NEW RECORDS OF COMMON DOLPHINS (CETACEA: DELPHINIDAE) IN DEEP WATERS OF THE SOUTHWESTERN ATLANTIC OCEAN

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ABSTRACT

Common dolphins (genus Delphinus) constitute one of the most widely distributed small cetaceans commonly found world-wide in temperate, tropical and subtropical seas. In the Southwestern Atlantic Ocean region, they are distributed from the north of Brazil to central Argentina in waters from 18m to 1435m of depth. This paper presents three new records of common dolphins in Uruguayan deep waters (>2800m). These records represent the maximum depths known for the genus Delphinus in the Southwestern Atlantic Ocean and constitute an extension of its longitudinal distribution range.

Keywords: Delphinus, distribution, longitudinal range, sightings.

RESUMEN

Nuevos registros de delfines comunes (Cetacea: Delphinidae) en aguas profundas del Océano Atlántico Suroeste. Los delfines comunes (género Delphinus) son uno de los pequeños cetáceos mayormente distribuidos en los mares tropicales y templados del mundo. En la región del Océano Atlántico Sudoccidental se distribuyen desde el norte de Brasil hasta el centro de Argentina en aguas de 18m a 1435m de profundidad. Este trabajo presenta tres nuevos registros de delfines comunes en aguas profundas uruguayas (>2800m). Estos registros representan las máximas profundidades que se conocen para el género Delphinus en el Océano Atlántico Sudoccidental y constituyen una extensión de su rango de distribución longitudinal.

Palabras clave: avistamientos, Delphinus, distribución, rango longitudinal.

Common dolphins (genus Delphinus) represent one of the most widely distributed small cetaceans as they are found world-wide in temperate, tropical and subtropical seas (Evans, 1994). In the Southwestern Atlantic Ocean, the most recent review conducted on the biogeography of the genus Delphinus identified three stocks of common dolphins (Tavares et al., 2010): one located in the north of Brazil (Pará State, stock 1), another located in the southeastern of Brazil (from Rio de Janeiro State to Santa Catalina State, stock 2), and the third one located from the south of Brazil (Santa Catalina State) to the central area of Argentina (Chubut Province, Stock 3). In southeastern Brazil sightings were restricted to coastal waters in depths ranging from 18m to 70m. For the area that extends from southern Brazil to Argentina sightings were recorded in deeper waters, ranging from 71m to 1435m in the middle continental shelf and slope, with occasional coastal sightings in Argentina (Tavares et al., 2010). In Uruguayan waters, information about cetacean distribution comes primarily from stranding records (as reported by Del Bene et al., 2006; González & Martínez, 2010), as well as a small number of offshore sighting records (Tavares et al., 2010; Juri et al., 2012; Passadore et al., 2015). The aim of this paper is to present new records of common dolphins for deeper waters (> 2800 m) in the Southwestern Atlantic Ocean.

The study area is located in the Southwestern Atlantic Ocean, between latitude 34° and 38° S, an area that overlaps with the Subtropical Convergence. The Subtropical Convergence is the most relevant oceanographic feature of the Southwestern Atlantic Ocean; which is the encounter of cold waters from the Malvinas/Falkland current with warm waters from the subtropical Brazil current (Seeliger et al., 1997). The Subtropical Convergence is considered one of the most productive regions in all the oceans, which offers great amount of food supplies and/or reproductive habitat for nektonic species such as fishes, squids and marine mammals (Acha et al., 2004).

Data were recorded by the author during marine mammal mitigation programs on seismic surveys in the Southwestern Atlantic Ocean, from November 2012 to April 2013, and from October 2013 to January 2014 in depths ranging from 1300m to 4100m. Geographical position and bathymetric data were obtained from the navigation instruments of the vessel. In this study, the only sightings considered were those in which the identification of the species was absolutely unquestionable, supported by photographic record.

During the sampling effort (9 hours a day on
Table 1. Records of common dolphins beyond the continental shelf (>200m depth) in Uruguayan waters.

| Date             | Latitude     | Longitude     | Depth (m) | Number of individuals | Source                          |
|------------------|--------------|---------------|-----------|-----------------------|---------------------------------|
| 7 March 2002     | 35° 22.200’S | 52° 43.800’W  | 219       | 1                     | bycatch Passadore et al. (2015) |
| 6 September 2002 | 34° 46.000’2S| 52° 03.000’2W | 342       | 2                     | bycatch Juri et al. (2012)      |
| 25 October 2002  | 35° 49.200’2S| 52° 13.200’W  | 819       | 2                     | bycatch Passadore et al. (2015) |
| 14 November 2003 | 35° 02.000’2S| 51° 13.000’2W | 1435      | NA                    | Passadore et al. (2015)         |
| 15 December 2005 | 35° 01.020’S | 52° 15.000’W  | 957       | 1                     | bycatch Passadore et al. (2015) |
| 17 December 2005 | 35° 03.000’S | 52° 33.000’W  | 520       | 1                     | bycatch Passadore et al. (2015) |
| 13 December 2012 | 36° 15.709’S | 52° 12.999’W  | 2807      | H-50                  | Present study                   |
| 5 November 2013  | 37° 49.094’S | 52° 15.165’W  | 4070      | H-100                 | Present study                   |
| 31 November 2013 | 36° 19.050’S | 51° 27.560’W  | 3552      | H-40                  | Present study                   |

NA: not available

average), a total of three sighting events were recorded. On December 13th, 2012, a group of approximately 50 individuals was observed in waters over 2807m deep. On November 5th, 2013, a group of approximately 100 individuals was sighted over 4070m deep. Finally, on November 31st, 2013, a sighting of approximately 40 individuals was recorded at a depth of 3552 m (Table 1). The groups of common dolphins can be composed of hundreds or thousands of individuals (Perrin, 2009). In the Southwestern Atlantic Ocean groups of up to 30 individuals are more frequently observed, however groups of 50 to 100 are commonly sighted (Tavares et al., 2010). Therefore, the sightings presented here match with the group size reported for the region.

Fig. 1. Sightings of common dolphins beyond the continental shelf (>200m depth) in Uruguayan waters.
Previous records for the study area (Fig.1) corresponded to: one specimen captured over 342m depth (Juri et al., 2012), four specimens captured incidentally by fishing vessels over 219m, 520m, 819m and 957m depth (Passadore et al., 2015), and a sighting in the marine boundary between Brazilian and Uruguayan waters over 1435m deep (Tavares et al., 2010).

In the Southwestern Atlantic Ocean the records of common dolphins in Brazilian deepest waters occurred in Rio Grande do Sul state at depths of 1435m, 1190m and 1000m (Tavares et al., 2010). In Argentine waters there are incidental captures of common dolphins over the outer continental shelf off Patagonia in depths between 30m and 100m (Crespo et al., 2000) and near Mar del Plata the author observed common dolphins over depths of 95m and 80m in different occasions. Therefore, the records presented here represent the maximum depths known for the genus *Delphinus* in the Southwestern Atlantic Ocean and constitute an extension of the longitudinal distribution range, as also show the need to carry out surveys in areas where there is little information, as being beyond the continental shelf.

ACKNOWLEDGMENTS

I am grateful to Mauricio Tavares and Alfredo Le Bas for their permanent support and their valuable comments that helped to improve this work.

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Fecha de Recibido: 13 de agosto de 2018
Fecha de Aceptado: 2 de octubre de 2018