REPORT ON THE SMALL CETACEANS STRANDED ON THE COASTS OF TIERRA DEL FUEGO*

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ABSTRACT

Little work has been done on the smaller cetaceans of Tierra del Fuego. Data on strandings and new specimens for the following 14 species is presented: *Lagenorhynchus australis*, *Cephalorhynchus commersonii*, *Lissodelphis peronii*, *Globicephala melaena*, *Orcinus orca*, *Phocoena spinipinnis*, *P. dioptrica*, *Tasmacetus shepherdi*, *Berardius arnuxii*, *Mesoplodon layardii*, *M. grayi*, *M. hectori*, *Ziphius cavirostris*, and *Hyperoodon planifrons*. Area characteristics, exploitation and distribution are discussed. This study amplifies the known distribution of some species and increases the number of known specimens of others.

RESUMEN

Hay pocos estudios sobre los cetaceos ménores de Tierra del Fuego. Se presentan datos sobre varamientos y nuevos ejemplares de los siguientes 14 especies: *Lagenorhynchus australis*, *Cephalorhynchus commersonii*, *Lissodelphis peronii*, *Globicephala melaena*, *Orcinus orca*, *Phocoena spinipinnis*, *P. dioptrica*, *Tasmacetus shepherdi*, *Berardius arnuxii*, *Mesoplodon layardii*, *M. grayi*, *M. hectori*, *Ziphius cavirostris* e *Hyperoodon planifrons*. Se proporcionan detalles sobre las caracteristicas de la zona, explotación y distribución. El estudio amplifica la distribución conocida de algunas especies y aumenta el número de ejemplos conocidos de otras especies.

INTRODUCTION

Between the latitude of the southernmost point of New Zealand (47°S) and the main body of the Antarctic continent (70°S), the only land is the southern tip of South America, the Antarctic Peninsula and a few isolated islands. Throughout this immense area of water there is very little traffic. The only ships passing are research vessels going to and from the Antarctic and a few fishing or whaling ships. The only planes are those flying to Antarctic bases. There are few beaches where dead or dying cetaceans can wash up, and the beaches that do exist, facing the west-east currents, are either so rocky that the animals are immediately broken up or so isolated that no one visits them. Thus, the smaller cetaceans of the Southern Ocean are very incompletely known.

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Tierra del Fuego, the mass of islands off the southern tip of South America, extends down into the Southern Ocean and breaks the movement of its waters, which must pass between Cape Horn and the Antarctic Peninsula. There is a long history of large whale strandings in Tierra del Fuego (Bridges 1897, Castello and Piñero 1974, local residents pers. comm.) but until very recently practically no one noticed the smaller animals that washed up on the beaches, even though cool climatic conditions prolong the decomposition process.

During expeditions along the beaches looking for botanical specimens, I began picking up a few skulls. On learning of their rarity, expeditions were made especially for stranded cetacean material. It has become apparent that a great many animals strand on the coasts of Tierra del Fuego and that the majority of these have been lost to science. Specimens have been so numerous that most trips have had to be cut short for lack of space in transporting the bones. In one day, on the southwestern beach at Bahía San Sebastián, 88 specimens were collected.

AREA CHARACTERISTICS

The Archipelago of Tierra del Fuego is a maze of intricate channels and islands. The western and southern islands are steep and rocky and any cetaceans stranded there would probably soon be lost. It is impossible to get to that area without using boats. The northern and northeastern parts of the Isla Grande de Tierra del Fuego, however, are flatter and a series of roads allow access to stretches of sandy

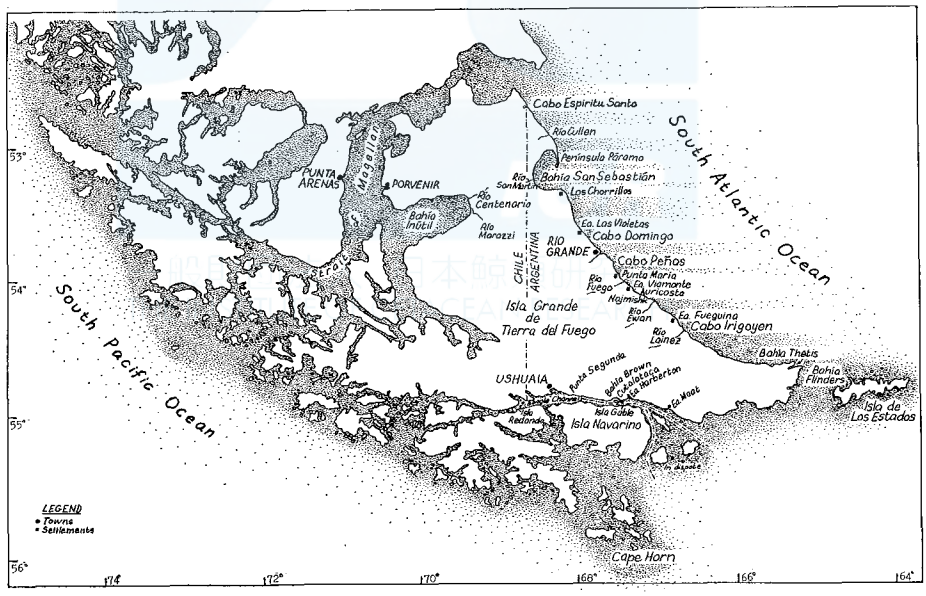

Fig. 1. Map of TIERRA DEL FUEGO showing sites where cetacean specimens were collected.

or stony beaches. It is on these beaches that bones are left by the highest tides.

I have had access only to the Atlantic coast and the eastern Beagle Channel in Argentine Fuegia and eastern Bahía Inútil in the Chilean part. Place names of the areas collected are given in Fig. 1.

There is a large tidal variance on the eastern coast of Tierra del Fuego, from 2.7 m in the Beagle Channel to 9.7 m at Río Grande and a record 15.8 m at Río Gallegos in the Province of Santa Cruz. This tidal range coupled with a fairly flat continental shelf exposes great areas, especially in large, shallow bays such as Bahía San Sebastián. The western and southwestern shores of this bay have produced the greatest amount of stranded material to date. In fact, this area is known to the men of the nearby Argentine border police station as the " cemetery of the whales."

Bahía San Sebastián. This large bay (53°10′S, 68°30′W) opens to the east; the distance across the mouth is 18 km. To the northeast, the bay is partially enclosed by the Península Páramo, a long narrow strip of land composed entirely of sand and Patagonian shingle (smooth round stones). The deepest part of the bay is near the tip of this peninsula, the Punta de Arenas, where the depth varies between 18.3 and 49.4 m (Derrotero Argentino, 1962).

To the southeast of the bay are cliffs 60 ft (18 m) high. Near the mouth of the bay in this section ships load oil from a moored pipeline. Off-shore drilling within the bay is planned for the future.

The whole western coast is an extensive flat beach of sand, clay and mud which, in places, is up to nine km wide. The large tides (the average height is about 10.5 m) and the very gradual slope of the beach combine to make the landing of even small boats almost impossible. This tidal beach area is muddy and slippery most of the year, but during the summer it dries out enough (except during the highest tides) to drive a vehicle from the mouth of the Río San Martín (Fig. 2) north to the northwest corner of the bay, a distance of nearly 40 km. When standing on the beach at low tide, one cannot see the water of the bay.

The winds are predominantly from the southwest and blow strongly throughout the year, although somewhat less in winter. One would think that animals dying within the bay would be blown out to sea, but the greatest amount of stranded material is found in the windward part of the bay. The fishermen claim there is often an E-NE wind on a rising tide, which then changes to SW. No official studies have been made of the currents within the bay, but Capt. H. F. Correa Luna (personal communication 1978), who has for many years captained the boat which connects the loading pipe line to the tankers, says that on the rising tide the currents are generally to the west in the center of the bay, SW in the southern part and NW in the northern. On a falling tide all the currents are to the E, gradually swinging to SE outside the mouth of the bay (Fig. 2). The tide rises and falls rapidly, but without much force, over this wide, gradual slope of mud flats. On the outer coasts where the water is deeper, the force of the falling tide is much greater.

I feel that, apart from the dolphins caught in fishing nets, strandings in this

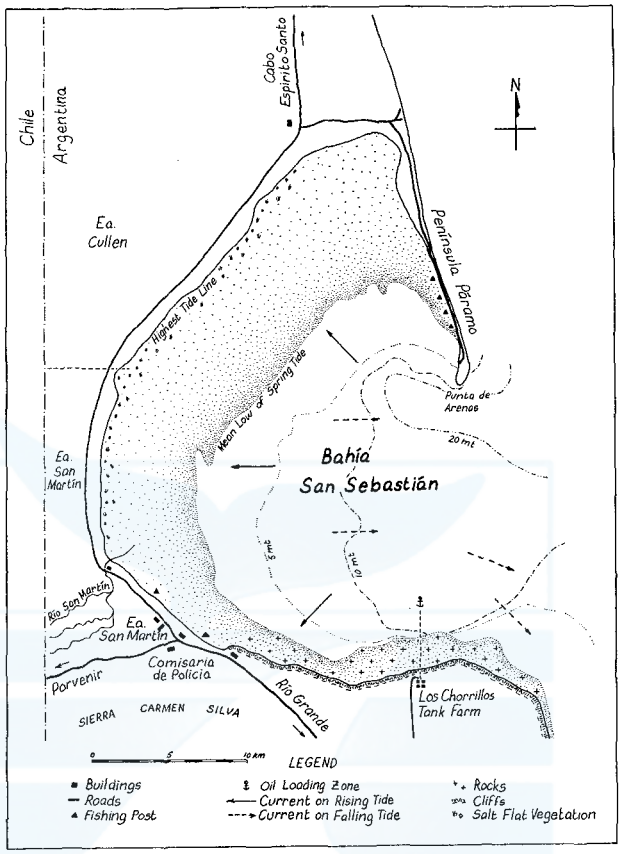

Fig. 2. Bahía San Sebastián showing geographical features, tidal range, water depths and the direction of currents. Data on currents courtesy of Capt. H.F. Correa Luna, 1978.

bay may be accidental, a result of the imperceptibly sloping beach, the rapidity of tidal rise and fall, winds, currents and the slippery, sticky nature of the mud of the tidal zone. The hypothesis of Dudok van Heel (1966) that an animal entering a large shallow area may have difficulty obtaining a good long-range echo and an exit to deep water can only be found by trial and error, seems a definite factor at Bahía San Sebastián. Although no studies have been made of the prey available in the bay, there must be a reason why so many species have been found there. Dudok van Heel's theory that animals concentrating on feeding may miss long distance sonar information and make mistakes in navigation seems an additional possibility.

EXPLOITATION

Although a whaling company operated out of Punta Arenas, Chile, from 1906 to 1916 (Goodall 1975) and whalers from many countries have operated in off-shore

waters, there has been no deliberate exploitation of the smaller cetaceans in Fuegian waters until recently when they have been taken for crab bait. Nevertheless, animals have been taken accidentally in fishing nets for many years.

Centolla Net Fishing. There is a large scale fishery for *centolla* or southern king crab (*Lithodes antarctica*) in Punta Arenas, Porvenir and Ushuaia. Tangle nets, 1.30 m high and up to 1000 m in length, have been used for at least 15 years in the Beagle Channel and much longer in the mid-western Strait of Magellan. The nets are taken out in deep bays or channels, set, and left until the following day. *Cephalorhynchus commersonii*, *Lagenorhynchus australis* and *Phocoena spinipinnis* are occasionally taken in these nets.

Centolla Trap Fishing. The prohibition of tangle nets in Argentine Tierra del Fuego since 1976 has forced fishermen to change to crab traps, which require bait. In Argentine Fuegia, the only commercial crab fishing is in the eastern Beagle Channel, where there are few dolphins. The season is from 1 June to 15 December. When nets were used, the season was from October until December. The bait used is normally fish, caught by the crab boats or at San Sebastián by shore fishermen. A few cases of taking sea lions (*Otaria flavescens*) and dolphins have been reported.

In Chilean Fuegia, the season is from 1 July until 31 January and both traps and nets are still used. Fishermen prefer to use dolphin meat as bait in the crab traps. Sielfeld *et al.* (1977a, 1977b) estimated that in order to provide dolphin meat for all the traps during the 1976–77 season, 2,350 dolphins would have had to be killed. The actual number killed is unknown, as the fishermen do not practice it openly. The capture or killing of smaller cetaceans has been prohibited by law in Argentina since 1976 and in Chile since 1977, but no control is yet enforced in either country.

Robalo Net Fishing. Fishing for *robalo* (*Eleginops maclovinus*), *merluza* (*Merluccius australis*) and *pejerrey* (*Austroantherina sp.*) occurs on the Atlantic coast of Tierra del Fuego. This fishing is sometimes done by nets carried along the beach between a boat and men on shore, but the more common method is to attach the net, at low tide, to a row of stakes perpendicular to the shore line, allowing the net to lay on the sand. On the rising tide, floats raise the net and fish feeding in the zone are entangled, along with occasional dolphins.

For many years *robalo* fishing has been done in a small way by local fishermen who camped at places such as the Río Ewan mouth, Cabo San Pablo, Cabo Peñas, Cabo Domingo and Bahía San Sebastián. With the formation of a company during the 1976–77 season, fishing was intensified in Bahía San Sebastián. Three camps were set up, with two long nets at the SW end of the bay and four on the W side of the Península Páramo (see Fig. 2). *Robalo* is most abundant from October through March and it is only in this period that the operation is commercial.

The species accounts which follow show a total of 28 *Cephalorhynchus commersonii*, one *Lagenorhynchus australis* and one *Phocoena dioptrica* caught in *robalo* nets in Argentine Fuegia during the last three years. These represent only animals for which there are specimens. I have data on 15 other captures, but the actual

number killed is probably very much higher.

According to the fishermen, some animals return to the sea. Those caught on a rising tide drown, but Commerson's dolphins caught on a falling tide remain alive on the beach and swim off with the next high tide. During low tide, several kilometers of sticky mud separate them from the water's edge. I have no data on *robalo* fishing in Chile.

METHODS

The specimens reported in this paper were obtained by checking the beaches on foot, walking parallel to the coast, paying special attention to the zone above the highest tide line. Along the Beagle Channel where there are few roads, beaches were checked on horseback or, occasionally, by boat. Along the Atlantic coast, it is easier to get near the beach and at times, such as at San Sebastián in summer, to drive directly on the beach. But usually specimens have to be carried out in a backpack. Periodic visits were made to beaches that produced the most specimens.

When the animals were sufficiently fresh, external measurements were taken, along with tracings of appendages, organ weights, samples and stomach contents. The processed specimens are in my collection in Ushuaia or at Estancia Harberton.

The collection up to number RNP 90 was determined by Robert L. Brownell, Jr. and Edward Mitchell in October, 1975, while specimens up to RNP 332 were identified by James G. Mead in February, 1976. Ricardo Praderi studied the collection in November, 1977.

THE SPECIMENS

Since most of these beaches had never been checked for cetacean material, a great quantity of very beach worn bones was found. Few of the early collections were in good condition and many of the skulls were broken or partial. At times, complete sets of vertebrae were found with the skulls, but usually the parts of a single animal were scattered.

In one instance, two uniquely deformed *Phocoena dioptrica* vertebrae, which were found 18 months and 20 km apart, united perfectly.

When the crania were found separately from the post-cranial skeletons, there is obvious overlapping in the collection, which probably contains more specimens than there were animals originally. Care was taken that each cranial collection, at least, represent a distinct animal.

The cool climate of Tierra del Fuego preserves dead animals for a considerable time. Fresh dolphins are often flensed by birds, mainly gulls (*Larus dominicanus*). Fishermen claim that a fresh Commerson's dolphin can be eaten in four or five hours, leaving the head and flukes intact, but with the major part of the vertebral column clean. After this stage, the birds no longer touch the animal, which may then remain on the beach or be taken by the tide. The collection dates given

here do not necessarily indicate the stranding date; most animals had been there a long time.

This paper deals only with general information on the collection. Detailed data on the individual species will be presented later.

Explanation of Tables. Localities (in kilometers) are abbreviated to north and south of a known point. On the west side of Bahía San Sebastián, where most of the specimens were collected, distances are taken north and south of the border between estancias San Martín and Cullen, which is near the middle of the west side of the bay and is marked with a fence.

On the basis of the fusion of the vertebral epiphysis, an indication of age is given. Total fusion, adult; fusion to thoracics, subadult; only caudals fused, immature. This classification does not indicate sexual maturity.

A specimen denoted as "nearly complete" usually lacks only a flipper, scapula, a few caudals or pelvic bones.

Other abbreviations: R, right; L, left; Ea., estancia or ranch; v, vertebrae; r, ribs; imm., immature; v. imm., very immature; subad., subadult; *=caught in *robolo* nets; #=caught in *centolla* nets.

The initials RNP are used for the cetacean collection to differentiate from RNPG, used for my botanical collection. C & G specimens were those collected by H. P. Castello and R.N.P. Goodall in 1974.

FAMILY DELPHINIDAE

Lagenorhynchus australis (Peale 1848)

Peale's dolphin, Blackchin dolphin, Delfín Austral

This is a coastal species known from northern Chile around Cape Horn to the Patagonian coast in Argentina (Brownell 1974, Aguayo 1975). Brownell (1974), summarizing the known records of this dolphin, shows a number of sight records but no specimens from the Tierra del Fuego area. Aguayo (1975) states that the Norris expedition on the R.V. *Hero* in 1968 collected nine specimens between the Golfo de Arauco and Cape Horn. Praderi (1977) gives information on seven museum specimens.

Although I have not had much opportunity to see dolphins in their natural habitat, my experience is that Peale's dolphin is very common throughout the channels and bays of Tierra del Fuego, but more numerous in the southern part, such as the Beagle Channel, while *Cephalorhynchus commersonii* is more numerous in the Strait of Magellan. Local residents confirm this impression. Peale's dolphin is regularly seen by fishermen and often rides the bow wave of boats.

In spite of this being one of the most common species seen in Fuegian waters, there have been relatively few strandings (Table 1). Perhaps the preference of Peale's dolphin for fiords and deep bays means that sick or dead animals would be broken up on the rocky beaches of southern Fuegia.

The Tierra del Fuego collection includes one complete and two nearly complete skeletons, four good craniums, two very incomplete craniums and two single mandibles.

Specimen 649, a female, was caught in *robalo* nets and retrieved by the fishermen, who covered the carcass with sacks to protect it from the birds until we returned one month later. Although it was in an advanced state of decomposition, we were able to discern the color pattern.

The other two nearly complete skeletons had already been flensed by birds when found.

Peale's dolphin, since it is common in the channels and is inclined to play around boats, is one of the species harpooned for *centolla* bait (Torres 1977). Many have probably been captured in the last two years (Sielfeld *et al.* 1977a, 1977b) but I know personally of only two instances. The skull of an animal harpooned near Puerto Williams in the eastern Beagle Channel on 15 Jan. 1977 is deposited in the Museo Martín Gusinde in Puerto Williams, and another was seen by the crew of the R.V. *Hero* aboard a crab boat in the western Beagle Channel in July, 1977 (T. D. Goodall, personal communication).

The craniums in Table 1 exhibit differences in overall size and cranial width, with specimens 179, 193 and 535 being the smallest, 269 and 649 intermediate and 287 and 291 the largest. Since there are very few differences between the skulls of *Lagenorhynchus australis* and *L. cruciger* (Fraser and Noble 1968), all will provisionally be included in *Lagenorhynchus australis* until further comparisons can be made.

Cephalorhynchus commersonii (Lacépède, 1804)

Commerson's dolphin, Tonina overa

This species, considered one of the most striking in the world, occurs from

TABLE 1. SPECIMENS OF *LAGENORHYNCHUS AUSTRALIS* STRANDED ON TIERRA DEL FUEGO

RNP no.	Locality	Date	Details
		NEARLY COMPLETE SKELETONS	
179	Estancia Moat	xi. 1975	Nearly complete (Col. J. Lawrence)
269	Ea. San Martín	28. i. 1976	Nearly complete
649	Península Páramo	28. i. 1978	Complete ♀ *
		CRANIAL MATERIAL	
193	Ea. San Martín 4 N	28. i. 1976	Cranium, fair; L mandible
287	San Sebastián 3 S	13. ii. 1976	Cranium, large, fair
291	San Sebastián 7.5 S	13. ii. 1976	Cranium, large, fair
439	Punta María N	3. iii. 1977	Incomplete cranium
535	Río San Martín 6 N	30. v. 1977	Incomplete cranium
544	Río Cullen S	1. vi. 1977	R mandible
545	Río Cullen S	1. vi. 1977	Incomplete cranium
547	Río Cullen S	1. vi. 1977	L mandible, smaller than 544
		POST CRANIAL MATERIAL	
161	Península Páramo	21. xii. 1975	16 vertebrae
418	Península Páramo	15. ii. 1977	2 teeth, 11 r, 21 v.
422	Península Páramo	15. ii. 1977	4 vertebrae
423	Península Páramo	15. ii. 1977	4 ribs, 5 vertebrae
476	Cabo Irigoyen	6. iii. 1977	3 caudals
554	Río Cullen S	1. vi. 1977	13 vertebrae

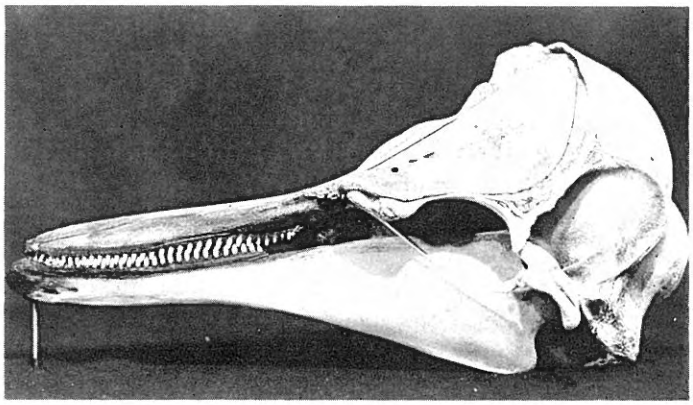

Fig. 3. *Lagenorhynchus australis*, lateral view of an immature female (RNP 649) caught by *robalo* fishermen on the Península Páramo in December, 1977. (Photo T. D. Goodall)

Peninsula Valdés, Argentina, to the Strait of Magellan and Tierra del Fuego, the Falkland (Malvinas) Islands, South Georgia and Kerguelen Island (Brownell 1974, Aguayo 1975, Rice 1977).

Brownell (1974) shows only two specimens of indefinite locality from Tierra del Fuego and one from the Strait of Magellan. Norris (1968) captured two more specimens in the Strait of Magellan in 1968. Sightings have been made in the Beagle Channel and south of Cape Horn (Olrog 1950, Aguayo 1975). Strange (1972) considered this the most common dolphin off the Falkland (Malvinas) Islands.

The opinion of local residents that the Commerson's dolphin is more common in the northern part of Tierra del Fuego than in the southern seems to be confirmed by the collections, most of which are from Bahía San Sebastián (Table 2).

Since this is a coastal species (Brownell 1974), one would assume that it would be one of the most likely to be victim to accidental exploitation. J. G. Mead (in Mitchell 1975) found that the Commerson's dolphin was taken incidental to *centolla* fishing north of Río Gallegos. He estimated the number taken as less than 20 per year and perhaps 100 per year on the whole coast.

The specimens from Tierra del Fuego show a heavy accidental catch. During the 1977–78 season, when fishermen at San Sebastián started saving skeletons for me, eleven fresh animals and 20 skeletons flensed by birds were collected. Three of these were caught in *centolla* nets and 28 in *robalo* nets. This does not represent the full catch, as some caught in *robalo* nets were sent to Ushuaia for crab bait, some lived until the following high tide and were able to swim away, and some carcasses left out on the bay near the nets floated away. The catch in Chilean Fuegia is probably much higher still. Fishermen at Bahía Inútil, using only two of the many boats in the area, estimated a catch of 20–30 per year in their *centolla* nets.

Of the animals of known sex caught by fishermen, there were twice as many

males (thirteen) as females (six). Based on fusion of the epiphysis, six very immature, 12 immature, two subadult and 12 adult or very old animals were caught, appearing to be a fairly relative sample of the local population. Several of the " immature " specimens showed adult total lengths.

During the first week of December, 1977, two pregnant females were caught at the Península Páramo. One dolphin was born on the beach and the other was removed by the fishermen after the mother died. Both were sent to Ushuaia for crab bait. When I checked with the company, they had already been used. These two records, confirmed by several fishermen and the director of the *centolla* factory, along with that of the dolphin (RNP 634) with a near term fetus caught on 12 Dec. 1977, indicate that *Cephalorhynchus commersonii* calve in early summer.

Three other records of Commerson's dolphin, not given in Table 2, can be mentioned. On 16 Oct. 1972, fishermen left a small female (112 cm) on the beach in Ushuaia. The animal was not preserved, but measurements and drawings were recorded.

A Commerson's dolphin, caught by *robalo* fishermen on 21 May 1976 at Río Grande, has been mounted and is on display in the Museo Salesiano, Río Grande.

On 28 Jan. 1978, we saw a Commerson carcass, partially flensed by birds, beside a net on the Péninsula Páramo, but could not reach it because of the deep mud. The pigmentation pattern was clearly recognizable.

Lissodelphis peronii (Lacépède, 1804)

Southern right whale dolphin, Delfín liso

This dolphin, mainly on the basis of sightings, seems to be widely distributed around the world in the southern hemisphere (Brownell 1974, Aguayo 1975, Mitchell 1975). Gaskin (1968) recorded many sightings but no strandings for New Zealand.

The known sightings and stranding records for the species are shown by

TABLE 2. NEW SPECIMENS OF *CEPHALORHYNCHUS COMMERSONII* FROM TIERRA DEL FUEGO

RNP no.	Location	Date	Details		Sex	Maturity
			NEARLY COMPLETE SKELETONS			
75	Bahía Inútil	24. ii. 1975	Nearly complete	?		v. imm.
81	Cabo Peñas S	31. vii. 1975	Nearly complete	?		subad.
395	Cabo Peñas S	16. i. 1977	Nearly complete	*		v. imm.
398	Cabo Peñas S	16. i. 1977	Nearly complete	*		imm.
399	Cabo Peñas S	16. i. 1977	Nearly complete	*		imm.
414	San Sebastián S	13. ii. 1977	Nearly complete	*		imm.
415	San Sebastián S	13. ii. 1977	Nearly complete	*	♂	imm.
497	Río Lainez	5. iii. 1977	Nearly complete	*		imm.
574	Bahía Inútil	26. vii. 1977	Complete, fresh	#	♂	imm.
575	Bahía Inútil	26. vii. 1977	Nr. complete, fresh	#	♀	v. imm.
576	Punta Arenas	29. vii. 1977	Complete, fresh	#	♂	imm.

Continued . .

TABLE 2. Continued.

RNP no.	Location	Date	Details		Sex	Maturity
577	San Sebastián S	30. xi. 1977	Complete, fresh	*	♀	v. imm.
578	Ea. San Martín N	5. xi. 1977	Nearly complete	*		adult
595	Península Páramo	24. xi. 1977	Complete, fresh	*	♂	adult
596	San Sebastián S	28. xi. 1977	Complete	*	♂	v. imm.
619	San Sebastián S	11. xii. 1977	Complete, fresh	*	♂	imm.
620	San Sebastián S	11. xii. 1977	Complete, fresh	*	♂	adult
623	San Sebastián S	11. xii. 1977	Nearly complete	*		adult
632	Península Páramo	12. xii. 1977	Complete	*	♂	imm.
633	Península Páramo	12. xii. 1977	Complete	*	♀	v. imm.
634	Península Páramo	12. xii. 1977	Complete, pregnant	*	♀	adult
635	Península Páramo	12. xii. 1977	Entire in formol	*	♂	fetus of 634
636	San Sebastián	20. xii. 1977	Complete, fresh	*	♂	adult
637	San Sebastián	20. xii. 1977	Complete, fresh	*	♂	adult
645	Península Páramo	12. xii. 1977	Nearly complete	*		subad.
646	Península Páramo	28. i. 1978	Nearly complete	*		imm.
647	Península Páramo	28. i. 1978	Nearly complete	*	♂	adult
648	Península Páramo	28. i. 1978	Nearly complete	*	♂	adult
650	Península Páramo	28. i. 1978	Nearly complete	*		imm.
651	Península Páramo	28. i. 1978	Nearly complete	*		adult
652	Península Páramo	28. i. 1978	Nearly complete	*	♀	imm.
653	Península Páramo	28. i. 1978	Complete	*	♀	adult
655	Península Páramo	28. i. 1978	Nearly complete	*		adult
		CRANIAL MATERIAL				
7	Cabo Domingo	27. ix. 1975	Cranium, incomplete; 1 v.			
14	Río Fuego N	30. ix. 1975	Cranium, incomplete; L mandible			
19	Río Fuego N	30. ix. 1975	Cranium, fair			
20	Río Fuego N	30. ix. 1975	Cranium, fair			
22	Río Fuego N	30. ix. 1975	Cranium, incomplete, poor			
23	Río Fuego N	30. ix. 1975	Cranium, incomplete, poor			
24	Río Fuego mouth	30. ix. 1975	Cranium, incomplete, poor			
40	Ea. San Martín N	12. v. 1975	Cranium, poor			(Col. J. Tico)
43	Ea. Viamonte	12. iv. 1974	Cranium, v. poor			(C & G 1)
44	Ea. Viamonte SE	12. iv. 1974	Cranium, poor			(C & G 2)
45	Ea. Viamonte	12. iv. 1974	Cranium, v. poor			(C & G 3)
49	Ea. Viamonte SE	12. iv. 1974	Cranium, v. poor			(C & G 5)
52	Ea. Viamonte SE	12. iv. 1974	Cranium, good			(C & G 8)
54	Península Páramo	13. iv. 1974	Cranium, v. poor			(C & G 10)
55	Península Páramo	1970	Cranium, fair (Col. N. O'Byrne)			(C & G 11)
57	Ea. Viamonte	1971	Cranium, good			imm. (C & G 13)
63	Península Páramo	4. vii. 1974	Complete skull, good			v. imm.
64	Península Páramo	4. vii. 1974	Cranium, v. poor			
68	Cabo Peñas SE	5. vii. 1974	Cranium, v. poor			
72	Punta María N	5. vii. 1974	Cranium, poor			
79	Punta María SE	39. vii. 1975	Cranium, v. poor			
80	Punta María SE	31. vii. 1975	Cranium, v. poor			
134	Ea. Las Violetas	19. xii. 1975	Complete skull, good			v. imm.
139	Cabo Espiritu Santo	20. xii. 1975	Cranium, good			

Continued . . .

TABLE 2. Continued.

RNP no.	Location	Date	Details	Maturity
140	Cabo Espiritu Santo	20. xii. 1975	Cranium, v. poor	
150	Península Páramo	21. xii. 1975	L. mandible	
155	Península Páramo	21. xii. 1975	Cranium, v. poor	
156	Península Páramo	21. xii. 1975	Cranium, poor	
161a	Península Páramo	21.xii. 1975	R mandible	
166	Península Páramo	21. xii. 1975	Cranium, v. poor	
186	Ea. San Martín 4 N	28. i. 1976	Cranium, fair, oil covered	
192	Ea. San Martín N	28. i. 1976	Cranium, fair	
212	Ea. San Martín 4 N	28. i. 1976	Cranium, poor	
217	Ea. San Martín 4 N	28. i. 1976	Cranium, poor	
250	Ea. San Martín 6 N	28. i. 1976	Cranium, v. poor	
260	Ea. San Martín 6–7 N	28. i. 1976	Cranium, v. poor	
294	San Sebastián 7.6 S	13. ii. 1976	Cranium, fair	
295	San Sebastián 4 S	13. ii. 1976	Cranium, poor	
321	San Sebastián 7.5 S	13. ii. 1976	Cranium, good	
322	San Sebastián 12.8 S	13. ii. 1976	Cranium, fair	
323	San Sebastián 13 S	13. ii. 1976	Cranium, fair	
359	Río San Martín S	21. xi. 1976	Cranium, v. poor	
396	Cabo Peñas S	16. i. 1977	Mandibles, teeth	
407	Cabo Peñas S	16. i. 1977	Cranium, v. poor	
417	Península Páramo	15. ii. 1977	Cranium, poor	
420	Península Páramo	15. ii. 1977	Cranium, v. poor	
442	Punta María 7 N	3. iii. 1977	Cranium, poor	
450a	Punta María 1 N	3. iii. 1977	Cranium, v. poor	
458	Punta María S	4. iii. 1977	Cranium, v. poor	
508	San Martín N	8. iv. 1977	Cranium, v. poor	
514	Río Grande S	9. iv. 1977	Cranium, v. poor	
528	Los Chorrillos 4 N	29. v. 1977	Cranium, poor; R mandible	
565	Bahía Inútil E	25. vii. 1977	Cranium, fair	imm.
569	Bahía Inútil E	25. vii. 1977	Cranium, L mandible, v. good	v. imm.
591	Ea. San Martín 3 N	21. xi. 1977	Cranium, v. poor	
598	San Sebastián S	28. xi. 1977	L mandible, good	
603	San Sebastián S	28. xi. 1977	Cranium, v. poor	
627	Río San Martín 3 N	11. xii. 1977	Cranium, v. poor	
		POST CRANIAL MATERIAL		
16	Río Fuego N	30. iv. 1975	18 vertebrae	
69	Punta María NW	5. vii. 1974	27 vertebrae	
165	Península Páramo	21. xii. 1975	15 vertebrae	
300	San Sebastián 13 S	13. ii. 1976	Sternum, 15 r, 59 v.	adult
397	Cabo Peñas S	16. i. 1977	12 r. 46 v.	imm.
474	Río Lainez SE	5. iii. 1977	12 vertebrae	
475	Cabo Irigoyen	6. iii. 1977	Cervicals	
496	Cabo Peñas S	3. iii. 1977	Cervicals	v. imm.
526	Los Chorrillos N	29. v. 1977	33 vertebrae	adult
549	Río Cullen S	1. vi. 1977	27 vertebrae	imm.
560/562	Río Marazzi	25. vii. 1977	47 vertebrae	adult
570	Río Marazzi	25. vii. 1977	Almost complete	adult
593	Península Páramo	21. xi. 1977	6 ribs, 19 vertebrae	

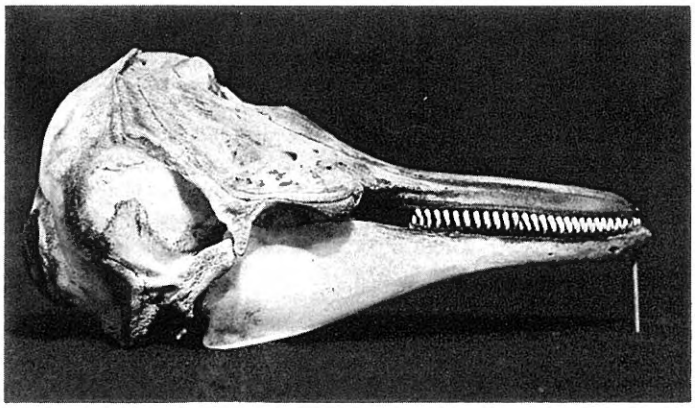

Fig. 4. *Cephalorhynchus commersonii*, lateral view of an adult male (RNP 636) caught in *robalo* nets at Bahía San Sebastián in December, 1977. (Photo T. D. Goodall)

Brownell (1974), who gives a total of only seven specimens, six from southern South America and one from Tasmania. Of those from South American waters, four were collected well off shore and two were found at Bahía Thetis, Tierra del Fuego. Aguayo (1975) records a live animal caught by fishermen at Concón, Chile, which was later released.

The collection now reported includes four nearly complete skeletons, 17 cranial specimens and eight groups of isolated vertebrae.

The four nearly complete specimens were found in a mummified state on the mud flats and had been partially flensed by birds. The tips of the flippers and of the upper jaw of RNP 656 had been eaten, probably by a fox (*Dusicyon griseus*).

TABLE 3. TIERRA DEL FUEGO SPECIMENS OF *LISSODELPHIS PERONII*

RNP no.	Location	Date	Details
		SKELETONS	
288	San Sebastián 6 S	13. ii. 1976	Nearly complete skeleton
656	San Sebastián N	29. i. 1978	Nearly complete skeleton
676	Río San Martín 2 N	15. iv. 1978	Nearly complete skeleton
677	Río San Martín 2 N	15. iv. 1978	Nearly complete skeleton
		CRANIAL MATERIAL	
51	Ea. Viamonte	12. iv. 1974	Cranium, good, (C & G 7)
58	Bahía Thetis	xi. 1969	Cranium, good
109	Isla Gable	20. xi. 1975	Cranium, R mandible, 10 r, 5 v (Col. R. Scotti)
168	Cutalataca, Ea. Harberton	27. ii. 1975	Cranium, 2 ribs
218	Ea. San Martín 4 N	28. i. 1976	Mandibles, incomplete
233	Ea. San Martín 4 N	28. i. 1976	Cranium, R mandible, 3 r, 2 v
237	Ea. San Martín 3 N	28. i. 1976	Cranium, incomplete
255	Ea. San Martín 6 N	28. i. 1976	Cranium, incomplete
265	Ea. San Martín 6 N	28. i. 1976	Cranium, incomplete

Continued . . .

TABLE 3. Continued.

PNR no.	Location	Date	Details
266	Ea. San Martín 6 N	28. i. 1976	R mandible
352	Río San Martín S	21. xi. 1976	Cranium, incomplete
367	Río San Martín S	21. xi. 1976	Cranium, incomplete
369	Río San Martín S	21. xi. 1976	Cranium, incomplete
607	San Sebastián S	28. xi. 1977	Cranium, excellent; 4 v
629	Río San Martín 3 N	11. xii. 1977	Cranium, incomplete
631	Río San Martín 3 N	11. xii. 1977	Cranium, fair
679	San Sebastián 2 S	15. iv. 1978	Cranium, good
		POST CRANIAL MATERIAL	
104	Ea. Viamonte	12. ix. 1974	5 vertebrae (2 cervicals)
124	Ea. Las Violetas	18. xii. 1975	5 ribs, 10 vertebrae
183	Ea. Harberton	1972	Sternum, 9 vertebrae
257	Ea. San Martin 6 N	28. i. 1976	15 vertebrae
340	Auricosta, Ea. Viamonte	14. xi. 1976	2 vertebrae
362	Río San Martín	21. xi. 1976	Cervicals
365	Río San Martín	21. xi. 1976	3 vertebrae
430	Cabo Peñas	16. ii. 1977	4 vertebrae

Fig. 5. *Lissodelphis peronii*, specimen RNP 656 as found on the mud flat of northern Bahía San Sebastián in January, 1978. (Photo RNP)

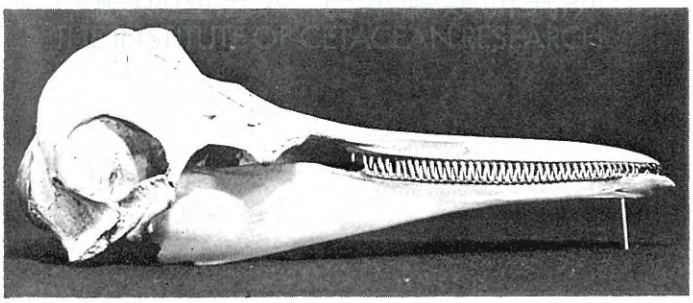

Fig. 6. *Lissodelphis peronii*, lateral view of specimen RNP 288 from Bahía San Sebastián, February, 1976. (Photo T. D. Goodall)

The eleven cranial specimens from the Río San Martín area, all beach worn, may represent a mass stranding.

Most sightings of the southern right whale dolphin have been well offshore (Brownell 1974) and it has generally been considered pelagic (Mitchell 1975) or pelagic and coastal (Aguayo 1975). The collections from Bahía San Sebastián and the two specimens found well within the Beagle Channel (Cutalátaca and Gable Island), indicate that it may occasionally inhabit shallow waters.

Globicephala melaena (Traill 1809)

Long-finned pilot whale, Piloto, Calderon

The long-finned pilot whale is common throughout the Southern Ocean north of the Antarctic Convergence but associated with cold currents. There is a distinct population in the North Atlantic Ocean. Specimens are known from all shores of the southern continents and larger islands (Mitchell 1975, Brownell 1974). Brownell (1974) cites 13 specimens from southern waters, including one from Isla de los Estados. Piñero and Castello (1975) summarize South Atlantic mass strandings from Uruguay, the Falkland (Malvinas) Islands and Bahía Blanca, Argentina. The only specimens they cite from Tierra del Fuego were parts of eleven animals collected by Norris from Isla Navarino in 1968.

Pilot whale strandings are common on Tierra del Fuego beaches. Strandings from which specimens were collected (worn material was not collected) are given in Table 4. Skeletons which were left on the beach to be collected later, because of their weight and state of decomposition, are indicated in parenthesis.

In December, 1966, two pilot whales (RNP 1 and 2) were found stuck in the mud of the First West Creek, Estancia Harberton. Although they lived for two days, there was no way to free them. Both skeletons (434 and 410 cm long respectively) are preserved at Estancia Harberton.

Several other Fuegian strandings of pilot whales are known. Eleven animals stranded south of the Estancia Viamonte houses in 1928 or 1929 (T. L. Bridges, personal communication). RNP numbers 21, 27 and 31 may represent part of this stranding, since bones are shifted northward by the rising tide.

On 7 November, 1971, while on a botanical expedition aboard the R.V. *Hero* to Isla de los Estados, T. R. Dudley and I saw and photographed a mass stranding of nine pilot whales in Bahía Flinders. Because of their semi-decomposed condition, no specimens were collected.

One pilot whale cranium, without data, is on exhibit at the Museo Salesiano in Río Grande, and there are others in Fuegian private homes.

The specimens collected at Cabo Irigoyen and Estancia Fueguina (Table 4) represent cranial material from 17 animals. These were part of a mass killing by depth charges of 27 adult and 12 young pilot whales in 1972. The animals came ashore at Estancia Irigoyen, then washed north beyond Cabo Irigoyen and on to Estancia Fueguina (Nemesio Menéndez, personal communication, 1977).

TABLE 4. TIERRA DEL FUEGO STRANDINGS OF *GLOBICEPHALA MELAENA*
SPECIMENS IN PARENTHESIS WERE NUMBERED ON THE BEACH

RNP no.	Locality	Date	Collected	Still on beach
		NEARLY COMPLETE SKELETONS		
1	Estancia Harberton	xi. 1966	Complete ♂	
2	Estancia Harberton	xi. 1966	Complete ♀	
432	Cabo Peñas S	17. ii. 1977	L flipper	(complete)
433	Cabo Peñas S	17. ii. 1977		(complete ♂)
523	Bahía Brown	25. iv. 1977	Complete ♀ imm., deformed spine	
610	San Sebastián S	28. xi. 1977	Complete	
		CRANIAL MATERIAL		
21	Río Fuego N	30. ix. 1975	Cranium, good	
27	Río Fuego N	30. ix. 1975	Cranium, beach worn	
31	Río Fuego N	30. ix. 1975	Mandible	
62	Península Páramo	4. vii. 1974	Cranium, good, large	
67	Cabo Peñas S	5. vii. 1974	Mandible	
76	Ea. Fueguina	25. v. 1975	Cranium, good; few vertebrae	
77	Ea. Fueguina	27. v. 1975	Cranium, 1 mandible, ribs	
175	San Sebastián N	21. xii. 1975	Cranium, incomplete	
280	San Sebastián 18 N	13. ii. 1976	Cranium, incomplete	
284	San Sebastián 18 N	13. ii. 1976	Cranium, good; 19 v, 16 r	
335	Ea. Viamonte	12. iv. 1974	Mandible	
343	Ea. San Martín S	21. xi. 1976	Mandible	
477	Cabo Irigoyen N	6. iii. 1977	2 teeth, 1 earbone	
478	Cabo Irigoyen N	6. iii. 1977	1 tooth	(large ♂, complete)
479	Cabo Irigoyen N	6. iii. 1977	1 earbone	(small, nearly complete)
480	Cabo Irigoyen N	6. iii. 1977	Half earbone	(skull)
481	Cabo Iriogyen N	6. iii. 1977	Photographs	(large, complete)
482	Cabo Irigoyen N	6. iii. 1977	Cranium, medium sized	
483	Cabo Irigoyen N	6. iii. 1977	Mandible, scapula	(skeleton buried)
484	Cabo Irigoyen N	6. iii. 1977	Mandible	(skeleton)
485	Cabo Irigoyen N	6. iii. 1977	Cranium, small	
486	Cabo Irigoyen N	6. iii. 1977	Cranium, medium	
487	Cabo Irigoyen N	6. iii. 1977	Mandible	
488	Cabo Irigoyen N	6. iii. 1977	Cranium, partial skeleton, v. imm.	
489	Cabo Irigoyen N	6. iii. 1977	Cranium, medium	
490	Cabo Irigoyen N	6. iii. 1977	Cranium, med. lg.; 2 v	
491	Cabo Irigoyen N	6. iii. 1977	Cranium, medium	
571	Río Centenario, B. Inútil	25. vii. 1977	Cranium, v. large	
572	Río Centenario, B. Inútil	25. vii. 1977	Cranium, medium	
573	Río Centenario, B. Inútil	25. vii. 1977	Cranium, medium large	
		POST CANIAL MATERIAL		
381	Najmishk, Ea. Viamonte	19. xii. 1976	Several vertebrae	
408	Cabo Peñas SE	16. i. 1977	Scapula, flipper	(may belong to 432)
416	Península Páramo	15. ii. 1977	Cervicals	
473	Río Lainez	5. iii. 1977	Cervicals, 5 vertebrae	
617	Punta Maria SE	10. xii. 1977	Cervicals, 11 thoracics, 9 ribs	
644	Río Ewan SE	1. i. 1978	Six vertebrae	

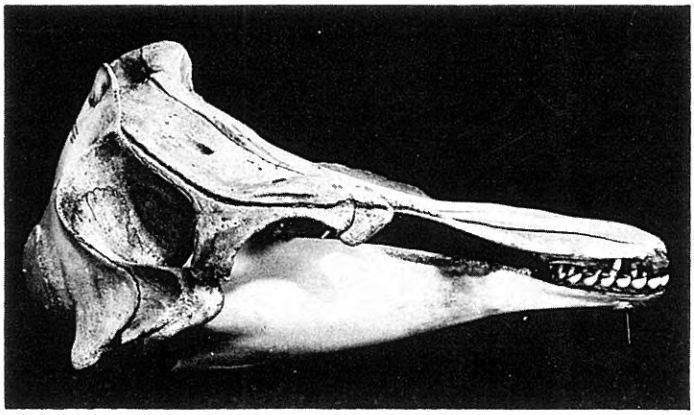

Fig. 7. *Globicephala melaena*, lateral view of an immature female (RNP 523) with a deformed spine found at Bahía Brown in April, 1977. (Photo I. S. Cameron)

Orcinus orca (Linnaeus, 1758)

Killer whale, Orca

Killer whales are found in all oceans, but are most abundant in cold waters of both hemispheres (Brownell 1974, Mitchell 1975, Rice 1977). Although common, very few specimens are known from the southern hemisphere (below 35°S). Gaskin (1968) records various strandings for New Zealand, but listed only four specimens. Brownell (1974) shows five specimens, including three of those cited by Gaskin.

Strandings of killer whales are common on Fuegian beaches. Because of their size and state of decomposition (usually still held together by very hard, dry meat and skin), most of the specimens listed below (Table 5) have been numbered and left on the beach. Certain bones have been collected as they come loose.

Fig. 8. View of one (RNP 674) of four *Orcinus orca* stranded on the mud flats in late 1972. Photograph of mummified carcass taken 13. ii. 1976. (Photo RNP)

Fig. 9. *Orcinus orca* (RNP 303), one of fifteen stranded along the vegetation line at southwestern Bahía San Sebastián. (Photo RNP)

TABLE 5. STRANDINGS OF *ORCINUS ORCA*. SPECIMENS IN PARENTHESIS HAVE NOT YET BEEN COLLECTED, BUT WERE NUMBERED ON THE BEACH

RNP no.	Locality	Date	Collected	Still on beach
137	Ea. San Martín SE	13. iv. 1974	Scapula, ribs	(nearly complete)
185	Ea. San Martín N	28. i. 1976	Cranium, mandibles, ears, some vert.	
256	Ea. San Martín 6 N	28. i. 1976	Cranium, incomplete	
289	San Sebastián S	13. ii. 1976		(complete)
290	San Sebastián S	13. ii. 1976		(good skull)
293	San Sebastián S	13. ii. 1976	Earbones	(complete, large)
303	San Sebastián 13 S	13. ii. 1976	1 earbone, 1 tooth	(complete)
304	San Sebastián 13.5 S	13. ii. 1976		(mostly complete)
305	San Sebastián 13.6 S	13. ii. 1976	Discs 4	(mostly complete)
306	San Sebastián 13.6 S	13. ii. 1976		(♂ complete, v. large)
307	San Sebastián 13.7 S	13. ii. 1976	Discs	(complete)
308	San Sebastián 13.7 S	13. ii. 1976	1 earbone	(complete)
309	San Sebastián 13.8 S	13. ii. 1976	1 earbone, 2 teeth	(complete)
310	San Sebastián 14 S	13. ii. 1976	1/2 earbone, 12 teeth LR	(nearly comp.)
311	San Sebastián 14.5 S	13. ii. 1976		(nearly complete)
312	San Sebastián 14.7 S	13. ii. 1976	1/2 earbone, 1 pelvic	(complete, small)
563	Río Marazzi,	25. vii. 1977	Cervicals	
612	San Sebastián N	21. xii. 1975	Scapula	(♂ complete, mummified)
662	San Sebastián 15 S	13. ii. 1976		(small, complete)
663	Río San Martín S	21. xi. 1976		(complete)
672	San Sebastián N	21. xii. 1975		(♀ complete, mummified)
673	San Sebastián N	21. xii. 1975		(♂ complete, mummified)
674	San Sebastián N	21. xii. 1975		(♂ complete, mummified)

Four killer whales (RNP 612, 672, 673 and 674) were stranded together on the San Sebastián mud flats in November, 1972. I first saw them in 1975 and have visited the location several times a year since then (Fig. 8). These animals are about one km out from shore on the mud and have been " mummified " by the

salt water which reaches them on the very highest tides. The skin and meat have gradually decayed away on the under side, leaving the skeleton with an upper tough, lichen encrusted covering.

Along the outer edge of vegetation bordering the salt flats at the west side of Bahía San Sebastián, a series of 15 nearly complete orca skeletons are spread over a distance of about eight kilometers (Fig. 9). All are about the same stage of decomposition, almost surely representing a mass stranding, probably a little earlier than the four " mummified " whales farther north. Many of these have been damaged by people chopping at the jaws, trying to remove the teeth.

FAMILY PHOCOENIDAE

Phocoena spinipinnis Burmeister, 1865

Burmeister's porpoise, Black porpoise, Marsopa espinosa

Fraser (1948) calls this porpoise a rarely occuring species. Aguayo (1975) shows its distribution in Chile as reaching south to Valdivia (40°S). It seems to be fairly common in northern Chile and Peru, where it is taken for food (Mitchell 1975, Anonymous 1975). On the Atlantic coast, this porpoise has been cited for Uruguay (Praderi 1971, Pilleri and Gihr 1972, 1974) and southward to Patagonia (Praderi 1971). Rice (1977) summarizes, " East coast of South America from Uruguay to Patagonia ; west coast from Paita, Peru, to Valdivia, Chile."

Pilleri and Gihr (1972) illustrated the species as occurring all the way from Uruguay around Cape Horn to Peru, but Brownell and Praderi (1975) rightly felt that this was not valid, since no sightings nor specimens for the species existed as far south as the Strait of Magellan. They thought that the Atlantic and Pacific populations might be isolated.

Few museum specimens are known of this species. Praderi (1971) mentions only eight. The specimens represented in Table 6 are the southernmost known and the first from the Cape Horn area.

Specimens 110 and 111 were taken in *centolla* nets. On 3 Dec. 1975, another

TABLE 6. NEW SPECIMENS OF *PHOCOENA SPINIPINNIS* FROM TIERRA DEL FUEGO

RNP no.	Locality	Date	Details	Maturity
		NEARLY COMPLETE SKELETONS		
110	Isla Redonda, Canal Beagle	2. xii. 1975	Complete #	imm.
111	Canal Beagle	4. xii. 1975	Complete #	imm.
167	Punta Segunda, Canal Beagle	24. xii. 1975	Nearly complete # ?	subad.
		CRANIAL MATERIAL		
451	Punta María 2 N	3. iii. 1977	Cranium, fair, small	
546	Río Cullen S	1. iv. 1977	Cranium, poor	v. imm.
		POST CRANIAL MATERIAL		
551	Río Cullen S	1. vi. 1977	4 thoracics	adult
375	Río San Martín 3 S	21. xi. 1976	17 vertebrae, 7 ribs	
458	Punta María N	3. iii. 1977	2 vertebrae	imm.

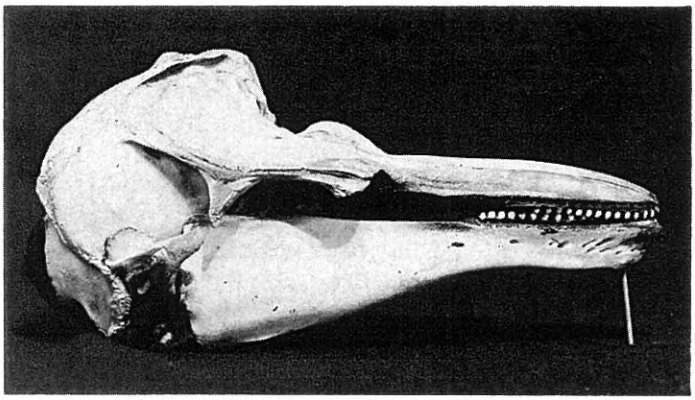

Fig. 10. *Phocoena spinipinnis*, lateral view of specimen RNP 111, caught in *centolla* nets in the Beagle Channel in December, 1976. (Photo T. D. Goodall)

Burmeister's porpoise was caught in the nets in Lapataia Bay, Beagle Channel. The fishermen, who threw it overboard, estimated it to be about 160 cm in length.

Specimen 167 was found on the beach to the east of Ushuaia ; it also may have been caught in crab nets. Although very fresh, it had been eaten by dogs and the sex could not be determined.

The collection of these specimens in Tierra del Fuego indicates that *Phocoena spinipinnis* may occur continuously around southern South America from Uruguay to Peru. Further studies are needed in the area south of 40°S.

Phocoena dioptrica Lahille, 1912

Spectacled porpoise, Marsopa de anteojos

Praderi (1971) and Brownell (1975), who gave the most complete accounts of this species, listed only ten specimens (one a fetus) and one stranding observation, all from the western South Atlantic. The type specimen presumably has been lost. The collection of a skull in January, 1974, from New Zealand (Baker 1977, Cawthorne 1977) greatly extended the known distribution.

The range of this cetacean can now be considered to include the western South Atlantic coast from Uruguay to Tierra del Fuego, the Falkland (Malvinas) Islands, South Georgia and New Zealand (Baker 1977).

The species has been sighted alive only near New Zealand (M. Cawthorn, personal communication 1977) although a possible sighting has been reported from Kerguelen (Frost and Best 1976), which could indicate a circum polar distribution around off shore islands.

This work presents eleven fairly complete skeletons, 76 complete or partial skulls and 25 groups of vertebrae. A further 29 post-cranial specimens from the collection, containing from one to 44 vertebrae, have not been included.

Total lengths are available for only six of the eleven most complete specimens. Due to the state of decomposition, pigmentation was discernable on only four occasions (RNP 412, 413, 658 and 670). Specimen 670 was fresh and has been

preserved entire in formol. Dorsal fin tracings were taken from five animals.

Two specimens, RNP 413 and 670, probably unweaned animals since dentition had not erupted, were found in mid-February and late March. The only other reproductive data known for the species was that of two pregnant females with near term fetuses obtained in late July and mid-August (Brownell 1975). The finding of two suckling animals in late summer seems to confirm that young may be born in late winter or early spring.

Only one of the specimens (RNP 412) was definitely known to have been taken accidentally (in a *robalo* net). Specimen 413 was presumably its calf and probably died after the mother was caught. Both were found in advanced stages of decomposition.

Another specimen (670) had been deliberately wounded and its mother could not be found. It lived for three hours and observations were made of it swimming in Harberton Bay. No other specimen has been collected alive (Anonymous 1975). This is the only specimen from southern Tierra del Fuego.

In view of these numerous beach collections, *Phocoena dioptrica* appears to be the small cetacean most common in the waters off northeastern Tierra del Fuego, yet there are no published observations of live animals in this area (Brownell 1974). The collection of the majority of these specimens from Bahía San Sebastián and one from the Beagle Channel seem to indicate that it is an inshore species.

TABLE 7. SPECIMENS OF *PHOCOENA DIOPTRICA* FOUND ON TIERRA DEL FUEGO BEACHES

RNP no.	Locality	Date	Details	Maturity
		NEARLY COMPLETE SKELETONS		
82	Cabo Peñas S	31. vii. 1975	Nearly complete	imm.
298	San Sebastián 10 S	13. ii. 1976	Nearly complete	imm.
299	San Sebastián 12.8 S	13. ii. 1976	Nearly complete	imm.
412	Ea. San Martín S	13. ii. 1977	Complete ♀ *	imm.
413	Ea. San Martín N	13. ii. 1977	Complete ♂	v. imm.
443	Punta María 5–6 NW	3. iii. 1977	Fairly complete	subad.
533	Ea. San Martín S	30. v. 1977	Nearly complete	imm.
536	Río San Martín 7 N	31. v. 1977	Nearly complete	imm.
625	Río San Martín 3 N	11. xii. 1977	Nearly complete	v. imm.
658	Ea. San Martín N	29. i. 1978	Complete	adult
670	Puerto Harberton	25. iii. 1978	Complete, fresh entire in formol	v. imm.
		CRANIAL MATERIAL		
11	Ea. Viamonte	30. ix. 1975	Cranium, incomplete	
17	Río Fuego N	30. ix. 1975	Cranium, incomplete	
33	Río San Martín	12. v. 1975	Cranium, fair	(Col. J. Tico)
34	Río San Martín	12. v. 1975	Cranium, good	(Col. J. Tico)
35	Río San Martín	12. v. 1975	Cranium, incomplete	(Col. J. Tico)
36	Río San Martín	12. v. 1975	Cranium, good	(Col. J. Tico)
37	Río San Martín	12. v. 1975	Cranium, incomplete	(Col. J. Tico)
38	Río San Martín	12. v. 1975	Cranium, good	(Col. J. Tico)

Continued . . .

TABLE 7. Continued.

RNP no.	Locality	Data	Details	Maturity
39	Río San Martín	12. v. 1975	Cranium, mandibles, earbones	(Col. J. Tico)
48	Ea. Viamonte 2 SE	12. iv. 1974	Cranium, incomplete	(C & G 4)
50	Ea. Viamonte 2 SE	12. iv. 1974	Cranium, fair	(C & G 6)
65	Cabo Peñas SE	5. vii. 1974	Cranium, 36 v., ribs	adult
70	Punta María NW	5. vii. 1974	Cranium, incomplete	
71	Punta María NW	5. vii. 1974	Cranium, incomplete	
85	Cabo Peñas SE	31. vii. 1975	Cranium, good; mandibles	
117	Cabo Peñas SE	18. xii. 1975	Cranium, incomplete	
118	Cabo Peñas SE	18. xii. 1975	Cranium, incomplete	
123	Ea. Las Violetas	18. xii. 1975	Cranium, fair; mandibles broken	
141	Cabo Espiritu Santo	20. xii. 1975	Cranium, very incomplete	
176	San Sebastián N	21. xii. 1975	Cranium, poor	
191	Ea. San Martín N	28. i. 1976	Cranium, crushed	
194	Ea. San Martín 4 N	28. i. 1976	Cranium, fair; R mandible; 2 r	
195	Ea. San Martín 4 N	28. i. 1976	Cranium, fair; 18 r, 21 v	
198	Ea. San Martín 4 N	28. i. 1976	Cranium, incomplete	
204	Ea. San Martín N	28. i. 1976	Cranium, fair; 2 v.	imm.
206	Ea. San Martín 4–5 N	28. i. 1976	Cranium, fair	
221	Ea. San Martín 4–5 N	28. i. 1976	Cranium, very incomplete	
224	Ea. San Martín 4–5 N	28. i. 1976	Cranium, poor	
225	Ea. San Martín 4–5 N	28. i. 1976	Cranium, fair	
234	Ea. San Martín 4–5 N	28. i. 1976	Cranium, fair	
239	Ea. San Martín 3–4 N	28. i. 1976	Cranium, v. incomplete; 3 r, 2 v	
251	Ea. San Martín 6 N	28. i. 1976	Cranium, v. incomplete; 2 v	
262	Ea. San Martín 6 N	28. i. 1976	Left mandible	
263	Ea. San Martín 6 N	28. i. 1976	Left mandible	
267	Ea. San Martín 6 N	28. i. 1976	Cranium, fair; earbone, hyoids, 33 v, 2 chevrons	imm.
297	San Sebastián 7.5 S	13. ii. 1976	Cranium, good	
302	San Sebastián 16.3 S	13. ii. 1976	Cranium, v. incomp.; sternum, 18 r, 50 v.	
316	San Sebastián 16.3 S	13. ii. 1976	Cranium, v. incomplete	
317	San Sebastián 16.4 S	13. ii. 1976	Cranium, v. incomplete	
318	San Sebastián 16.4 S	13. ii. 1976	Cranium, incomplete; 19 r, 28 v.	imm.
319	San Sebastián 16.5 S	13. ii. 1976	Cranium, good	
324	San Sebastián 14.5 S	13. ii. 1976	Cranium, good	
325	San Sebastián 14.7 S	13. ii. 1976	Cranium, good	
349	Río San Martín S	21. xi. 1976	Cranium, poor	
350	Río San Martín S	21. xi. 1976	Cranium, fair	
351	Río San Martín S	21. xi. 1976	Cranium, fair	
361	Río San Martín S	21. xi. 1976	Cranium, v. incomplete	
376	Río San Martín 2 S	21. xi. 1976	Mandibles, 23 r, 35 v.	imm.
401	Cabo Peñas SE	16. i. 1977	Cranium, poor	
403	Cabo Peñas SE	16. i. 1977	Cranium, good; 1 earbone; 3 r, 4 v.	adult
411	San Sebastián N	13. ii. 1977	Cranium, v. incomplete	
429	Cabo Peñas SE	16. ii. 1977	Cranium, good; mandibles, 22 r, 31 v	imm.
440	Punta María 7.5 NW	3. iii. 1977	Cranium, fair; 1 r, 5 v.	imm.
441	Punta María 7.5 NW	3. iii. 1977	Cranium, v. incomplete	
445a	Punta María 5–6 NW	3. iii. 1977	Cranium, v. incomplete, 2 r, 1 v	

Continued . . .

TABLE 7. Continued.

RNP no.	Locality	Date	Details	Maturity
445b	Punta María 5–6 NW	3. iii. 1977	Cranium, v. incomplete	
449	Punta María 3 N	3. iii. 1977	Cranium, v. incomplete	
455	Punta María 1 N	3. iii. 1977	Cranium, good	small
459	Punta María S	4. iii. 1977	Cranium, fair; 7 r, 33 v.	imm.
460	Punta María S	4. iii. 1977	Cranium, fair; 12 r, 32 v.	adult
463	Punta María S	4. iii. 1977	Cranium, v. incomplete, cervicals	
464	Punta María S	4. iii. 1977	Cranium, fair	adult
465	Punta María S	4. iii. 1977	Cranium, fair	
469	Punta María S	4. iii. 1977	Cranium, fair; R mand., sternum, 26 r, 50 v.	imm.
505	Los Chorrillos N	8. iv. 1977	Cranium, fair	
525	Los Chorrillos 4 N	29. v. 1977	Cranium, good; mandibles, 1 ear, 19 r, 14 v, st. ribs	imm.
539	Río San Martín 7 N	31. v. 1977	Cranium, v. incomplete	
583	San Sebastián 2 S	21. ix. 1977	Cranium, good	
586	San Sebastián N	21. ix. 1977	Cranium, fair, small	
592	Península Páramo	21. ix. 1977	Cranium, poor	
599	San Sebastián S	28. xi. 1977	Cranium, very good	
600	San Sebastián S	28. xi. 1977	Cranium, good	
604	San Sebastián S	28. xi. 1977	R mandible	
609	San Sebastián S	28. xi. 1977	Cranium, good; L mand.; 19 r, 27 v.	adult
628	Río San Martín 3 N	11. xii. 1977	Cranium, fair	
639	Río Ewan N	1. i. 1978	Cranium, poor	
		POST CRANIAL MATERIAL (*=includes cervicals)		
10	Cabo Domingo S	27. ix. 1975	Fairly complete *	adult
18	Río Fuego N	30. ix. 1975	Fairly complete *	adult
41	San Sebastián S	12. v. 1975	Fairly complete*	adult (Col. J. Tico)
46	Ea. Viamonte SE	12. iv. 1974	5 ribs, 25 vertebrae *	adult (C & G 3 b)
47	Ea. Viamonte SE	12. iv. 1974	10 vertebrae	adult (C & G 3 c)
59	San Sebastián	3. vii. 1974	9 r, 36 v *	adult
66	Cabo Peñas SE	5. vii. 1974	19 vertebrae, worn	adult
83	Cabo Peñas SE	31. vii. 1975	Sternum, 3 r, 33 v *	imm.
84	Cabo Peñas SE	31. vii. 1975	13 vertebrae *	adult
125	Ea. Las Violetas	18. xii. 1975	11 r, 22 vertebrae *	
131	Ea. Las Violetas	18. xii. 1975	Sternum, 27 r, 36 v *	imm.
146	Cabo Espiritu Santo	20. xii. 1975	27 r, 22 v *	adult
174	San Sebastián N	21. xii. 1975	1 r, 58 v *, chevrons	adult
205	Ea. San Martín 4–5 N	28. i. 1976	9 r, 25 vertebrae	adult
230	Ea. San Martín 5 N	28. i. 1976	Cervicals	
232	Ea. San Martín 3–4 N	28. i. 1976	1 rib, 8 vertebrae *	
292	Río San Martín S	13. ii. 1976	26 vertebrae *	adult
358	Río San Martín S	21. xi. 1976	6 ribs, 20 vertebrae	subadult
363/364	Río San Martín S	21. xi. 1976	7 ribs, 16 vertebrae *	imm.
405	Cabo Peñas SE	16. i. 1977	8 ribs, 20 vertebrae *	adult
431	Cabo Peñas SE	16. ii. 1977	Fairly complete	
438	Punta María 7 NW	3. iii. 1977	24 vertebrae	imm.
448	Punta María 3–4 NW	3. iii. 1977	20 ribs, 33 vert. *	imm.
494/495	Punta María 3–4 NW	3. iii. 1977	15 vertebrae *	imm.
513	Cabo Domingo S	9. iv. 1977	7 r, 46 chevrons tracing dorsal fin. ♂	adult

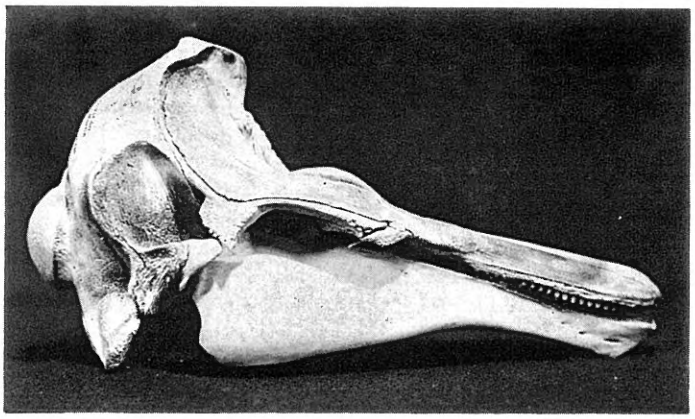

Fig. 11. *Phocoena dioptrica*, lateral view of RNP 536, collected on the mud flats of Bahía San Sebastián in May, 1977. (Photo T. D. Goodall)

FAMILY ZIPHIIDAE

Tasmacetus shepherdi Oliver, 1937

Shepherd's beaked whale, Tasman whale

This rare whale is known from eight stranded specimens (Mitchell 1975, Anonymous 1975). Six specimens are known from mainland New Zealand, Steward and Chatham Islands (Oliver 1937, Gaskin 1968), one from Península Valdés, Argentina (Mead and Payne 1975) and a photographed but not collected stranding on the Islas Juan Fernandez, Chile (Brownell *et al.* 1976).

The collection of two specimens on Tierra del Fuego extends the known distribution southward and furthers the assumption (Anonymous 1975) that the species is circumpolar.

TABLE 8. NEW SPECIMENS OF *TASMACETUS SHEPHERDI*

RNP no.	Locality	Date	Details
457	Punta María S	4. iii. 1977	Cervicals
582	Punta María S	6. xi. 1977	Cranium, incomplete, very worn
666	Isla Gable NE	9. iv. 1977	Photographs of cranium
		15. iii. 1978	Mandible borrowed from restaurant
		9. iv. 1978	Col. cervicals, 18 v, scapula, 2 ribs, part of sternum, humerus, 2 radii, from Gable Is.

The collections in Table 8 were made in unusual circumstances. Cranium RNP 582 was found leaning against a new fence 200 m from the beach. Cervicals RNP 457 appear to belong to this cranium as they were found on the same beach and match the condyles. Both have the same degree of beach damage.

In April, 1977, a very worn cranium was photographed at the Prefectura Maritima Station on Gable Island. In March, 1978, a set of mandibles that had been decorating the wall of an Ushuaia restaurant for two years were examined

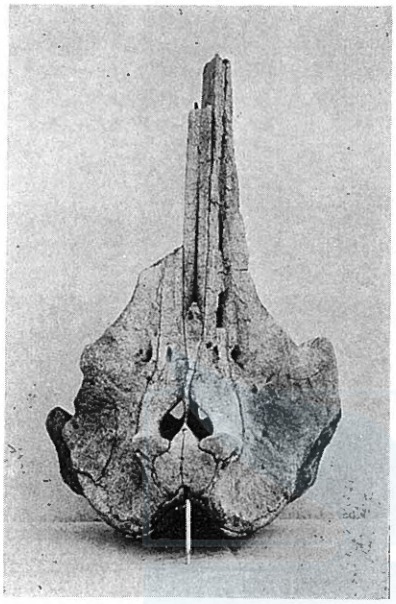

Fig. 12. *Tasmacetus shepherdi*, dorsal aspect of RNP 582, a very beach worn cranium found at Punta Maria in November, 1977. (Photo I.S. Cameron)

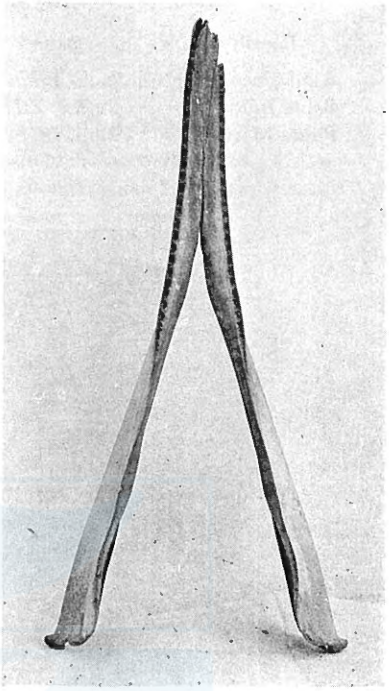

Fig. 13. *Tasmacetus shepherdi*, dorsal aspect of mandibles of RNP 666, stranded on Gable Island, ca. 1974. These mandibles were displayed in an Ushuaia restaurant for several years. (Photo I.S. Cameron)

and found to be those of a *Tasmacetus* (RNP 666). The measurements agree very closely with those given by Oliver (1937). Further inquiry yielded an approximate date (1974) and the site of collection; a trip was made to retrieve that which remained (cervicals, 18 additional vertebrae, right scapula, two ribs, two radii, one humerus and a section of sternum). It was confirmed that the cranium and mandible came from the same animal. I have been unable to obtain the cranium for study.

Berardius arnuxii Duvernoy, 1851

Arnoux's beaked whale

Brownell (1974) gives the distribution of this whale as South Australia, New Zealand, South Africa, Argentina, the Falklands (Malvinas), South Georgia, the South Shetlands and the Antarctic Peninsula, showing a total of 14 specimens. McCann (1975) records more specimens, mainly from New Zealand. The only specimen known from the continental coasts of the western South Atlantic is from the Río de la Plata, Argentina (Marelli 1920). There are no former records from Tierra del Fuego.

TABLE 9. NEW SPECIMENS OF *BERARDIUS ARNUXII*

RNP no.	Locality	Date	Details
472	Río Lainez	5. iii. 1977	Cervicals
566	Bahía Inútil	25. vii. 1977	Cervicals
693	Punta María 6 N	3. iii. 1977	Photographs of very incomplete cranium. Specimen collected 14. v. 1978

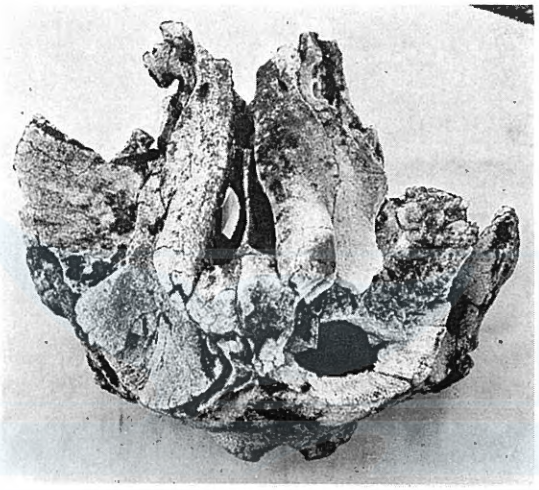

Fig. 14. *Berardius arnuxii*, dorsal aspect of a very incomplete and beach damaged cranium, RNP 693, found north of Punta Maria in March, 1977. (Photo I.S. Cameron)

The new specimens from Tierra del Fuego are two groups of cervical vertebrae and a very worn, incomplete cranium. Specimen 566 from the Río Marazzi, Inútil, has the centrae and neural arches of the first three cervicals fused and the fourth fused by the neural arch. The first three cervicals of number 472 are fused.

The partial cranium, RNP 693, was photographed on the beach in March, 1977, but because of weight it was not collected until May, 1978.

Mesoplodon layardii (Gray, 1865)

Strap-toothed whale, Layard's beaked whale

This species is known from New Zealand, southern Australia, South Africa, the Falkland (Malvinas) Islands (Turner 1880, Fraser 1948, Rice 1977) and from Uruguay (Praderi 1972). Gaskin (1968) records 19 specimens from New Zealand. Until now there was no record from Tierra del Fuego.

Five new crania were found on Tierra del Fuego, four from Bahía San Sebastián and one from the Beagle Channel. Unfortunately, no complete mandibles were found. Specimen RNP 61 was stranded between April and July, 1974. The body had been burnt and only 14 vertebrae and the cranium were recovered.

Ziphioid vertebrae are frequently scattered on the beaches, but positive

TABLE 10. NEW SPECIMENS OF *MESOPLODON LAYARDII*

RNP no.	Locality	Date	Details	Maturity
61	Península Páramo	4. vii. 1975	Cranium, good; cervicals, 14 v, burned	immature ♂ ?
74	Bahía Brown	31. xii. 1975	Cranium, good; 7 v.	adult ♀ ?
313	San Sebastián, 15 S	13. ii. 1976	Cranium, v. incomplete, 5 v.	
326	San Sebastián 10 S	13. ii. 1976	Cranium, v. good, 10 v.	adult ♀ ?
659	Ea. San Martín N	29. i. 1978	Cranium, v. incomplete	

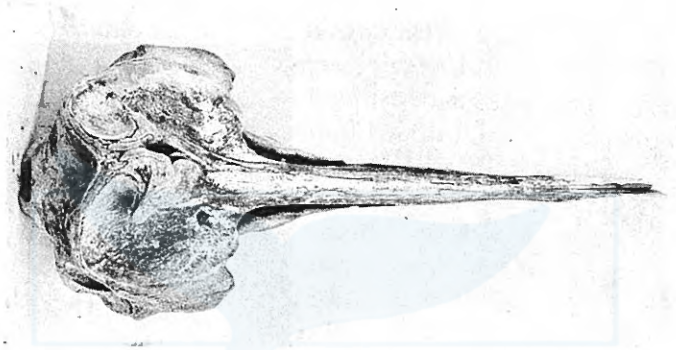

Fig. 15. *Mesoplodon layardii*, dorsal aspect of cranium of RNP 326 found at San Sebastián in February, 1976. (Photo I.S. Cameron)

identification is difficult due to beach damage.

Mesoplodon grayi von Haast, 1876

Gray's beaked whale, Scamperdown whale

Rice (1977) cited Gray's beaked whale from South Africa, South Australia, New Zealand, Chatham Island, and Argentina, as well as one record from the Netherlands. The species appears to be most common near New Zealand (Gaskin 1968).

The western South Atlantic specimens are all from Argentina ; Quequen, Monte Hermoso and Miramar in the Province of Buenos Aires (Urquiola *et al.* 1970) and Chubut (Moreno 1895). There are no former records from Tierra del Fuego.

New records for this species (Table 11) include one nearly complete skeleton, three crania and one group of thoracic vertebrae.

Specimen RNP 270 is nearly complete (lacking scapulae and flippers). It was an adult animal with a total length of 516 cm. The total length of the skeleton is 463 cm. The teeth were visible in the lower jaw, indicating a male, and there were 15 vestigial teeth embedded in the flesh of the upper left and nine in the upper right jaw. The animal was in a very decomposed condition when found.

The other three crania are incomplete ; two of them are very beach worn.

TABLE 11. NEW SPECIMENS OF *MESOPLODON GRAYI*

RNP no.	Locality	Date	Details	Maturity
270	Ea. San Martín	28. i. 1976	Nearly complete skeleton. Lacks scapulae & flippers.	adult
271	Los Chorrillos	1975	6 thoracics	adult
328	San Sebastián 15 S	13. iii. 1976	Cranium, very incomplete	
378	Río San Martín S	21. xi. 1977	Cranium, incomplete; part of R mandible, 1 tooth, some v.	imm.
379	Río San Martín S	21. xi. 1977	Cranium, very incomplete	

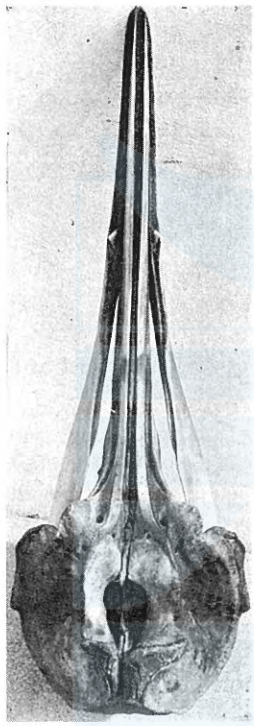

Fig. 16. *Mesoplodon grayi*, dorsal aspect of skull of RNP 270 found in front of Estancia San Martín in January, 1976. (Photo T. D. Goodall)

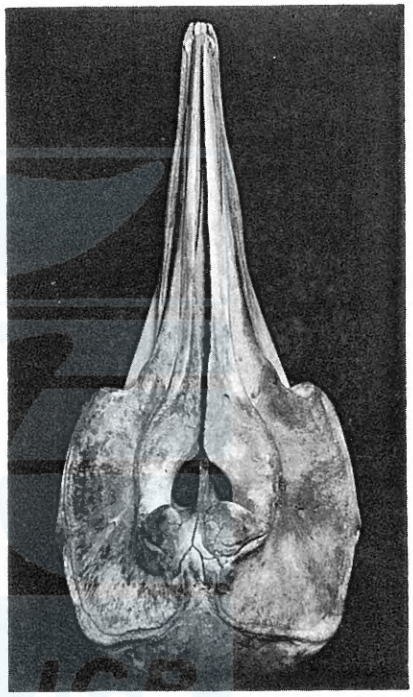

Fig. 17. *Mesoplodon hectori*, dorsal view of cranium and mandibles of RNP 172, found in December, 1975, on the mud flats of western Bahía San Sebastián. (Photo T. D. Goodall)

Mesoplodon hectori (Gray, 1871)

Hector's beaked whale

Hector's beaked whale is known only from Tasmania, New Zealand, the Falkland (Malvinas) Islands and South Africa (Rice 1977). In the literature there are only six specimens published (Ross 1970). The only specimen known from American waters is that from the Malvinas (Fraser 1950, Hamilton 1952).

RNP 172 becomes the seventh known animal of this species and the first

TABLE 12. NEW SPECIMEN OF *MESOPLODON HECTORI*

RNP no.	Locality	Date	Details	Maturity
172	San Sebastián N	21. xii. 1975	Nearly complete skeleton. Lacks scapulae and flippers.	imm.

from Tierra del Fuego, in addition to being the southernmost specimen yet found.

When found on the west side of the San Sebastián mud flats on 21 December, 1975, this animal was well decomposed. The head and rib cage were taken at that time, while the rest of the animal was collected in February, 1976. This specimen is of a young animal and is complete except for the scapulae, flippers and part of the sternum. The neural spines of three vertebrae are damaged. None of the vertebrae are anchylosed, but two well-developed teeth are present, indicating that it was a male. The total length of the skeleton is 281 cm.

Ziphius cavirostris G. Cuvier, 1823

Cuvier's beaked whale, Ballena picuda de Cuvier

This whale is cosmopolitan, occurring in all oceans, except at high latitudes. A number of specimens are known from around the world, as far south as Tierra del Fuego (Anonymous 1975, Mitchell 1975, Gaskin 1968).

Eight new records are reported in Table 13 from Tierra del Fuego.

An adult male Cuvier's beaked whale (RNP 3) was stranded entire at the First West Creek, Estancia Harberton, in September, 1967. The cause of death was unknown. The pigmentation pattern was visible and the body was covered with parallel scratches. With the exception of the blubber, birds showed little interest in it, although one wintery day nearly a year after stranding, six condors (*Vultur gryphus*) were seen sitting on it. This specimen took five years to decay. Both teeth were present on stranding, but one disappeared before it could be collected. The nearly complete skeleton is preserved at Harberton.

Number 327 is a male skull in excellent condition. One tooth was missing. The other six skulls are incomplete and very beach worn. The male specimens were so classified because of the pronounced " basining " of the cranium. Specimen 138 is a complete vertebral column without a skull.

TABLE 13. NEW SPECIMENS OF *ZIPHIUS CAVIROSTRIS*

RNP no.	Locality	Date	Details	Maturity
3	Ea. Harberton	24. ix. 1967	Nearly complete skeleton ♂	adult
60	San Sebastián 4 N	3. vii. 1974	Cranium, incomplete ♀	
73	Punta María N	5. vii. 1974	Cranium, incomplete ♀	
138	San Sebastián N	19. xii. 1975	Complete axial skeleton, except scapulae and flippers	imm.
177	San Sebastián 5 N	21. xii. 1975	Cranium, incomplete ♂	
327	San Sebastián 16 S	13. ii. 1976	Cranium, mandibles, 1 tooth, ear bones good ♂	
377	Río San Martín S	21. xi. 1976	Cranium, incomplete ♀	
638	San Sebastián 5 N	12. xii. 1977	Piece of cranium, worn ♀	
696	Punta María 10 N	14. v. 1978	Cranium, broken ♂	

Hyperoodon planifrons Flower, 1882

Southern bottlenose whale, Ballena pico de botella

The southern bottlenose is widely distributed in the southern hemisphere. Specimens are known from New Zealand, Australia, South Africa, the South Atlantic Islands and off the coast of Antarctica (Brownell 1974, Rice 1977).

In South America the species is known for southern Brazil, Argentina (Gianuca and Castello 1976), the Falkland (Malvinas) Islands (Hamilton 1952), South Georgia and the South Orkney Islands (Fraser 1945), and the Chilean coast (Clarke 1962). None were known from Tierra del Fuego until the following speci-

TABLE 14. NEW SPECIMENS OF *HYPEROODON PLANIFRONS*

RNP no.	Locality	Date	Details
4	Cutalataca, Ea. Harberton	xi. 1967	Cranium, fair
382	Najmishk, Ea. Viamonte	19. xii. 1976	Cranium, very incomplete
584	San Sebastián N	21. xi. 1977	Cranium, very incomplete
585	San Sebastián N	21. xi. 1977	Cranium, mandibles; fairly complete, but worn and broken
630	San Sebastián	11. xii. 1977	Cervicals (7 fused)

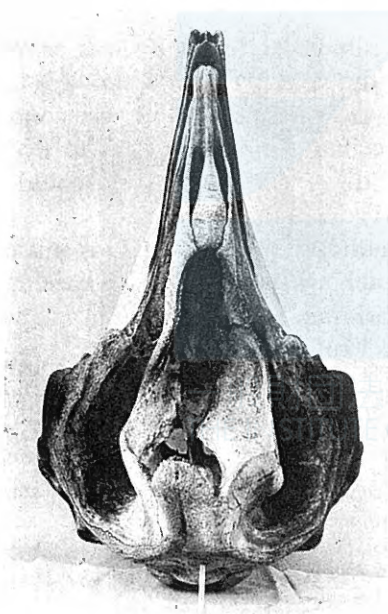

Fig. 18. *Ziphius cavirostris*, dorsal aspect of skull of RNP 327 found at Bahía San Sebastián in February, 1976. (Photo I.S. Cameron)

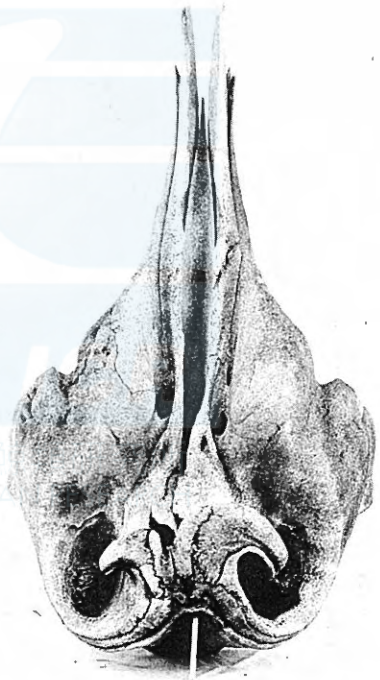

Fig. 19. *Hyperoodon planifrons*, dorsal aspect of cranium of RNP 4, found at Cutalátaca, Estancia Harberton, in the Paso Guaraní of the Beagle Channel in November, 1967. (Photo I.S. Cameron)

mens were found.

Four crania and a group of seven fused cervicals represent the collection in Tierra del Fuego. Only one of the crania, found at Estancia Harberton on the Beagle Channel, is in fair condition. The others are very broken and beach worn. Specimens 382 and 585 were buried in sand and mud, respectively, and crumbled extensively on removal. The latter specimen has mandibles but no teeth; the mandibles have also disintegrated on drying. No fresh specimens were found.

DISCUSSION

Because of the enormous amounts of water and few inhabited areas, the small cetaceans of the Southern Ocean are little known. Museum specimens of southern whales and dolphins are few, and even less were known from Tierra del Fuego, where little previous work has been done.

Recent combing of the beaches has produced large quantities of new cetacean material. The area where most specimens were found was Bahía San Sebastián, but all beaches sampled offered a few specimens. Only a small portion of available beaches were checked. Southern Patagonia and Tierra del Fuego offer extensive beaches, many of which have never been surveyed.

Since most of the specimens had been on the beach for long periods, I have little information on the seasonality of strandings, but a systematic checking of beaches should yield new data. The slow rate of decay makes it difficult to judge the length of time the animals have been on the beach.

Eight of the fourteen species (*Orcinus orca*, *Phocoena spinipinnis*, *Tasmacetus shepherdi*, *Berardius arnuxii*, *Mesoplodon layardii*, *M. grayi*, *M. hectori* and *Hyperoodon planifrons*) had not been previously collected on Tierra del Fuego, although most of them were known for the general area.

It is strange that deepwater species such as *Lissodelphis peronii*, *Tasmacetus shepherdi*, *Mesoplodon layardii*, and *Hyperoodon planifrons* should be found in the relatively shallow waters north of Gable Island in the Beagle Channel and the very shallow waters of Bahía San Sebastián. Mitchell and Kozicki (1975) mention that *Hyperoodon ampullatus* is known to stray into fiords and rivers during migrations and then strand. This may be the case here.

In number of cranial specimens (91) *Cephalorhynchus commersonii* was the species most often collected, but this total includes a large number (at least 31) which were taken in fishing nets. The species most numerous in strandings was *Phocoena dioptrica* (88 cranial and many post cranial collections), which was thought to be one of the rarest cetaceans. More study on these and other species occuring in the area is needed.

Means should be found to protect the southern dolphins from deliberate exploitation for crab bait and accidental capture in fish nets. Little is known of the populations of the two species most affected, *Lagenorhynchus australis* in the channels and *Cephalorhynchus commersonii* in the Strait of Magellan, its bays and the Atlantic coast, but it is doubtful if either are able to withstand much exploitation.

My future plans include periodic surveys of the beaches which have yielded the most material, exploration of new beaches, and more study of the dolphins captured incidentally during *robalo* fishing at Bahía San Sebastián.

ACKNOWLEDGMENTS

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