

Preliminary report on the feeding habits of the Peale's dolphin (*Lagenorhynchus australis*) in southern Argentina

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Abstract

Stomach contents collected from 3 Peale's dolphin, accidentally captured in mid-water nets at 46°25'S, 65°50'W were used to describe their prey species in coastal waters of Patagonia in spring. A total of 4 species of prey were found including 2 species of molluscs, 1 crustacean and 1 fish. Of the individual prey species, the most frequently encountered were a kingklip fish (*Genypterus blacodes*) (3 occurrences), a Argentinian shrimp (*Pleoticus muelleri*) (3 occurrences) and a squid (*Loligo patagonica*) (3 occurrences). This species lives on the continental shelf of Argentina. Shrimp and squid are restricted to that area suggesting that Peale's dolphin is a coastal generalist predator in the spring.

Introduction

Very little is known about the biology of the Peale's dolphin (*Lagenorhynchus australis*) although it is frequently observed along the coastal waters of Southern Argentina and Chile throughout the year. Goodall (1980) reported accidental capture of Peale's dolphins in mid-water nets but stomach contents were not examined. We present some preliminary data on feeding habits from 3 females of *Lagenorhynchus australis*.

Materials and Methods

Three female specimens of *Lagenorhynchus australis* were accidentally captured in Medium water nets at 46°25'S, 65°50'W off the coast of Santa Cruz, Argentina on September 21st 1989.

The animals were immediately frozen at -33°C and necropsied 20 days later.

Each specimen was measured (Table 1) and photographed. In the laboratory the stomach contents were repeatedly washed to separate hard from soft food items and the latter were decanted through

graded sieves with mesh sizes of 5 mm, 2.5 mm and 1 mm.

Hard-part food items such as fish otoliths, bones, eyeballs and cephalopod beaks were separated. The material was classified and preserved in 70% ethanol. Fish otoliths were sorted into left and right. Left otoliths that showed no or little signs of erosion were used to determine the number and identity of fish prey ingested.

Eroded otoliths with flattened and broken margins were excluded from the analysis. Otoliths were identified following Torno (1976). Cephalopod beaks were identified using Clarke (1986). R. Gonzalez (Instituto Biología Marina y Pesquera Alte Storni) verified our identification. The number of cephalopods ingested was estimated from the number of lower beaks.

Results

Results of stomach content analysis are summarized in Table 2. Argentinian shrimp (*Pleoticus muelleri*) were found in all stomachs and were the most numerous food item collected (70.8% of total), reflecting the high abundance of this crustacean in the coastal waters of this area. Squid (*Loligo patagonica*) were the next most common

Table 1. Biological data of *Lagenorhynchus australis* accidentally captured in coastal waters of Santa Cruz province - Argentina.

Number of Peale's Dolphin	Length (cm)	Sex	Sexual maturity
Dolphin 1	210	Female	Mature
Dolphin 2	193	Female	Onset of pregnancy
Dolphin 3	185	Female	Immature

Table 2. Stomach Contents of *Lagenorhynchus australis* accidentally captured in coastal waters of Santz Cruz - Argentina.

Prey items	Number of individuals	Percentages of total number of prey items	Number of dolphins in which occurred (n)
Fish			
<i>Genypterus blacodes</i>	19	10.27%	3
Cephalopods			
<i>Loligo patagonica</i>	34	18.37%	3
Bivalve			
Unidentified bivalve	01	00.54%	1
Crustacean			
<i>Pleoticus muelleri</i>	131	70.80%	3

Table 3. Number of percentages of prey items of each dolphin.

<i>Lagenorhynchus australis</i> #	Shrimp	Squid	Kingklip	Bivalve	Total
Dolphin 1	6 (29%)	2 (10%)	12 (51%)	1 (5%)	21 (100%)
Dolphin 2	44 (80%)	8 (15%)	3 (5%)	0	55 (100%)
Dolphin 3	81 (74%)	24 (22%)	4 (4%)	0	109 (100%)

food item (18.4%) followed by kingklip fish (*Genypterus blacodes*) (10.3%).

Kingklip fish were the predominant food item (51% of total) in the stomach of the adult (Dolphin 1) while Argentinian shrimp predominated (74% of total) in the stomach of juveniles (Table 3).

There was no difference in the composition of the diet of Dolphins 2 and 3.

Discussion

There was a significant difference in the composition of food items in the stomachs of the dolphins examined. All dolphins were caught at about the same time in the same location so the differences are unlikely to be due to spatial or temporal variation of the prey. With such small sample size it is impossible to tell whether the difference should be attributed to individual difference, age and hunting ability. The waters where the dolphins were caught are highly productive.

The principal southern Patagonian commercial fishing effort is concentrated in the waters off the coast of Santa Cruz. As many as 130 fishing boats fish the waters for shrimp and squid. The kingklip fish are caught primarily in the spring. The high

occurrence of shrimp, squid and fish in shallow coastal water of southern Patagonia suggested that individuals could select different prey items. Würsig and Würsig (1979) reported that Bottlenose dolphins (*Tursiops truncatus*) in Argentine waters usually fed on reef or rock-dwelling fish but also preyed on anchovy schools when they were available.

All of the noted prey species live on the continental shelf of Argentina and the presence of shrimp and squid, which are restricted to that area, suggests that Peale's dolphin is a coastal generalist predator in spring.

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