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RECENT WHALE STRANDINGS IN NORTHERN TASMANIA

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(with three tables and two plates)

ABSTRACT

Three strandings of whales have recently occurred on the north coast of Tasmania. They involve a single pilot whale, *Globicephala* sp., and two large schools of the false killer whale, *Pseudorca crassidens*.

INTRODUCTION

A stranding of a pilot whale (*Globicephala* sp.) was reported on 9.5.1973, and upon inspection by one of us (R.H.G.) the animal was found to be stranded head seawards at the high tide mark on rocks at the northern end of Greens Beach, northern Tasmania (plate 1). It was fresh and appeared to have died within the previous few days. The colour was uniform black. The dentition was $\frac{9\ 9}{7\ 7}$. A series of measurements is given in table 1.

Upon dissection the uterus appeared empty, and the stomach contained only a small quantity of white seaweed-like material. The head was removed for subsequent preparation of the skull, and within the nasal cavity there was found a considerable number of nematodes, later determined as *Stenurus* sp., probably *S. globicephalae* Baylis and Daubney, 1925. Specimens of the dolphin *Lagenorhynchus acutus* Gray, 1828 stranded on the coast of Massachusetts, U.S.A., in May 1973 were studied by members of the staff of the New England Aquarium in an endeavour to determine a possible cause of the stranding. It was discovered the nasal cavity and the inner ear of these animals were infested with *S. globicephalae* (pers. com. Louis Garibaldi).



PLATE 1. - Pilot whale stranded at Greens Beach, May 1973.

No barnacles or other ectoparasites were observed in our specimen.

If the view of Van Bree (1971) that within the genus *Globicephala* Lesson, 1828 only two species can be recognised, *G. melaena* (Traill 1809), and *G. macrorhynchus* Gray, 1846, the animal here noted is referable to the latter. However, some authors are inclined to believe that of upwards of a score of other nominal species one or more may be valid, and it is clear that, in spite of some recent useful preparatory work, the taxonomy of the genus at present remains uncertain, particularly in respect of species and/or subspecies occurring in the southern hemisphere.

The second stranding, that of the false killer whale (*Pseudorca crassidens*) (plate 2), reported in the daily newspapers of 12.6.1974, was of 170-172 false killer whales on Black River Beach, north western Tasmania, near Stanley. The animals probably came ashore the previous day. One of us (E.O.G.S.), with others, visited the

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TABLE 1

Measurements (cm) of a specimen of *Globicephala cf. macrorhynchus* stranded at Greens Beach and 9 specimens of *Pseudorca crassidens* stranded at Black River Beach, near Stanley. The index numbers and dimensions are after Norris (1962). (In the field small dimensions of *Pseudorca* measured in cm — eye, mm — larger dimensions to nearest inch).

Index No.	Feature	Pilot		False Killer							
		♀	♂	♂	♂	♂	♂	♂	♀	♀	♀
1	Length to fluke notch	344	236	244	302	381	467	480	384	401	404
2	Length to mid-eye	35	23	32	34	40	40	42	36	30	30
4	Length to gape	23	31	29	31	36	32	33	31	33	31
7	Gape to centre of eye	10	50	46	53	70	65	70	70	67	68
9	Length of head to blowhole	35	22	28	39	45	49	49	42	43	43
10	Length to pectoral	-	44	52	57	66	76	74	53	57	58
11	Length to tip of dorsal fin	165	127	133	163	196	239	252	194	192	191
13	Length to midpoint of genital slit	-	140	136	181	218	249	249	239	259	244
22	Max. girth at dorsal origin	-	132	137	165	208	257	239	224	239	220
24	Diameter of eye	2.5	3.0	2.7	2.3	3.2	3.6	3.3	2.7	3.1	3.1
26	Length of genital slit	26	10	7	11	13	13	30	2	2	3
27	Width of blowhole	7	-	40	-	-	-	-	-	45	-
29	Length of pectoral, anterior	52	31	36	43	56	58	70	45	54	56
30	Length of pectoral, posterior	50	29	34	41	54	56	68	43	52	54
31	Width of pectoral	16	11	13	14	19	23	24	17	19	20
31	Height of dorsal fin	26	15	23	23	32	40	38	30	32	31
33	Length of base of dorsal fin	51	41	61	69	89	96	102	66	81	78
34	Width of flukes	87	53	64	66	86	117	116	86	94	97
	Dental complement	$\frac{9}{7}$	just erupting	-	$\frac{11}{10}$	$\frac{7}{9}$	-	$\frac{9}{10}$	$\frac{8}{9}$	-	$\frac{8}{11}$

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site on 13-14.6.1974, and, under difficult conditions, collected some data before the animals were buried on the beach.



PLATE 2. - False killer whales stranded at Black River Beach, June 1974. Most of the main mass, looking east. Photo: *The Advocate*.

They were in two groups, the main mass extending over about 100 m, with a smaller compact group of nine lying some 400 m westward. When seen most were half buried in the sand at or near high tide mark, their orientation haphazard.

The colour was wholly and uniformly black, save that in some individuals a sub-elliptical whitish or pearly area embraced the umbilicus, extending several centimetres in advance of it and beyond it. As table 1 shows, the range of the dental complement was 7-11 in both the upper and lower jaw.

Length to caudal notch was recorded for 62 individuals, of which 34 were males, 20 females, sex determination being impracticable in 8 (table 2). Eighteen dimensions were noted for each of 6 males and 3 females (table 1). In October 26 females washed out from the mass grave were measured by one of us (R.H.G.): it is possible this series (table 3) included some animals measured in June.

Tests of the significance of the difference from the male mean of June, October, pooled female means yield $t = 2.898, 1.733, 2.939$, respectively, the first and third being highly statistically significant (P better than 0.01), the second not being formally significant ($P 0.1$). The length distributions are tolerably symmetrical, the

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number of entries within one standard deviation on either side of the mean (expected values with normal distribution in parentheses) being males 24 (23), June females 15 (14), October females 20 (18) pooled females 34 (31).

TABLE 2

Length to caudal notch (cm) of 62 individuals (34 males, 20 females, 8 unsexed) of *Pseudorca crassidens*, Black River Beach, near Stanley, measured June 1974; arranged in ascending order of magnitude (measurements in field to nearest inch).

	Males			Females			Sex?
236	376	432	488	234	379	404	137
267	381	467	488	254	383	409	257
267	391	467	488	279	383	-	325
302	396	467	493	284	384	-	368
302	396	470	498	312	389	-	371
322	396	474	518	335	389	-	396
343	401	479	523	348	396	-	396
395	404	480	-	356	401	-	411
371	411	480	-	373	401	-	-

It was not feasible to undertake any internal examination. A search was made for barnacles and other ectoparasites, but none were seen. One very small individual, 137 cm in length, probably not neonatal, was badly eaten by birds. On the morning of the second day a flock of about a dozen ravens, *Corvus tasmanica* Mathews, 1912, was flushed from the nine separate whales, which now appeared whitish, almost the whole of the skin having been stripped off. After an animal has been on the beach for a day or so, the integument can be peeled off in large pieces resembling sheets of black plastic.

The third stranding was brought to the notice of one of us (E.O.G.S.) on 18.6.1974. It took place on the beach and adjacent flats on the west side of Perkins Island, about 10 km north west of Smithton, approximately 20 km westward from the stranding a week earlier. Mr Jeff Findlay, Health Inspector, Circular Head Municipality, Smithton, reported 43 whales were involved. They appeared to be of the same species as was stranded on Black River Beach, and were thought to have come ashore on the night of 14.6.1974. In view of the isolated character of the site, no attempt was made by the local authority to dispose of the carcasses. Perkins Island was the site of a notable stranding in February 1911 (Lillie 1915, Scott 1942a) of a school of 38 individuals (all, or all but one, males) of the sperm whale, *Physeter catodon* Linne, 1758.

The site of the Black River Beach stranding was revisited by one of us (R.H.G.) on 23.10.1974, when it was discovered that about 70 of the whales, buried there the previous June, had been washed from the sand and were scattered for about three miles (5 km) along the beach above high tide. With the assistance of Mr Terence Cashion, Queen Victoria Museum, and Sgt A. Archer, Smithton Police, five heads were taken for skulls and further measurements and other data collected (table 3). Though over four months had elapsed since these whales had died decomposition was only slight, being most pronounced around the mouth. Sexing was a simple matter, males being readily recognisable by the prominently protruding penis. The abdomen of 26 females was opened in an endeavour to assess breeding condition. Four animals were found to be each carrying a single foetus, three being males and one a female. Two foetuses were partly protruding from the genital slit, possibly because of abnormal pressures.

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Three were in a head-first position and one was in a breech-birth position. The condition of the uterus in another 14 suggested recent parturition. Eight appeared to have not been pregnant in the present season (table 3). The head of one foetus has been preserved in formalin. Tooth wear in females was not as great as in the largest males, in some of which teeth were reduced to about half length.

TABLE 3

Length to caudal notch, apparent breeding condition, and dentition of 26 female *Pseudorca crassidens* washed from the sand four months after stranding at Black River Beach in June 1974. Individuals may or may not be different from those listed in tables 1 and 2. Some comments on tooth wear are given.

Length (cm)	Breeding condition	Teeth
277	empty	subadult
293	empty	subadult
296	empty	subadult
337	empty	not worn (skull kept)
349	post partum	not worn
360	male foetus (134 cm)	-
361	post partum	-
367	female foetus (122 cm)	not worn (skull kept)
368	empty	-
380	post partum	not worn
380	male foetus (140 cm)	not worn
385	empty	slightly worn
386	empty	-
390	post partum	-
395	post partum	-
396	post partum	-
400	empty	-
405	post partum	-
405	male foetus (163 cm)	slightly worn (skull kept)
406	post partum	-
406	post partum	-
411	post partum	slightly worn
425	post partum	not worn
428	post partum	not worn
452	post partum	not worn
480	post partum	

It is of interest to note that in June 1936 a mass stranding of false killers, involving 90-100 individuals, occurred at Stanley, and the adjacent Walkers Island, only some 38 km westward from Black River Beach: measurements of some specimens made

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by one of us (E.O.G.S.) have been recorded by Pearson (1936, 188). Less than a year earlier (October 1935) the same locality had been the site of the coming ashore of a school of about 300 pilot whales (Scott 1942b), regarded by Davies (1960) as representing a southern subspecies *Globiocephala melaena edwardii* Smith, 1834. Several large schools of this species have since died on Tasmanian coasts. Other local occurrences of *Pseudorca crassidens* include one individual at Fanny's Bay, near Piper River heads in October 1957, and some 50 animals at Seal Bay, King Island in September 1958.

Tasmania is, indeed, the type locality of the synonymic *Orca meridionalis* Flower, 1864, described two years after Reinhardt had reported *Pseudorca crassidens* as living in the North Sea, Owen's original material having been found, sixteen years earlier, subfossil in a Lincolnshire fen, the species at that time being presumed to be extinct. This Society's journal for the 1919 session contains a paper (Scott & Lord 1920) on the osteology of a specimen of a false killer stated to have been one of a mixed school (including also *Globiocephala melaena* and *Orcinus orca*) that came ashore at Adventure Bay last century.

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