

## ROUGH-TOOTHED DOLPHIN, *STENO BREDANENSIS*: A NEW SPECIES RECORD FOR THE AZORES, WITH SOME NOTES ON BEHAVIOUR

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### ARQUIPÉLAGO



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Rough-toothed dolphin, *Steno bredanensis*, were observed twice in the Azores. The first time on 14-8-95 a group of 50-60 individuals of mixed ages was seen. They bowrode and appeared to be feeding during part of the encounter. One dolphin was seen pushing an inflated pufferfish along the surface. The second occurrence was on 20-8-95 and was probably the same group of 50-60 animals. This group was observed underwater feeding on snipe fish, *Macrorhamphosus scolopax*, along with Cory's shearwaters, *Calonectris diomedea borealis*. A few other behavioural observations are made.

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O caldeirão, *Steno bredanensis*, foi observado por duas vezes nos Açores. A primeira vez em 14-8-95 num grupo de 50-60 indivíduos de idades variadas. Movimentaram-se na proa do navio e pareceram alimentar-se durante parte do encontro. Um golfinho foi visto a empurrar um peixe-balão insuflado pela superfície. A segunda ocorrência foi em 20-8-95 e seria provavelmente o mesmo grupo de 50-60 animais. Este grupo foi observado debaixo de água alimentando-se de trombeteiro, *Macrorhamphosus scolopax*, juntamente com cagarros, *Calonectris diomedea borealis*. São relatadas outras observações no comportamento desta espécie.

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### INTRODUCTION

Rough-toothed dolphin, *Steno bredanensis*, are widely distributed offshore in tropical, subtropical and warm temperate seas around the world (EVANS 1987; LEATHERWOOD & REEVES 1983). Recorded sea temperatures during sightings of rough-toothed dolphin have always been above 25° C (LEATHERWOOD & REEVES 1983; CAWARDINE 1995). Rough toothed

dolphins have been observed in Madeira (REINER 1981) but they have never been recorded in the Azores (REINER 1988; STEINER & GORDON 1990; REINER et al. 1993).

Their appearance is at first glance similar to bottlenose dolphin, *Tursiops truncatus*, but can be easily distinguished by the white markings all the way around the beak. On further examination the lack of a distinctive beak is noticeable. The forehead slopes directly into the beak with no crease (Fig. 1). Many individuals have blotchy

white/pinkish patches on the flanks and undersides and a few have very pink undersides.

## THE SIGHTINGS

A group of 50-60 rough-toothed dolphins were encountered on 14-8-95 at 38° 41.9' N 28°34.8'W from 19:00-20:45h. They were surfacing in very close knit groupings of 4-7 animals, side by side, practically touching each other. The dolphins were very relaxed and not energetic, bowriding gently at 2 knots. Some of the dolphins would roll over onto their sides or backs and look up at the bowsprit, giving observers a clear view of the white markings around their mouths and blotches on the undersides and flanks.

During the latter half of the encounter the dolphins were presumed to be feeding due to the activity of Cory's shearwaters, *Calonectris diomedea borealis*, around them. There was none of the energetic behaviour (leaping, breaching and lobtailing) that usually occurs during surface feeding bouts of other oceanic dolphin species. While some of the dolphins were feeding, some of the calves, juveniles and a few adults were seen to pirouette with their heads out of the water. The calves and juveniles seemed to be segregated from the adult groups.



Fig. 1. Rough-toothed dolphin leaping next to the boat.

Four inflated puffer fish were seen with the dolphins and one of them, which was upside down, was being pushed around by one of the dolphins. It is thought that the behaviour was some type of play on the part of the dolphin. Toward the end of the encounter, several of the dolphins were observed lying motionless at the surface with their backs and the tops of their heads clearly visible. This behaviour is termed logging by CAWARDINE (1995).

The water temperature was 24.6°C determined by dipping a bucket over the side of the boat for a sample of water and then using a digital thermometer.

A second group of 50-60 animals of mixed ages (probably the same as the first sighting) was encountered on 20-8-95 at 38° 35.7', N 28° 22.2' W from 12:34-14:50h.

Several of the dolphins came over to bowride for a short time, then started milling. Cory's shearwaters were diving into the water and also floating on the surface of the water sticking their heads down into the water. Two swimmers from the boat entered the water to observe what was taking place beneath the surface. There was a 0.5m diameter bait ball of snipe fish, *Macrorhamphosus scolopax*, being fed upon by both dolphins and shearwaters. The dolphins appeared to take turns at the fish ball. One dolphin would approach the ball and when its beak was in the ball would move its head from side to side snapping at the fish, grabbing one or two with each mouthful (Fig. 2). The dolphin may have been using echolocation to select individual fish. The highest frequency component of the echolocation is directly in front of the rostrum (NORRIS & EVANS 1967), and in order to "see" better the dolphin swings its head from side to side scanning the area (EVANS & POWELL 1967). It is also possible that the head movements were to use vision to select prey rather than echolocation as they were so close. After a few mouthfuls, that dolphin would be replaced by another, which would do exactly the same thing. At any one time there would be one or two shearwaters and one dolphin feeding on the same bait ball. It seemed to be only the

largest dolphin which was feeding and the others, including a mother and calf, were milling about the area in groups of 3-5. This might have been due to the presence of the swimmers and only the largest dolphin were bold enough to continue feeding, or it may have been a hierarchical order to feeding on the bait ball. No dolphins were observed actively keeping the fish ball together using lobtails, breaches or by directing bursts of sound from all directions at the fish while one dolphin fed. It seems likely that the fish could detect the threat from the birds and dolphins and maintained the defensive ball themselves. After about 5 minutes the fish closed in on a swimmer for protection and the dolphins left the bait ball. The dolphins then travelled in a north-westerly direction split into 2 subgroups of roughly the same size. The water temperature during this encounter was 25.2°C. This feeding behaviour has been described in other dolphins from the Azores. MARTIN (1986) described three aggregations of dolphins (*Stenella frontalis* and *Tursiops truncatus*) in feeding associations with shearwaters, Cory's shearwater (*Calonectris diomedea borealis*) and great shearwater (*Puffinus gravis*).



Fig. 2. Rough-toothed dolphin feeding on snipe fish.

During the encounters both whistles and echolocation clicks were heard through a towed hydrophone.

The most likely factor influencing its rare occurrence in the Azores is the short time-period

of very warm water around this Archipelago. It is only in the latter part of the Summer (end of July, August and September) that the water temperatures regularly reach higher than 24°C, and only during August and September that it is over 25°C. Two months of warm water may not normally justify a trip from the warm water temperatures further south. If rough-toothed dolphin do prove to be a regular visitor to the Azores, it may be an ideal place to study this little known cetacean.

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