	40.0	41.3	45.5	46.6
Anterior border	20.6	-	20.3	18.5	17.9	15.1	15.2	19.3 (1.3)	23.1	23.2	24.3	20.3	26.2	24.2	20.0	19.0	18.4	18.5
Posterior border	11.1	-	14	10.8	16.1	10.7	10.6	13.0 (2.5)	17.9	19.5	19.3	10.4	9.7	12.9	10.8	12.7	9.0	10.6
Anterior lateral respiratory fissure	14.3	-	14	13.8	14.3	17.5	17.0	14.1 (0.2)	17.9	19.7	20.5	11.8	12.1	-	-	-	10.5	10.6
Posterior lateral respiratory fissure	7.9	-	9.3	7.7	7.1	13.4	14.4	8.0 (0.9)	12.8	15.0	15.3	9.0	9.7	-	-	-	8.6	8.5
Diameter of the tendrils (beginning)	1.0	0.9	0.9	0.8	0.9	1.1	1.1	0.9 (0.1)	-	1.5	1.5	1.4	1.5	2.3	2.0	2.1	2.4	2.7

1- With embryo female, 92 mm TL (paratype); 2 - discarded (damaged); 3 - with embryo, sex undetermined, 36 mm TL; 4 and 5 - discarded; 6 to 13 - removed of the oviduct (respiratory fissures closed and inconspicuous).
* From Gomes & Carvalho (1995).

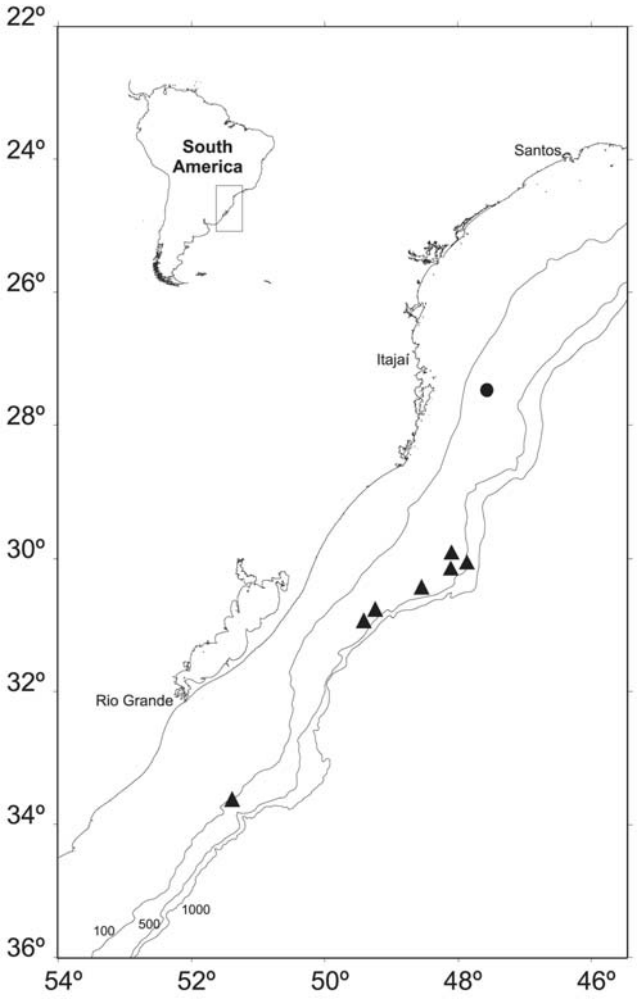

Figure 11. Stations at which specimens of *Schroederichthys saurisqualus* sp. nov. were collected. Holotype indicate by a circle.

1992) to Reserva Nacional de Paracas, Peru (14ºS) (umpubl. data).

Schroederichthys maculatus (narrowtail catshark / tubarão-lagarto-anão). Springer (1966) described this species from two mature specimens, male, 328 mm (USNM 185556, holotype), and female, 335 mm (USNM 185557, paratype). Other material examined comprise 46 specimens, all collected on Caribbean continental slope of Central America, off Honduras and Nicaragua. The same author described the genus *Schroederichthys* based on this species. No further data are available after Springer (1966).

Schroederichthys tenuis (narrowmouthed catshark / tubarão-lagartixa-do-norte). Springer (1966) described this species from two immature males 230 and 180 mm TL, holotype and paratype respectively, collected off the mouth of the Amazon River; Uyeno & Sasaki (1983) presented a new specimen, immature male 261 mm, collected off Suriname; Compagno, 1984b showed this species based on the previous papers; Gomes & Carvalho (1995) described the egg capsules of the one adult female; Gadig *et al*. (1996) presented new data on reproductive biology and food habits, based on three mature specimens, but did not comment about the color pattern and morphometry. The first description of adult specimens appears in this paper (Tab. 1, Figs. 3, 4, 5, 7, and 12).

The analysis of adult females of all *Schroederichthys* species confirms that they are oviparous with one egg per oviduct laid at a time.

The morphological analysis of all species of the genus, shows two distinct groups (*chilensis-bivius* and

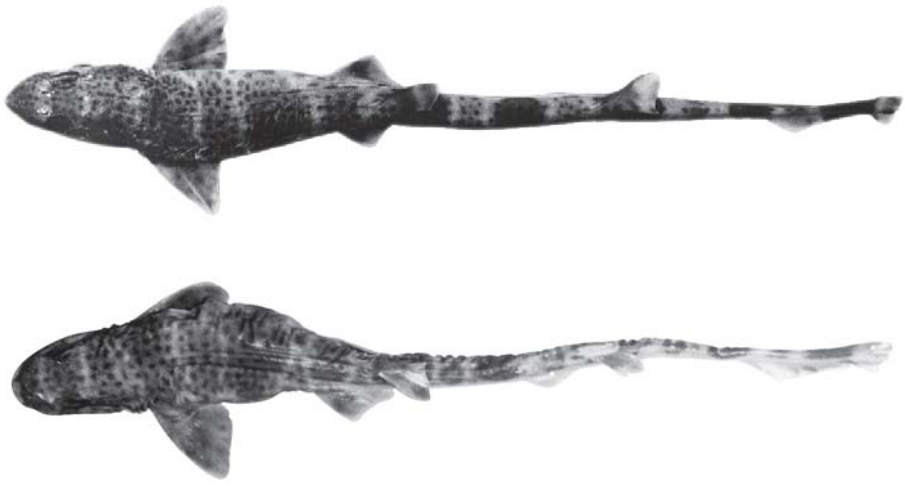

Figure 12. Mature male (CEPNOR uncat., 468 mm TL) and ovigerous mature female (CEPNOR uncat., 426 mm TL) of *Schroederichthys tenuis*.

saurisqualus-tenuis-maculatus), based on the position of the pelvic fins relative to the first dorsal fin. A cladogram with the interrelationships of the *Schroederichthys* species is easily proposed (Fig. 13). The dispersion of the genus probably began in southern South America, with an ancestor originating from the Indo-Pacific, also related to the *Aulohalaelurus*, *Atelomycterus* and *Halaelurus* (Compagno, 1988), which is represented in the Chilean coast by *H. canescens* (Günther, 1878). The only two *S. saurisqualus* embryos (MOVI 00098 / 00099) have a color pattern similar to the *S. tenuis* holotype and paratype, differing enough from the juvenile of *S. bivius* (MOVI 03597), which also confirm a close relationship among the species of the *saurisqualus-tenuis-maculatus* group. Another character that corroborates the separation into two groups is the texture of the egg capsules (flat in the *chilensis-bivius* group and filamentous in the *saurisqualus-tenuis-maculatus* group) and diameter at base of its tendrils (2.0-2.7% of TL vs. 0.8-1.5% of TL) (Tab. 5).

The evolution of the genus accompanies the actual distribution (south to north) along the Atlantic coast of South America, where the maximum lengths gradually became shorter (Fig. 14). Also overlap in the distribution of the species are just confirmed in the Chilean coast, involving *S. chilensis* and *S. bivius*, the unique sympatric species of the genus. In southern Brazil, *S. bivius* and *S. saurisqualus* were captured in the same latitude, but in distinct depths. In this region, *S. bivius* is considered a rare species, with only a single specimen collected to date. New limits of the geographical distributions of the *Schroederichthys* species are given in Figure 15.

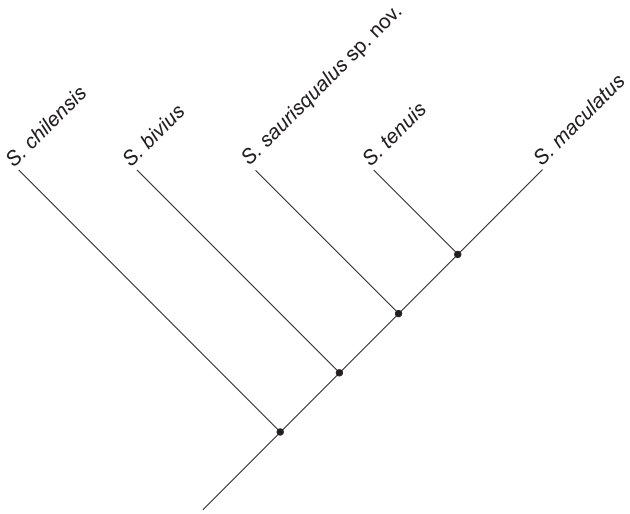

Figure 13. Cladogram of relationships of *Schroederichthys* species.

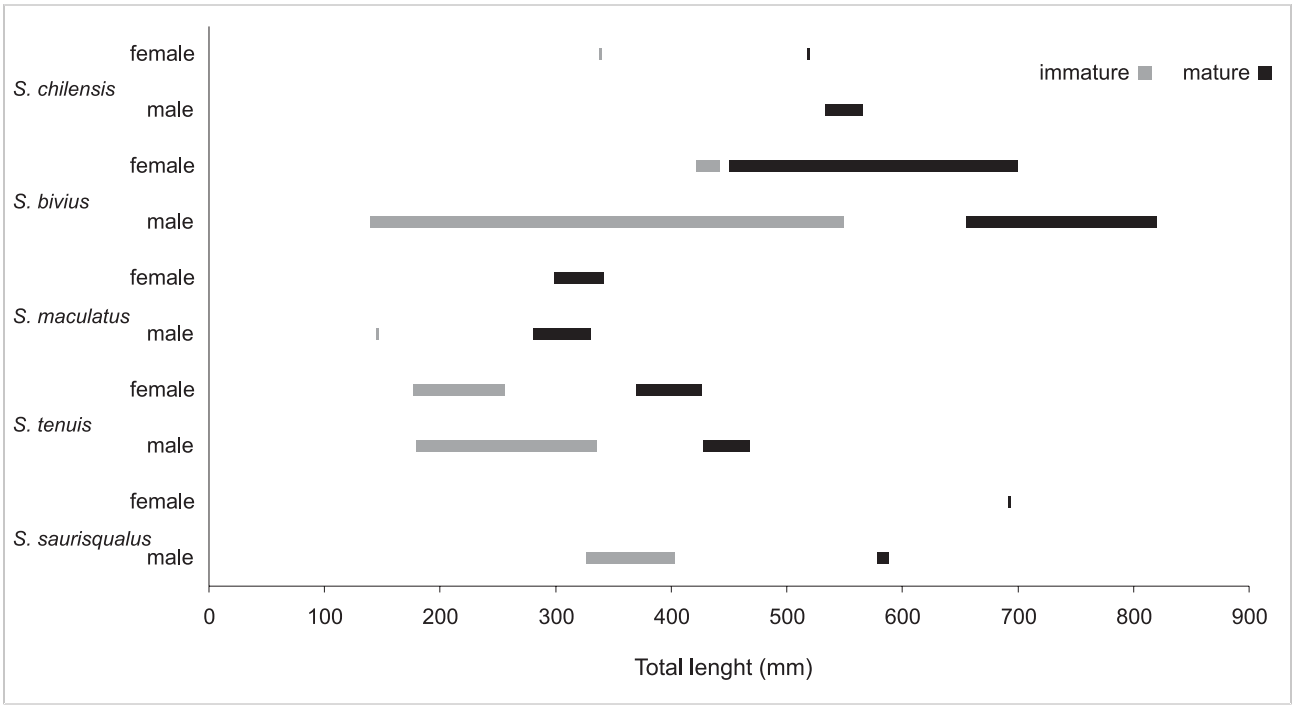

Figure 14. Range of the sexual maturity of *Schroederichthys* species, according to Springer (1966, 1979), Gosztonyi (1973), Menni *et al*. (1979), Uyeno & Sazaki (1983), Compagno (1988a), Matallanas *et al*. (1993), Gadig *et al.* (1996), and present paper.

Figure 15. Geographic distribution of *Schroederichthys* species: *S. chilensis* (C), *S. bivius* (B), *S. saurisqualus* sp. nov. (S), *S. tenuis* (T) and *S. maculatus* (M).

Key to the *Schroederichthys* species

1a. First dorsal fin origin slightly anterior from posterior insertion of pelvic fins. Two conspicuous dark saddles in the interdorsal space 2
1b. First dorsal fin origin behind vertical from posterior insertion of pelvic fins. Three or four dark saddles in the interdorsal space 3
2a. Mouth width 6.0-6.5% of TL. Anterior nasal flaps narrow and lobate ..... *S. bivius*
2b. Mouth width 9.0-9.8% of TL. Anterior nasal flaps broad and triangular ..... *S. chilensis*
3a. Three inconspicuous saddles in the interdorsal space. Dark spots absent and numerous white spots. Males longer than 280 mm TL and females longer than 299 mm TL were sexually mature; adults to only 350 mm TL ..... *S. maculatus*
3b. Four conspicuous saddles in the interdorsal space 4
4a. White spots absent. Interdorsal space 17.2-20.6% of TL, pelvic-anal space 14.7-19.4% of TL and precaudal vertebrae 108-113. Adults to 470 mm TL ..... *S. tenuis*
4b. White spots numerous. Interdorsal space 21-22.3% of TL, pelvic-anal space 19.2-20.8% of TL and precaudal vertebrae 120-123. Adults to 700 mm TL ..... *S. saurisqualus* sp. nov.

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