

CONTENTS OF THE DIGESTIVE TRACT OF A FALSE KILLER WHALE (*PSEUDORCA CRASSIDENS*) STRANDED IN GRAN CANARIA (CANARY ISLANDS, CENTRAL EAST ATLANTIC)

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ABSTRACT

The digestive system contents of one male false killer whale *Pseudorca crassidens* stranded on the northeast coast of Gran Canaria in March 1996 were analysed. The stomach contained cephalopod beaks and parasitic nematodes and parasites comprised the bulk of the intestinal contents. At least six cephalopod species were present, the most important by number being *Thysanoteuthis rhombus*, *Argonauta* sp. and ommastrephids. Most of the cephalopod species represented inhabit the epipelagic zone.

The false killer whale, *Pseudorca crassidens* Owen, 1846 (Cetacea, Delphinidae), is well distributed in tropical and warm temperate seas, and found mainly in offshore waters (Van-Waerebeek and De-Smet, 1996; Acevedo-Gutierrez et al., 1997). Little is known about its biology (Jefferson et al., 1993; Acevedo-Gutierrez et al., 1997). Records from the eastern Atlantic are scarce, with only two records from the west African coast (Van-Waerebeek and De-Smet, 1996) and one from Azores Islands (Reiner and Lacerda, 1989). There are no previous records of this species around the Canary Islands (Martín et al., 1995). Knowledge of its diet is also poor (Palacios and Mate, 1996); although fish and squid are considered to be the main prey (Baird et al., 1989; Reiner and Lacerda, 1989; Palacios and Mate, 1996). This paper reports the digestive tract contents of one specimen stranded in Gran Canaria (Canary Islands).

MATERIAL AND METHODS

A *P. crassidens* male was found stranded on the northeast coast of Gran Canaria (27°59'N, 15°23'W) in March 1996. This was a mature male weighting approximately 1500 kg. The digestive system was extracted and dissected. The stomach contents were fixed in alcohol. The intestine, excluding parasites, was empty.

Cephalopod beaks were identified using a reference collection and Clarke's guide (1986). Lower rostral or hood lengths (LRL, HL), in squid and octopuses respectively, were measured (to 0.01 mm) with vernier callipers or with a micrometer installed in a stereoscopic microscope (for smaller beaks). Parasites from the stomach and intestine, as well as external parasites, were identified to major groups.

RESULTS

The stomach contents comprised 29 upper and 22 lower cephalopod beaks, a large hook and a small number of parasites (nematodes). Beaks were divided into two groups, large and small beaks (Table 1). The largest beak, identified as *Ommastrephes bartramii*, had the tip of the rostrum deeply eroded. The original LRL obtained was estimated to be approximately 17.5 mm (Table 1). Among the small lower beaks, there were ten beaks (without wings), probably from ommastrephid species. Other small beaks included one from *Thysanoteuthis rhombus* (Table 1). A considerable number of cyamids (Crustacea,

Table 1. Cephalopods identified from beaks found in the stomach content of a false killer whale, *Pseudorca crassidens*, stranded in Gran Canaria (Canary Islands). n = number, NI = not identified. Measurements in mm.

Group	Beaks	n Beaks	LRL / HL	Species	Notes	
Large beaks	Upper	1		<i>Thysanoteuthis rhombus</i>		
		3		Teuthoids not identified		
		1		<i>Ommastrephes bartramii</i>		
		1		Ommastrephid		
		6		Argonauthidae		
	Lower	2	4.05, 3.60	<i>Argonauta</i> sp.		
		1	12.1	<i>Argonauta</i> sp.		
		2	14.3 (17.5), 7.08	<i>Ommastrephes bartramii</i>		
		2	6.35, 5.70	<i>Thysanoteuthis rhombus</i>		
		1	6.48	<i>Chiroteuthis</i> sp.		
Small beaks	Upper	17	0.90– 1.80	At least 4 species	Ommastrephids included	
		Lower	1	1.50	<i>Argonauta</i> sp.	
			1	1.30	<i>Thysanoteuthis rhombus</i>	
	1		2.20	NI	Similar to <i>Ctenopteryx</i> sp.	
	10	1.30–2.15	Ommastrephids	Without wings		
	1	1.15	NI	Beak without lateral walls		
Total		51				

Amphipoda) was found on the skin. Fixed to the base of the teeth, there were several masses of *Conchoderma auritum*. The intestine contained many acanthocephalans, producing a constriction of the intestine due their abundance. At least 3 parasite species were present. The most abundant was probably a *Bolbosoma* sp. *Taenia* sp. (Cestoda) and a third group (probably another species of the genus *Bolbosoma*, Acanthocephala) were also present.

DISCUSSION

Some large beaks were very fragile and eroded, probably ingested a long time before the stranding date. The small beaks were not so eroded, but they were broken. Perhaps these beaks belonged to small cephalopods eaten by the large ones. Although the sample size was small, it is apparent that the whale had eaten several cephalopod species, with a wide size range. Other workers have reported only one or two cephalopod species at time in the diet of this species (Baird et al., 1989). Similar size mammals (e.g., *Globicephala macrorhynchus*, *Kogia breviceps*) feeding in this area prey on fish, crustaceans and deep-water cephalopod (Hernández-García and Martín, 1994, 1996). No fish or crustacean remains were found in this case. The large cephalopod species eaten inhabit mainly upper water layer (*Thysanoteuthis*, *Argonauta*, also *O. bartramii* at night), but no species restricted to deeper layers were found. A similar case of high parasite load, with constriction of the intestine, was observed by Kikuchi and Nakajima (1993). Cyamids were reported for this mammal species by Sedlak-Weinstein (1991).

The whale had a wound at the anterior end of the oesophagus (Dr. J. González, pers. comm.), which is consistent with having been caught by one of the hooks on a longline. Such a hook was present in the stomach.

The false killer whale has been reported as a common species associated to the tuna fishery in the eastern tropical Pacific (Palacios and Mate, 1996), and takes bait from longlines (Jefferson et al., 1993). In the central east Atlantic, the longline fishery targets several tuna species, tuna-like species and swordfish (*Xiphias gladius*) and has a by-catch mainly of sharks. Squid is often used as bait in this fishery, which could attract whales to the hooks.

ACKNOWLEDGMENTS

Thanks are given to J. González for help with collecting the material, to U. Piatkowski for help with part of the literature cited, to V. Martín for help with identification of the parasite sample, and to M. R. Clarke, anonymous referees and editors for providing constructive criticism.

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