

First Record of the Melon-headed Whale (*Peponocephala electra*) in Korean Waters

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ABSTRACT

First record of a stranded Melon-headed whale (*Peponocephala electra*) on the south-east coast of Korea was described. Full body and skull measurements were taken from the specimen. It was identified as *P. electra* by unique pointed flipper tips. Skull measurements of the specimen corresponded to condylobasal length proportions given in the previous descriptions of the holotype.

Keywords: first record, Melon-headed whale, *Peponocephala electra*, Korea

INTRODUCTION

The Melon-headed whale, *Peponocephala electra* is one of the subfamily Globicephalinae, which is widely known as “Blackfish” and a sole member in the genus *Peponocephala*. Genus *Peponocephala* was named by Nishiwaki and Norris (1966).

The Melon-headed whales are pelagic cetacean animals that occur worldwide in tropical and warm-temperate waters. They are most frequently found in offshore and deep waters (Perryman, 2008). In the western North Pacific, the northern limit is off southern Honshu, Japan, where is affected by the Kuroshio Current (Amano, 2009). There has been no sighting or stranding records of *P. electra* in Korean waters. However, Kim et al. (2007) proposed the possibility of the occurrence of this species in Korean waters.

This paper reports for the first time the stranding of *P. electra* in Korean waters and provides information on external and osteological characters.

External characters of JBD-001 were measured following Norris (1961). Specimen measurement was taken using a steel tape to the precision of 0.1 cm. Cranial characters were measured as described in Perrin (1975) with vernier calipers to 0.01 mm. Dental and vertebral formulas were counted as meristic characters.

The examined specimen was deposited in the Cetacean Research Institute, National Fisheries Research and Develop-

ment Institute, Korea.

SYSTEMATIC ACCOUNTS

Family Delphinidae Gray, 1821

Subfamily Globicephalinae (Gray, 1850) Gill, 1872

Genus *Peponocephala* Nishiwaki and Norris, 1966

Peponocephala electra (Gray, 1846) (Figs. 1, 2, Table 1)

Material examined. An adult male dolphin carcass found on the beach at Dogu-ri, Nam-gu, Pohang-si (35° 59'40"N, 129° 26'10"E), 25 January 2009. The stranded individual was reported by the Korea Coast Guard.

Description. External morphology: Body streamlined and moderately robust. Gently rounded head. No beak. Number of teeth 24 in each upper row and 22 in each lower row. Tall and falcated dorsal fin. Long flippers with sharply-pointed tips (Fig. 1). Flukes concave edges and distinct notch in middle. Body color is charcoal gray with white lip. Several white spots along the ventral surface from the leading edge of the genital slit.

External measurements (cm): Total body length 251.0, Snout to gape 28.1, snout to blowhole 34.3, snout to eye 32.6, snout to external auditory meatus 41.9, snout to anterior insertion of flipper 51.4, snout to posterior dorsal fin 145.5, snout to umbilicus 130.0, snout to genital aperture 141.0, snout to anus 152.0, maximum width of dorsal fin 45.2, height of dorsal fin 29.4, anterior length of flipper 46.0, posterior length of flipper 35.3, maximum width of flipper

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Fig. 1. Melon-headed whale (*Peponocephala electra*) stranded in Pohang, Korea.

Table 1. Skull measurements of CRIPE-001 specimen compared with holotype (%CBL means percentage of condylobasal length)

Measurements	CRIPE-001 (This study)		Gray, 1846 (Holotype) Dawbin et al. (1970) re-examined	
	Value in cm	% of CBL	Value in cm	% of CBL
Condylobasal length	459.0		456	
Length of rostrum	248.8	54.2	245	53.7
Width of rostrum at base	136.2	29.7	139	30.5
Width of rostrum at 60 mm	114.5	24.9	116	25.4
Width of rostrum at midlength	95.8	20.9	93	20.4
Width of premaxillaries at midlength of rostrum	61.0	13.3	61	13.4
Width of rostrum at 3/4 length	74.2	16.2	70	15.4
Distance from tip of rostrum to external nares	319.4	69.6	318	69.7
Distance from tip of rostrum to internal nares	298.6	65.1	–	–
Greatest preorbital width	251.8	54.9	248	54.4
Greatest postorbital width	268.9	58.6	259	56.8
Least supraorbital width	250.0	54.5	249	54.6
Greatest width of external nares	62.7	13.7	62	13.6
Greatest width across zygomatic processes of squamosal	270.0	58.8	255	55.9
Greatest width of premaxillaries	96.7	21.1	96	21.1
Greatest parietal width	183.5	40.0	182	39.9
Greatest length of left posttemporal fossa	91.3	19.9	–	–
Greatest width of left posttemporal fossa	63.2	13.8	–	–
Length of left orbit	68.4	14.9	–	–
Length of antorbital process of left lacrimal	47.8	10.4	–	–
Greatest width of internal nares	59.1	12.9	–	–
Greatest length of left pterygoid	89.1	19.4	–	–
Length of upper left tooth row	180.9	39.4	175	38.4
Length of lower left tooth row	161.0	35.1	165	36.2
Greatest length of left ramus	375.0	81.7	373	81.8
Greatest height of left ramus	96.2	21.0	–	–
Length of left mandibular fossa	156.0	34.0	–	–

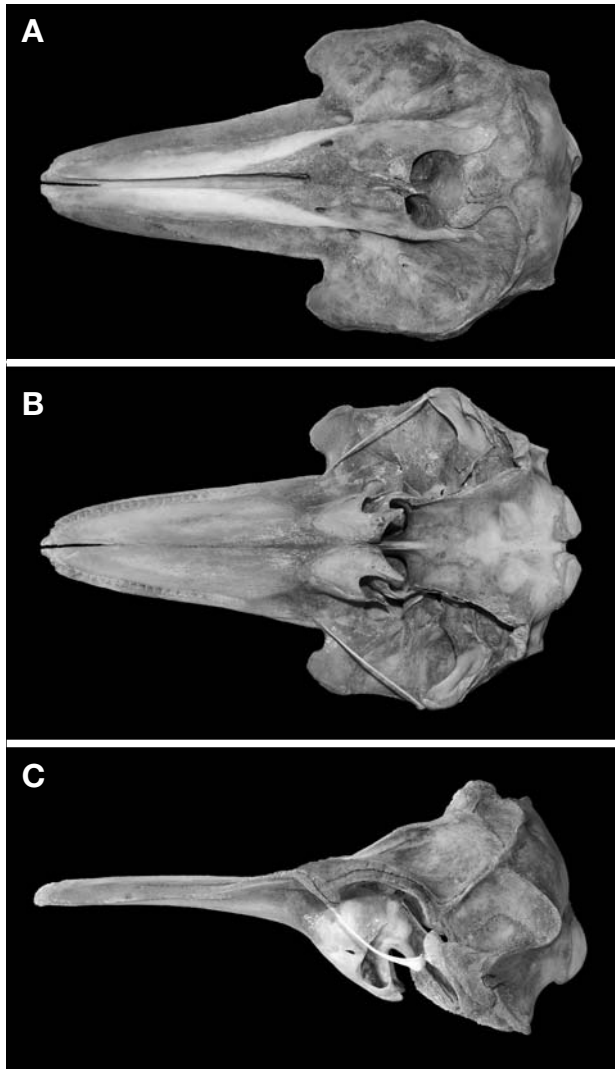


Fig. 2. Skull of a *Peponocephala electra* (CRIPE-001) stranded in Pohang, Korea. A, dorsal view; B, ventral view; and C, lateral view.

16.4. Width of flukes 66.6, nearest point on anterior border of flukes to notch 17.8, girth on anus 90.0, girth on umbilicus 108.0.

Osteological characters: Cranial characters of CRIPE-001 are shown in Table 1. Dorsal view of the skull is asymmetry especially around external nares part. The rostrum is broad and moderately long (Fig. 2). The vertebral formula was cervical 7, thoracic 12, lumbar 17 and caudal 45, total 81. The first three cervical vertebrae were fused. The junction of spinous process among fifth and sixth cervical vertebrae was also observed.

Remarks. *Peponocephala electra* most resembles pygmy killer whale (*Feresa attenuata*) in external appearance. How-

ever, they are distinguished by their sharply pointed flipper tips (rounded tips in *F. attenuata*), and higher tooth counts (> 19 in each row in *P. electra*; < 15 in *F. attenuata*). Normal tooth counts in *P. electra* are 20-26 in each upper row and 22-25 in each lower row (Perryman et al., 1994; Jefferson and Barros, 1997). The present specimen shows the same external appearance and range in number of teeth with *P. electra*.

Gray (1846) briefly described the holotype skull. Dawbin et al. (1970) re-examined the cranial characters of the holotype and provided a more detailed description. Cranial measurements of the present specimen well corresponded to condylobasal length (CBL) proportions given in the previous descriptions of the holotype (Table 1).

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