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FIRST RECORD OF KITEFIN SHARK, *Dalatias licha* (BONNATERRE, 1788) (CHONDRICHTHYES, DALATIIDAE), IN THE SOUTH ATLANTIC

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This paper presents the first record of kitefin shark *Dalatias licha* in the South Atlantic, based on neonate male 344 mm TL, collected off southern Brazil (31°32'08"S, 47°58'19"W). Aspects of the distribution and morphometry are discussed.

É apresentado o primeiro registro do tubarão-lixa-negro *Dalatias licha* no Atlântico Sul, com base em um macho neonato, 344 mm CT, coletado no sul do Brasil (31°32'08"S, 47°58'19"W). Aspectos da distribuição e morfometria são discutidos.

The kitefin shark *Dalatias licha* occurs circumglobally on the outer continental and insular shelves and slopes from 40-1800 m. Its range includes the northwestern Atlantic, the eastern Atlantic from tropical west Africa to Ireland, west and east Mediterranean, southern Africa, Taiwan, Australia, Tasmania, New Zealand, Japan and Hawaiian Islands (Bigelow & Schroeder, 1957; Bass *et al*., 1976; Cadenat & Blache, 1981; Compagno, 1984; Golani, 1986/87; and Last & Stevens, 1994). Until the present, gaps in this distribution include the southern Atlantic, eastern Pacific and northern Indian Ocean.

During a longline fishing operation off southern Brazil, a single neonate specimen of *D. licha* was collected. The purpose of this paper is to include this shark species in the Brazilian marine fauna, based on the first specimen collected in the South Atlantic.

Materials and Methods

In May, 2000, a small shark was caught by longline fishing vessel "Macedo IV" off State of Rio Grande do Sul (31°32'08"S, 47°58'19"W), southern Brazil. The specimen was collected at surface waters, attached to net that involved one of the plastic buoys. The 344 mm neonate male was stored in Museu Oceanográfico do Vale do Itajaí (MOVI 16034) and identified as *Dalatias licha*. Measurements (in millimeters and percentage of total length, TL) follow Compagno (1984).

Results and Discussion

The characters of the Brazilian specimen match the description of *D. licha* by Bigelow & Schroeder (1948), Compagno (1984), and Last & Stevens (1994) (Figs. 1 and 2). Mature specimens are short and blunt-snouted, with two almost equal-sized spineless dorsal fins, no anal fin, thick and fleshy lips, small slender-cusped upper teeth and very large lower teeth with erect triangular serrated cusps and distal blades, eye large 2.2-4.3% TL, first dorsal fin on back with its origin behind the pectoral rear tips and its base closer to the pectoral base than the pelvics, and caudal fin with the ventral lobe not expanded. Body uniformly black, lips pale. The Brazilian neonate specimen shows all the diagnostic characters of the adult except for the teeth, denticles and relatively larger eyes, as observed by Bigelow & Schroeder (1948).

Bigelow & Schroeder (1957) stated that most of reports for *D. licha* that have appeared in scientific literature have been based on the single specimen. Last & Stevens (1994) confirmed that this shark is mainly demersal (sometimes pelagic) on the outer continental and insular shelves and slopes from 40-1800 m and may be solitary or occur in small schools. Geographical distribution of *D. licha*, including the new Brazilian record, is given in Figure 3.

The Brazilian specimen was collected at surface waters, attached to net that involved one orange plastic buoy, enlarging the bathymetrical range of the species (from 0 to 1800 m). Gadig (1997) reported the capture of a pregnant female of cookiecutter shark *Isistius brasiliensis*, also attached to a plastic longline luminous buoy, about 130 miles off State of São Paulo, southeastern Brazil. This unusual similarity in both capture conditions suggest that kitefin shark may also feed as a cookiecutter shark, since chunks of flesh taken from large fish have been founded in the stomachs of *D. licha* (Last & Stevens, 1994). This feeding strategy has also been observed in other Dalatiidae species, including *Isistius plutodus* (Soto & Nisa-Castro-Neto, 1998), *Squaliolus laticaudus* (Soto, unpubl. data), and *Centroscymnus coelolepis* (Ebert, 1992).

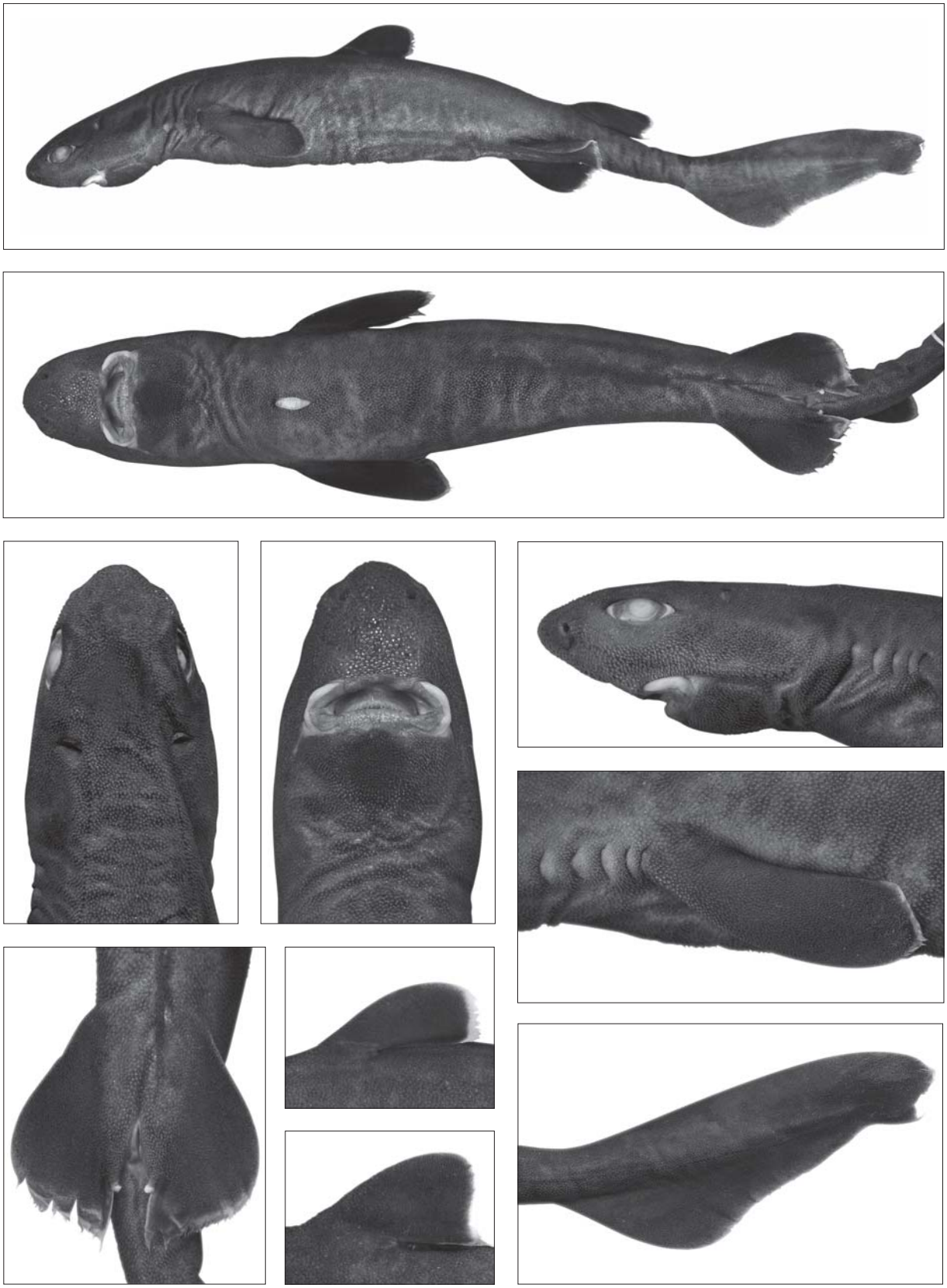

Figure 1. *Dalatias licha*, MOVI 16034, neonate male 344 mm TL. Left to right and upper to lower: lateral and ventral view; dorsal, ventral, and lateral view of head; lateral view of pectoral fin; ventral view of pelvic fins with inconspicuous claspers; first dorsal fin; second dorsal fin; and caudal fin.

Table 1. Measurements of *Dalatias licha*, neonate male 344 mm TL (MOVI 16034), collected off southern Brazil.

Measurements	mm	% of TL	Measurements	mm	% of TL
Precaudal length (PRC)	258	75.0	Terminal caudal lobe (CTL)	22	6.4
Pre-first dorsal length (PD1)	122	35.5	First dorsal length (D1L)	32	9.3
Pre-second dorsal length (PD2)	206	59.9	First dorsal anterior margin (D1A)	31	9.0
Head length (HDL)	73	21.2	First dorsal base (D1B)	14	4.1
Prebranchial length (PGI)	59	17.2	First dorsal height (D1H)	14	4.1
Prespiracular length (PSP)	33	9.6	First dorsal inner margin (D1I)	17	4.9
Preorbital length (POB)	14	4.1	First dorsal posterior margin (D1P)	12	3.5
Prepectoral length (PP1)	75	21.8	Second dorsal length (D2L)	35	10.2
Prepelvic length (PP2)	186	54.1	Second dorsal anterior margin (D2A)	32	9.3
Snout-vent length (SVL)	206	59.9	Second dorsal base (D2B)	19	5.5
Interdorsal space (IDS)	73	21.2	Second dorsal height (D2H)	16	4.7
Dorsal-caudal space (DCS)	36	10.5	Second dorsal inner margin (D2I)	16	4.7
Pectoral-pelvic space (PPS)	100	29.1	Second dorsal posterior margin (D2P)	17	4.9
Pelvic-caudal space (PCA)	41	11.9	Pelvic length (P2L)	38	11.0
Vent-caudal length (VCL)	138	40.1	Pelvic anterior margin (P2A)	29	8.4
Prenarial length (PRN)	7	2.0	Pelvic base (P2B)	22	6.4
Preoral length (POR)	21	6.1	Pelvic height (P2H)	15	4.4
Eye length (EYL)	12	3.5	Pelvic inner margin (P2I)	16	4.7
Eye height (EYH)	6	1.7	Pelvic midpoint-second dorsal origin (PDO)	0	0.0
Intergill length (ING)	16	4.7	Mouth length (MOL)*	25	7.3
First gill slit height (GS1)	5	1.5	Nostril width (NOW)	6	1.7
Second gill slit height (GS2)	5	1.5	Internarial space (INW)	10	2.9
Third gill slit height (GS3)	5	1.5	Anterior nasal flap length (ANF)	2	0.6
Fourth gill slit height (GS4)	5	1.5	Clasper inner length (CLI)	13	3.8
Fifth gill slit height (GS5)	6	1.7	Clasper base width (CLB)	2	0.6
Pectoral anterior margin (P1A)	42	12.2	Interorbital space (INO)	21	6.1
Pectoral base (P1B)	15	4.4	Spiracle length (SPL)	3	0.9
Pectoral height (P1H)	21	6.1	Eye spiracle space (ESL)	8	2.3
Dorsal caudal margin (CDM)	89	25.9	Head width (HDW)	34	9.9
Preventral caudal margin (CPV)	43	12.5	Trunk width (TRW)	37	10.8
Postventral caudal margin (CPL+CPU)	47	13.7	Abdomen width (ABW)	31	9.0
Subterminal caudal margin (CST)	14	4.1	Tail width (TAW)	16	4.7
Terminal caudal margin (CTR)	19	5.5	Caudal peduncle width (CPW)	9	2.6

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

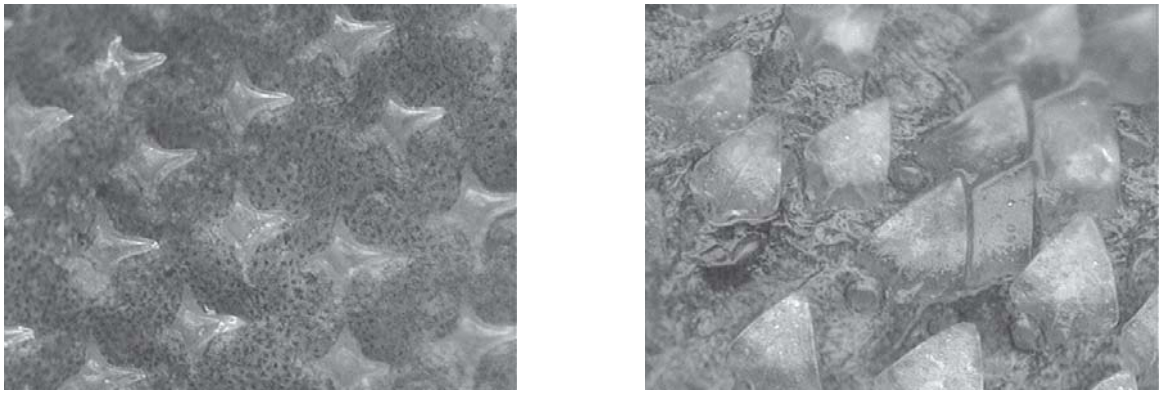

Figure 2. Dermal denticles of *Dalatias licha*, MOVI 16034, neonate male 344 mm TL. Taken just below first dorsal fin (left) and on ventral snout (right).

Figure 3. Global distribution of *Dalatias licha* including the new Brazilian record indicated by a circle.

The maximum size to at least 159 cm, possibly to 182 cm, males adult between 77 to 121 cm, females between 117 to 159 cm (Compagno, 1984). Bigelow & Schroeder (1948) state that *D. licha* is born at about 30 cm in length. The Brazilian specimen, a 34.4 cm male, had an unhealed umbilical slit, corroborating the neonate stage.

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