

RECORDS OF THE DELPHINID GENUS *STENELLA* IN WESTERN SOUTH ATLANTIC WATERS

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INTRODUCTION

Little information has been published on *Stenella* spp. from the western South Atlantic Ocean. Numerous references (Lahille, 1899 and 1905; Beddard, 1900; van Beneden and Gervais, 1880; Figueira, 1894; and others—see text) exist citing the long-snouted dolphin, *S. longirostris*, in Brazil, Uruguay, and Argentina, but none of these reports are confirmed with specimens. A single report of *S. attenuata* in this area is an unconfirmed mention from Cape Horn (Beddard, 1900). The holotype of the striped dolphin, *S. coeruleoalba*, was collected somewhere around the mouth of the Rio de la Plata (River Plate) between Uruguay and Argentina (Meyen, 1833). Since that time only three additional specimens have been reported from this region (Malm, 1871; and Praderi, *In*: Ximenez, *et al.*, 1972).

The purpose of this note is to provide information on museum specimens of *Stenella* spp. in Uruguay and Argentina. We will also discuss the older references of *S. longirostris* in western South Atlantic waters.

MATERIALS

The present study is based on the examination of the cetacean collections in five South American museums. These are: Museo Argentino de Ciencias Naturales "Bernardino Rivadavia", Buenos Aires, Argentina (MACNBA); Museo de La Plata, La Plata, Argentina (MLP); Museo Nacional de Historia Natural de Montevideo, Uruguay (MNHNM); Museu Nacional do Zoologia de la Universidad de Sao Paulo, Brazil (MZSP); and Museu Nacional do Rio de Janeiro, Brazil (MNRJ). No specimens of *Stenella* were found in either of the Brazilian museums.

SPECIES ACCOUNTS

Stenella coeruleoalba—Fraser and Noble (1970) have concluded, based on pigmentation patterns of specimens, that several nominal species of *Stenella* (*Delphinus coeruleoalbus* Meyen, 1833; *D. marginatus* Desmarest, 1855±1; *D. euphrosyne*, Gray 1846; *D. styx*, Gray, 1846; and *D. lateralis* Peale, 1848) with a spinal blaze and eye-to-anus stripe (terminology of Mitchell, 1970) probably belong to one species, *S. coeruleoalba* Meyen, 1833). Hubbs *et al.* (1973) have stated that their records of *S. coeruleoalba* across the tropical Pacific supports the view "that the northern and far-southern populations of this species are conjoined and thus confirms the synonymy adopted by Fraser and Noble (1970)."

We have examined two *S. coeruleoalba* specimens: (1) a skull (MNHNM 1305) from Balneario Solymar, Depto. de Canelones, Uruguay (34°49'S., 55°55'W), Rio de la Plata; and (2) a skull (MACNBA 2625) from Miramar, Pcia. Buenos Aires, Argentina (38°17'S.) Atlantic Ocean. The cranium from Punta Jose Ignacio, Uruguay that Praderi reported in Ximenez *et al.* (1972) was not available to us.

The only skull measurements available for this species from the type locality are those of Meyen (1833) and Malm (1871: 63, holotype of *Clymenia burmeisteri*). Cranial dimensions in millimeters and dental counts of the two specimens we examined of *S. coeruleoalba* are presented in Table 1. No additional information is available for the Miramar specimen. The Solymar skull was collected from a stranded specimen by Praderi on 23 August 1959. The total length of the carcass (notch to tip of lower jaw) was 242 cm. The specimen was a male.

Stenella spp.—Various scientific names are currently used for spotted dolphins. These include *S. attenuata* (Gray, 1846) in the Pacific, Indian, and Atlantic Oceans, and *S. dubia* (G. Cuvier, 1812); *S. frontalis* (G. Cuvier, 1829), and *S. plagiodon* (Cope, 1866) in the Atlantic. There are probably only two valid species (Perrin, 1975).

We examined one skull that can be referred to the spotted dolphin complex. This specimen (MACNBA 23-46) is from Mar del Plata, Pcia. Buenos Aires, Argentina (38°00'S.) Atlantic Ocean. The date of collection was 1923, but no additional information is available for this specimen. Skull measurements and dental counts of this specimen are presented in Table 1. The skull is illustrated in Plate 1.

Stenella longirostris—This species was described as *Delphinus longirostris* from an unknown locality (Gray, 1828). Van Bree (1971) stated that the complete synonymy proposed by Hershkovitz (1966: 37-40) is probably correct, but "much more must be known before definite conclusions can be drawn about the taxonomic status and nomenclature of *Stenella longirostris*." This species has been reported from both sides of the tropical Atlantic Ocean (Moore, 1953; Cadenat and Doutre, 1959; Layne, 1965; van Bree, 1971; Caldwell *et al.*, 1971; and van Halewijn and van Bree, 1972). We found no specimens referable to

TABLE 1. SKULL MEASUREMENTS (MILLIMETERS) AND DENTAL COUNTS OF STENELLA SPP. FROM WESTERN SOUTH ATLANTIC WATERS.

| Measurements | MACNBA | | MNHN | MACNBA | |
|--|------------|-------|------------|-------------|-------|
| | 2625 mm | % CBL | 1305 mm | 23-46 mm | % CBL |
| Condyllo-basal length | 442 | 100.0 | 402+ | 389 | 100.0 |
| Rostrum length | 260 | 58.8 | — | 230 | 59.1 |
| Rostrum basal width | 111 | 25.1 | 120 | 93 | 23.9 |
| Rostrum, width 60 mm anterior to base | 70 | 15.8 | 77 | 60 | 15.4 |
| Rostrum, width at middle | 59 | 13.3 | — | 45 | 11.6 |
| Rostrum, width at 3/4 the distance from the base | — | — | — | 34 | 8.7 |
| Premaxillae width at middle | — | — | — | 24 | 6.2 |
| Tip of snout to blowhole | 305 | 69.0 | — | 272 | 69.9 |
| Tip of snout to pterygoid | 321 | 72.6 | — | — | — |
| Preorbital width | 185 | 41.8 | 217 | 163 | 41.9 |
| Post-orbital width | 206 | 46.6 | 236 | — | — |
| Orbital width | 191 | 43.2 | 215 | 162 | 41.6 |
| Zygomatic breadth | 209 | 47.3 | 233 | — | — |
| Blowhole, width at | — | — | — | 43 | 11.1 |
| Maximum width premaxillae | — | — | — | 70 | 18.0 |
| Braincase width across parietals | 150 | 33.9 | 174 | 142 | 36.5 |
| Temporal fossa length | 71 | 16.1 | 71 | 65 | 16.7 |
| Temporal fossa height | 46 | 10.4 | 45 | 48 | 12.3 |
| Length of tooth row upper R. | 230 | 52.0 | — | 186 | 47.8 |
| Length of tooth row upper L. | 229 | 51.8 | — | 189 | 48.6 |
| Mandible length | 374 | 84.6 | 407 | — | — |
| Coronoid height | 67 | 15.1 | 76 | — | — |
| Length of symphysis | 50 | 11.3 | — | — | — |
| Length of tooth row lower R. | 226 | 51.1 | 231 | — | — |
| Length of tooth row lower L. | 226 | 51.1 | 227 | — | — |
| Number of teeth upper R. | 44 | — | — | 34+ | — |
| Number of teeth upper L. | 45 | — | — | 37 | — |
| Number of teeth lower R. | 43 | — | 50+ | — | — |
| Number of teeth lower L. | 43 | — | 49+ | — | — |

S. longirostris in five eastern South American museums. As noted in the introduction, numerous authors have reported *S. longirostris* and the probably conspecific nominal species (see van Bree, 1971) *Delphinus alope* and *D. microps* from localities including Brazil, Uruguay, Argentina and Cape Horn. All southern "records" are without documented specimens or observations. In view of this confusion, we present below the genesis and chronological review of western South Atlantic "records" for this species.

Gray (1866) reported *Delphinus alope* from "Cape Horn", but the specimen is apparently now not extant in the British Museum (Natural History) and no

additional information is available in the museum on the collection locality of this specimen (W. F. Perrin, per. comm., 1973). Based on the valid records of *S. longirostris*, this species is known worldwide only in tropical waters. It is extremely unlikely that *S. longirostris* will ever be recorded from the cold-temperate waters of southern South America. In fact, this species is still not known from any of warm-temperate waters of the world. The reports of this species from Chilean waters by Schneider (1946) and Mann (1957) are without any type of documentation and should be discounted. The "records" of Gray (1866), Schneider (1946) and Mann (1957) are probably what influenced Marcuzzi and Pilleri (1971) to map the erroneous distribution of *S. longirostris* around Cape Horn.

Gray's comments (1850 : 126, 1866 : 240 and 1871 : 69) are all apparently based on one specimen of *Delphinus microps* from the "coast of Brazils" from Dr. Dickie's collection. This specimen was probably collected in the tropical waters somewhere north and east of Rio de Janeiro. Burmeister (1867 and 1879) provided the following accounts about *D. microps*: (1867) "vive en el alto mar Atlantico al sud del ecuador y se presenta muchas veces a los viajeros en buques de velas. Tenemos en el Museo Publico dos craneos completos, el uno regalado por el Sr. Dr. D. Miguel Olaguer Feliu", (We could not find either of these skulls in the museum, MACNBA.) and (1879) "on trouve cette espece dans l'Ocean Atlantique, principalement au sud de l'Equateur, par troupes de 20 a 30 individus. Ils suivent quelquefois la marche du navire et passent en bondissant a son avant. Je les ai apercus et etudies plusieurs fois pendant les quatre voyages que j'ai faits dans cette partie de l'Ocean. (Voyez mon voyage du Bresil, page 37, Berlin 1853)". Van Beneden and Gervais (1880) cited *D. microps* from the mouth of the Rio de la Plata and the coast of Brazil. They provided no new data and probably just followed the above statements by Gray and Burmeister. Figueira (1894) noted that "*Delphinus microps* Gray. Tonina. Es una de las especies mas comunes en nuestras costas sobre el Rio de la Plata, especialmente en los meses de Noviembre a Febrero". Tonina is used today in Uruguay by laymen for *Tursiops* cf. *truncatus* and this is what Figueira's records of *D. microps* must have been. Lahille only noted the following: (1899) "*Delphinus delphis* Linneo. Esta especie (*D. microps* Burm, nec Gray) se ha notado en las costas del Chubut" and (1905) "*Prodelphinus longirostris*. Cabo de Buena Esperanza, Australia; Costas de la Provincia de Buenos Aires". Carcelles (1948) stated that "*Prodelphinus longirostris* Cuvier, Habita tambien el litoral atlantico bonaerense, asi como las Islas Galapagos, Panama, Australia. En el Museo de la Estacion Hidrobiologica de Puerto Quequen, puede verse un modelo en yeso del craneo".

RESUMEN

Se proporcionan medidas y detalles de 3 especimenes de delfinidos del genero *Stenella* del Oceano Atlantico Sudoccidental. Se cita por primera vez para esta

area un ejemplar del "spotted species complex". Se mencionan tambien 2 especimenes de *S. coeruleoalba*, 1 de Uruguay y 1 de Argentina, de las proximidades de la localidad tipica (desembocadura del Rio de la Plata). De *S. longirostris* no se encontraron ejemplares en ninguna de las colecciones de 5 museos sudamericanes (ver Materials) del cual tampoco existen datos de especimenes documentados en la literatura, citados para el Oceano Atlantico Sudoccidental.

ACKNOWLEDGMENTS

We are indebted to the following for allowing us to examine specimens in their care: Jorge Crespo and Elisa Kantis (MACNBA); Raul Aramburu (MLP); Miguel A. Klappenbach (MNHNM); Paulo Vanzolini (MZSP); and Dalcy de Albuquerque (MNRJ). William F. Perrin provided valuable information and Perrin and P.J.H. van Bree read the manuscript and provided useful criticism.

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EXPLANATION OF PLATE

PLATE I

- Fig. 1. *Stenella* sp. referred to the spotted dolphin complex (see text). This specimen (MACNBA 23-46) is from Mar del Plata, Pcia. Buenos Aires, Argentina (38°00'S.) Atlantic Ocean. Dorsal view of specimen.
- Fig. 2. *Stenella* sp. (MACNBA 23-46) ventral view of specimen.
- Fig. 3. *Stenella* sp. (MACNBA 23-46) lateral view of specimen.



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