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THE OCCURRENCE OF THE SOUTHERN BOTTLE-NOSED WHALE IN TASMANIAN WATERS

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(with one table and one text-figure)

ABSTRACT

DAVIS, G. and GUILER, E.R., 1984 (31 viii): The occurrence of the southern bottle-nosed whale in Tasmanian waters. *Pap. Proc. R. Soc. Tasm.*, 118: 103-107. https://doi.org/10.26749/rstpp.118.103 ISSN 0080-4703. 22 Hill Street, Bellerive, Tasmania and 8 Tiersen Place, Sandy Bay, Tasmania.

The first record of this species from Tasmania brings the total number of ziphiids from Tasmanian seas to eight. Details are given of the measurements of the skull.

INTRODUCTION

The Southern Bottle-nosed Whale, *Hyperoodon planifrons* Flower, was described from an imperfect skull from northwestern Australia (Flower 1882). Since that time only 15 further specimens have been reported, three of these being on Australian coasts, but in only five instances was the skull recovered, and only one of these was measured according to the criteria established by Moore (1972).

Moore (1968) considered that the southern representative of this genus differed so greatly from the genotype *H. ampullatus*, from northern waters that he assigned *H. planifrons* to the sub-genus *Frasercetus*.

THE SPECIMEN

The current record is based on an old skull from Ocean Beach, Strahan, which was found in 1981 by Mr M. Schulz, Geography Department, Monash University, who placed it in the dunes. The skull already was dry and weathered. He subsequently relocated the skull and notified Mr H. Wapstra, Tasmanian National Parks and Wildlife Service, who informed one of us (G.D.) who recovered the skull.

It is our opinion that the skull was deposited at least ten years ago as there is no trace of oil and rootlets have penetrated some of the sutures. Moss was found growing on some of the exposed parts of the skull.

Measurements of the skull are given in table 1 which also contains the dimensions that are known for the other *H. planifrons* skulls. The skull is illustrated (fig. 1). The Tasmanian specimen is slightly larger than the South African or South Georgia specimens but smaller than the South Australian material. Fraser (1945) suggested that both sexes were about the same size when adult and that the South American material in the Museo de la Plata described by Moreno (1895) was juvenile. The Tasmanian specimen supports his views as all of Moreno's material as measured by Fraser is much smaller than the present specimen.

Some of the relative dimensions of the Tasmanian specimen are different from those quoted by Moore for the South African material, notably the length from the apex of the rostrum to the most posterior extremity of the maxilla is proportionally greater than might be expected as are also the measurements from the rostrum to the superior nares, the premaxillary crest and the pterygoid sinus. Since the other rostral measurements are not proportionally greater this difference is due to a difference in the relative lengths of the pterygoids of the several specimens.

TABLE 1

THE SKULL OF THE TASMANIAN AND OTHER SPECIMENS OF *HYPEROODON PLANIFRONS*.
Measurements (mm) following the system of Moore (1972). The South African specimen of Tietz (1966) was reported in Moore (1972) and the South Australian specimen is that of Hale (1931).

	1	2	3	4
1 Apex of rostrum to most posterior part of occipital condyles	1300	1210	1193	1391
2 Apex of rostrum to transverse plane at apices of anterior orbital notches	780	715	688	666
3 Apex of rostrum to anterior margin of inferior nares	1020	855		-
4 Apex of rostrum to free apex of pterygoid bone	980	922	948	1150
5 Apex of rostrum to anterior apex of pterygoid	690	596		-
6 Apex of rostrum to apex of maxillae between pterygoids	880	720		-
7 Apex of rostrum to apex of most posterior extremity of either maxilla	1240	1080		-
8 Apex of rostrum to anterior margin of superior nares	1050	890		-
9 Apex of rostrum to anterior part of premaxillary crest	1060	895		-
10 Apex of rostrum to posterior part of temporal fossa	1300	1130		-
12 Apex of rostrum to anterior part of pterygoid sinus	820	595		-
13 Greatest length of temporal fossa	215	210		-
14 Greatest length of orbit	200	156		-
15 Greatest length of right nasal on synvertex of skull	50	85		-
16 Length of nasal suture	105	100		-
17 Greatest breadth of skull across postorbital frontal processes	660	636		-
18 Greatest breadth of skull across zygomatic processes	720	600	601	665
19 Greatest breadth of skull across centre of orbits	590	628		-
20 Least breadth across posterior margin of temporal fossae	500	350		-
21 Greatest lateral spread of occipital condyles	190	204		237
22 Greatest width of wider occipital condyle	100	85		-
23 Greatest length of longer occipital condyle	83	141		174
24 Greatest width of foramen magnum	59	85	60	60
25 Greatest lateral spread of exoccipital bones	520	473		-
26 Greatest lateral spread of nasal bones	56	90		-
27 Greatest distance between maxillary crests	88	88		-
28 Greatest extension of right premaxilla posterior to right nasal	9	30		-
29 Greatest spread of premaxillary crests	330	265		-
30 Narrowest spread of smooth part of premaxillae between nasals	155	181		-
31 Greatest spread of premaxillae anterior to no.30	200	170		295
32 Greatest spread of premaxillae at middle of rostrum	110	103		-
33 Greatest width of rostrum at apices of antorbital notches	450	403	386	500
34 Greatest width of rostrum at apices of prominential notches	198	186		-
35 Greatest width of rostrum at midlength of rostrum	105	140		-
36 Greatest depth of rostrum at midlength of rostrum	106	110		-
37 Greatest transverse width of superior nares	101	100		-
38 Inside width of inferior nares at apices of pterygoid notches	106	144		-
40 Greatest width of temporal fossa perpendicular to long axis	80	120		-
41 Least distance between main (anterior) maxillary foramina	30?	80		-
42 Least distance between premaxillary foramina	73	67		-
43 Posteromesial margin of left maxillary foramen to apex left antorbital tubercle		286		-
44 Greatest length of vomer at surface of palate	440	230		-

Column 1 - Tasmanian specimen
2 - South African specimen
3 - Specimen of Fraser (1945)
4 - South Australian specimen.

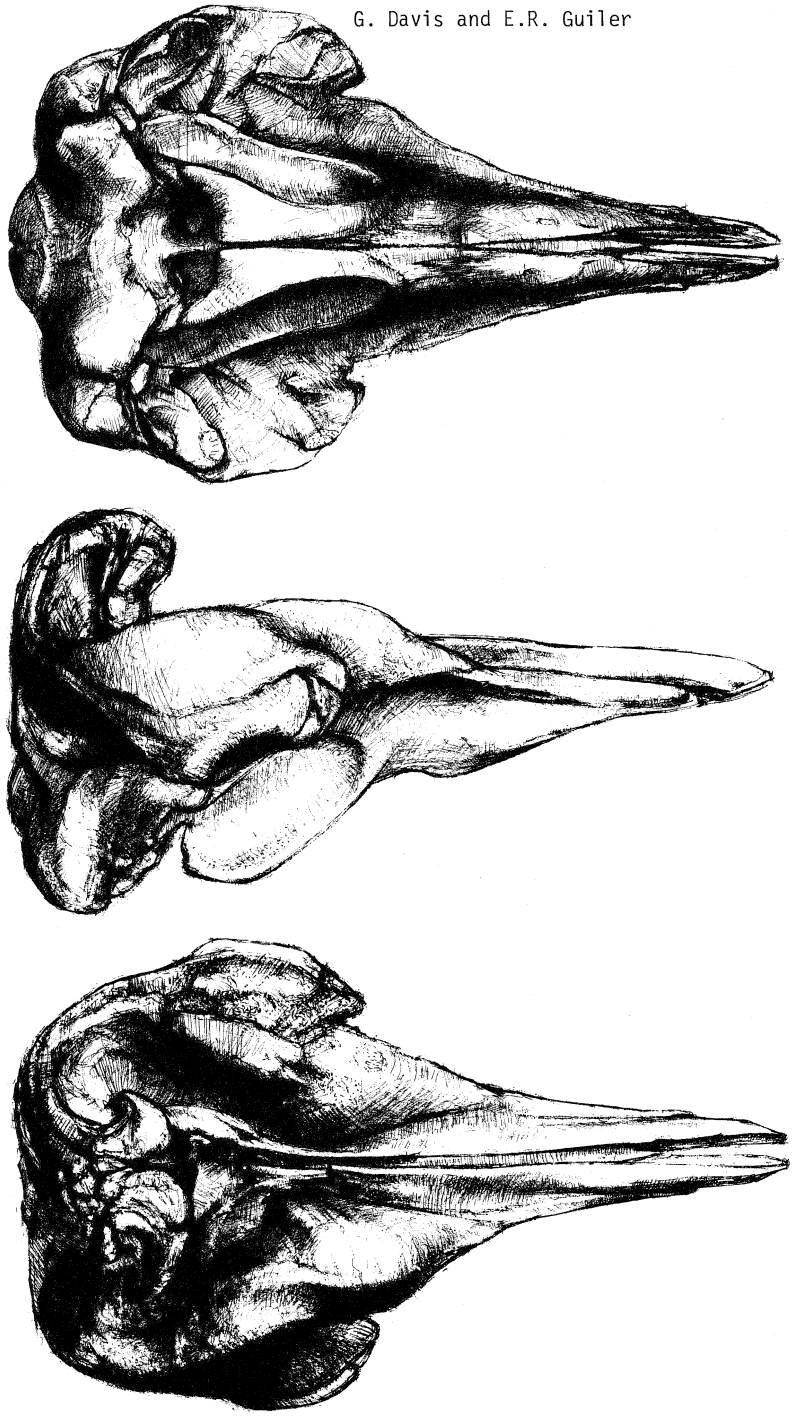

FIG. 1 - Skull of *Hyperoodon planifrons* found on Ocean Beach, Strahan, Tasmania.

The greatest width of the occipital condyle as well as the width of the foramen magnum is greater than in the South African specimen whereas the wider occipital condyle is smaller. The relative width of the nasal bones is also greater in the Tasmanian animal.

The mesorostral canal was not filled by ossified material which the authors believe suggests that the specimen was a female, although Nishiwaki & Kamiya (1958) reported that the type specimen of *Mesoplodon ginkgodens*, another ziphiid, although believed to be a male had a nearly empty mesorostral canal.

DISCUSSION

Very little is known of the biology of this species unlike its boreal counterpart *H. ampullatus*, which is the subject of a fishery (Mitchell 1975). The southern *Hyperoodon* has been seen in a small school of about six individuals by one of the authors (E.R.G.), although Bruyns (1971) saw a group of 40 whales which he believed to be of this species.

The species is reported from Chile (Bruyns 1971, Donoso Barros 1975), Buenos Aires and Patagonia (Moreno 1895), North Island of New Zealand (Waite 1913), Timaru (McCann 1961), Falkland Islands (Hamilton 1952), northwestern Australia (Flower 1882), South Australia (Hale 1931), Victoria (Wakefield 1967), South Africa (Tietz 1966), South Orkney and South Georgia Islands (Fraser 1945). Observations have been made at sea in the Southern Ocean by Tomilin & Latyschev (1967) (quoted in Brownell 1974), and by one of the authors (E.R.G.), who saw a group of between five and seven whales in lat. 65°36'S, long. 75°40'E on 2nd January 1980.

The species clearly is circumpolar in distribution extending from the Southern Ocean as far north as latitude 30°S in all of the oceanic masses. The type locality from the Dampier Archipelago (lat. 21°S) extends the range into the tropics but as this is the only such report it may, in the absence of further records from so far north, be regarded as a vagrant.

The discovery of this skull brings the total number of ziphiid whales positively recorded from Tasmania to eight. The only species which may have a circumpolar distribution but has not been recorded in Tasmania is *Tasmacetus shepherdi* which has been recorded very few times and never yet been recorded alive. The Tasmanian ziphiids represent not only the cosmopolitan and austral circumpolar species but also the tropical *Mesoplodon densirostris* (Guiler 1978).

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