

**COMUNICACIONES ZOOLOGICAS DEL MUSEO
DE HISTORIA NATURAL DE MONTEVIDEO****Número 178****1992****Volumen XII****FIRST RECORD OF FRASER'S DOLPHIN, *Lagenodelphis
hosei*, IN THE SOUTH ATLANTIC OCEAN.
(MAMMALIA: CETACEA: DELPHINIDAE)****RICARDO PRADERI *, GABRIELA PRADERI *, & RODRIGO GARCÍA ****

RESUMEN: *Primer registro del Delfin de Fraser, Lagenodelphis hosei, en el Océano Atlántico Sur.* – Se cita esta especie por primera vez para el Atlántico Sur. Se proporcionan medidas externas y craneanas de cuatro ejemplares procedentes de costas uruguayas en el Río de la Plata y Océano Atlántico

Lagenodelphis hosei FRASER, 1956, is a pelagic-habits dolphin, with a well known distribution in tropical waters of the Pacific Ocean (PERRIN et al., 1973), and partially known in the Indian Ocean (ROSS, 1984). In the Atlantic Ocean, it has been recorded in three localities in the northern hemisphere: Jaudy, northern coast of France (VAN BREE et al., 1986); Marquesas Keys, Florida (HERSH & ODELL, 1986); and Saint Vincent Island, Caribbean (CALDWELL et al., 1976). There are no records of this species in the South Atlantic Ocean (PERRIN et al., in press).

Materials And Methods

On March 8th, 1991, we found a dead dolphin on a beach of the Uruguayan coast along the Atlantic Ocean, 3 km NE of Punta José Ignacio (34°49'30"S - 54°37'W). The specimen (MNHN-M 3267) was in an advanced condition of decay, with the skull partially separated from the body, some viscera and part of the vertebrae missing. However we were still able to determine it was a female and to take some approximate external measurements.

*) Museo Nacional de Historia Natural, Casilla de Correo 399, 11.000 Montevideo, Uruguay.

***) Depto. Oceanografía, Facultad Ciencias, Montevideo, Uruguay.

On March 16th, 1991, two more dolphins (MNHN-M 3273 and MNHN-M 3274), were found on a beach along the Río de la Plata, 3 km SW from the mouth of Arroyo Pando (34°48'S - 55°51'10"W). These two specimens were together and very close to a Sea Turtle (*Dermochelys coriacea*); although both carcasses were in an advanced state of decomposition, we were able to determine they were both females.

On March 27th, 1991, we found another dolphin on a beach along the Río de la Plata, 200 m E from the mouth of Arroyo del Potrero (34°52'30"S - 55°06'W). Despite its poor condition we determined it was a male, partially eviscerated, (MNHN-M 3268). We took external measurements and collected the complete skulls of the four specimens. At present they are preserved in the cetaceans collection of the National Museum of Natural History in Montevideo.

Results And Discussion

The most important external measurements of MNHN-M 3267 and 3268, and some of 3273, are shown in Table 1, together with those given by PERRIN et al. (in press) for *Lagenodelphis hosei*.

Due to the severe state of decay of all specimens, it was impossible to recognize the normal colour pattern. Specimens 3267 and 3268 were eviscerated, and it was impossible to determine pigmentation gradients. However, on specimens 3273 and 3274, both females, despite of their state of decomposition, certain pigmentation characteristics were recognizable. In general the colour pattern of these two specimens, was similar to that described by ROSS (1984): dark grey colouring on the back, top section of the flanks, pectoral fins and tail. Flipper stripe and eye-to-anus stripe, are also of the same colour, similar that described by PERRIN et al. (1973). Neither a dark stripe nor a greyish yellow lateral stripe, as indicated by TOBAYAMA et al. (1973), and LEATHERWOOD et al. (1983) was found. The bad condition of all the specimens, as well as the unclear pattern of some, made difficult the species determination based upon external characteristics. However, the snout, well shaped and excessively short, was one of the most significant characteristics. The external measurements of specimens 3267, 3268 and 3273 are approximate, although they are within the range given by PERRIN et al. (in press) for this species.

In accordance with VAN BREE et al. (1986) the sexual maturity would reach 7 years of age, with a total length of 230 cm. According to these figures, the three female specimens of Uruguay (MNHN-M 3267, 3273 and 3274) would be subadult.

Genus *Lagenodelphis* is characterized by the shape of its skull. The calvarium is wide and strongly built, but the basal width of the rostrum is a characteristic of this genus since it constitutes 48 and 55 % of the rostral length. The preorbital processes are longer than the orbit. Small temporal fossae, at an orientation of approximately 40° in relation to the horizontal axis of the skull.

MNHN-M 3268 is an adult male specimen, with a highly ossified skull, as evidenced by the parieto-occipital, squamosal and orbito-sphenoidal sutures. The premaxillaries are mesially in contact and are distally joined with the maxillaries. The length of the preorbital process is greater than the orbit length.

MNHN-M 3273 and 3274 are subadult female skulls, on which the preorbital process is also longer than the orbit; the premaxillaries are neither mesially in contact in the rostrum, nor distally joined with the maxillaries. MNHN-M 3267 is the skull of a subadult female, with similar characteristics as the preceding specimens, except that the length of the preorbital process on the left side, is equal to the length of the orbit itself. On the right side, however, the preorbital process is shorter than the orbit. This difference could perhaps be due to an ontogenetic process.

The skull measurements and meristics of MNHN-M 3268 are in accordance with the figures given by PERRIN et al. (in press) for adult specimens of *Lagenodelphis hosei* (Table 2).

The measurements of the three remaining specimens, all female, correspond to the variability of the subadult specimens, compared with those given by MIYAZAKI & WADA (1978).

Based on the study of the skulls, we conclude that the four specimens belong to *Lagenodelphis hosei* FRASER, 1956.

The distribution of this species in South Africa is closely related to the warm waters of the Agulhas Current (ROSS, 1984).

Dolphins stranded in beaches of temperate waters as the ones found in Brittany, France; and Victoria, Australia "may represent extralimital forays connected with temporary oceanographic anomalies..." (PERRIN et al., in press).

The finding of these four specimens on the Uruguayan coast represent the first record of this species for the South Atlantic.

During the months of February and March 1991, the water's salinity on the oceanic coast of Uruguay was 34,09 gr/oo, subs-

tentially higher than the average in the years 1986-90, which was 26,19 gr/oo. Water temperature on its top-level was 20,3° C., compared with 19,7° C. for the average of the years 1986-90. There were no strong winds during February and March 1991. During February, the average intensity was 10,5 knots (Beaufort 4) with winds from the south. In March 1991, the average intensity registered was 10,3 knots (Beaufort 3) with winds mainly from the south (source of information: S.O.H.M.A.). The high salinity registered might be due to the influence of the warm Brazil Current and might be a possible explanation for the appearance of this neatly tropical species in temperate waters.

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Table 1 External measurements (in cm) of Uruguayan specimens of *Lagenodelphis hosei*, compared with ranges of measurements of adult and adult-sized specimens in PERRIN et al. (in press).

	Perrin et al.	MNHN-M 3267	MNHN-M 3268	MNHN-M 3273
Total length	200-270	223	268	228
Tip upper jaw to apex of melon	3-6	4.5	3.5	
Tip upper jaw to end of gape	22-28	23	26	24
Tip upper jaw to tip dorsal fin	89-160	121	142	
Anterior length of flipper	22-29	24.5	26	26
Width of flipper	7-9	7.3	7.5	7.5
Posterior length of flipper		20	20	20
Span of flukes, tip to tip	41-59	52	57	
Height dorsal fin	13-22	17	22	17

Table 2 -- Skul measurements (in mms) and meristics of Uruguayan specimens, compared with ranges of measurements of adult specimens of *Leagodelphis hosei* from PERRIN et al. (in press).

	Perrin et al. (in press)	MNHN-M 3268	MNHN-M 3267	MNHN-M 3273	MNHN-M 3274
Condilobasal length	401-456	435	390	405	409
Length of rostrum	214-252	239	213	225	225
Width rostrum at base	107-131	128	115	118	122
Width rostrum at 60 mm		89	81	85	85
Width rostrum at midlength	65-80	79	70	69	71
Width Pmx's at midlength		38	34	32	35
Width rostrum at 3/4 length		60	58	50	55
Rostrum tip to external nares		304	270	280	280
Rostrum tip to internal nares		301	267	274	285
Greatest preorbital width	199-223	217	196	204	210
Greatest postorbital width	219-247	236	222	225	231
Greatest width external nares		47	43	45	49
Zygomatic width	217-240	232	218	224	225
Greatest width of Pmx's	68-83	80	77	79	77
Parietal width	159-	172	160	165	169
Length of temporal fossae	60-78	71	64	64	71
Height of temporal fossae	42-63	42	38	39	46
Length of left orbit		57	54	56	55
Length of preorbital proc.		62	54	60	63
Width of internal nares		62		57	-
Length of upper toothrow		207	179	194	193
Length of lower toothrow		209	180	198	
Length of ramus	335-375	374	338	357	
Height of ramus at coronoid		75	73	67	
Length of symphysis		39	32	43	
Number of teeth	36-44	39-39	37-38	41-40	40-40
	34-44	42-41	37-38	41-39	

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