

ZIPHIUS CAVIROSTRIS IN THE INDO-AUSTRALIAN ARCHIPELAGO.

By

DR. K. W. DAMMERMAN,

(Buitenzorg Museum).

At the end of August 1924 the news reached me that a huge dolphin was stranded on the coast near Brebes, a small village on the North coast of Java between Cheribon and Pekalongan.

Mr. P. FRANCK, our taxidermist, was sent to the locality to secure the skeleton. When Mr. FRANCK arrived the animal had been buried already for about two weeks but he was able to obtain the nearly complete skeleton and brought it safely to Buitenzorg. After examination it proved to be not one of the more common dolphins recorded formerly from the Java Sea, but the rather rare *Ziphius cavirostris*. This is the first record of this species in the Indo-Australian Archipelago and for that reason I think it worth while describing this new addition to our Museum collection.

Ziphius cavirostris is, as all Zyphioid whales, not a common animal and its occurrence in the Java Sea is very noteworthy as the species is more prevalent in southern latitudes. As far as I know the nearest locality to the Indo-Australian Archipelago where this interesting whale has been caught is South Queensland (1). Otherwise *Z. cavirostris* has been recorded from the Atlantic, the Mediterranean, the North Pacific, South Africa and New Zealand.

The Regent (native head of the county of Brebes) sent us an account of the stranding of our specimen and a photograph of the beast lying on the shore. On the 19th. August 1924 the animal was stranded on the coast at Poelogading but got adrift again; it was then hauled to the shore still alive. Shortly afterwards it died, emitting a sound like the whistle of a steamer. As the people did not like to eat the flesh, the animal was buried.

Unfortunately we cannot tell much about the outward shape of our specimen, all the flesh having rotted away at the time the carcass was dug out. Only the total length of the animal was obtained, viz. 5.50 M. (18 feet).

After TRUE (2) the colour is blackish on the back and whitish underneath, but the colour is very variable, differing perhaps in the two sexes, or with difference in age.

The throat is said to be grooved as in whalebone whales, two or three grooves on each side.

(1) H. A. LONGMAN, *Ziphius cavirostris* on the Queensland coast, Proc. Roy. Soc. of Queensland 1919, Vol. XXXI, p. 90.

(2) F. W. TRUE, An account of the beaked whales of the family Ziphiidae in the collection of the U. S. National Museum. U. S. Nat. Mus. Bull. 73, 1910. p. 30.

From the photograph it can be seen that the general shape of the body is very regular, the short snout being somewhat trunk-like. The dorsal fin is rather low and turned backward, the anterior side strongly convex. The distance from the snout to the dorsal fin is much longer than from this fin to the tail. The shape of the tail is not well seen and the pectoral fin is wholly invisible owing to the people standing before it. These pectoral fins were cut away afterwards for keepsakes but were thrown away later on.

Description of the skeleton (Btzg. Mus. No. 793).

Skull.

Nearly all sutures still open. Intermaxillae in front of nares strongly bent upward and closely approximated; left intermaxilla deeply grooved the right one broad and flat at the same point. Nasal boss overhanging the nares with a distinct median elevation, which is not fused with the superior end of the vomer. Rudimentary alveolar groove in distal end of the maxillae distinct but already closed internally. Vomer and rostral portion of intermaxillae fused with a median ridge, the last rounded and much below level of intermaxillae. Rostrum distally broader than deep, the end pointed.

Rami of mandible not yet ankylosed together at symphysis. Two functional teeth only at the end of the mandibles; the teeth are slender, cylindrical, with smooth surface, open at the root, sharply pointed, and with an enamelled tip. Diameter 13 mm.

As the males of *Ziphius cavirostris* have the mesorostral ossification greatly developed and a deeply concave prenasal region and fusiform teeth with a diameter of from 25 till 30 mm., we may safely conclude that our skull belongs to a female, but not yet quite adult, the roots of the teeth being still open.

Measurements of skull.

| | |
|---|---------|
| Total length | 864 mm. |
| Greatest height | 386 " |
| Greatest breadth | 445 " |
| Breadth between hinder margins of temporal fossae | 258 " |
| Length of rostrum | 505 " |
| Breadth of rostrum at base | 263 " |
| Breadth of rostrum at middle of beak | 89 " |
| Breadth of intermaxillae at same place | 47 " |
| Extremity of beak to | |
| { posterior free margin of pterygoids | 682 " |
| { anterior margin of nasals | 619 " |
| Length of temporal fossae | 143 " |
| Breadth of temporal fossae | 76 " |
| Length of mandible | 760 " |

| | |
|---------------------------------------|---------|
| Length of symphysis of mandible | 168 mm. |
| Greatest breadth of mandible | 149 " |
| Length of teeth | 48 " |
| Diameter of teeth | 13 " |

Hyoid bones.

The basihyal and thyrohyals are not anchylosed. The basihyal has a trapezoidal form with two strongly developed conical notches on the anterior border; greatest breadth 90 mm. The thyrohyals have a length of 154 mm.; greatest breadth 60 mm.; the stylohyals are 223 mm. long.

Vertebrae.

Vertebral-formula: — C. 7; D. 9; L. 10; Ca. 20; total 46.

The first four cervicals are united. All the vertebrae as far as the tenth caudal with neural spines. The spines on the first four cervicals fused, on the 5th. cervical very short, on the 6th and 7th cervical directed upward and as long as the arch.

The spines of the first dorsal and following vertebrae sloping backward, the spine of the first dorsal a little higher than arch and centrum together. The spines of following vertebrae increasing in length and breadth as far as the fifth lumbar, the end becoming more and more expanded. On the succeeding lumbar they remain of about equal length and begin to decrease on the caudals.

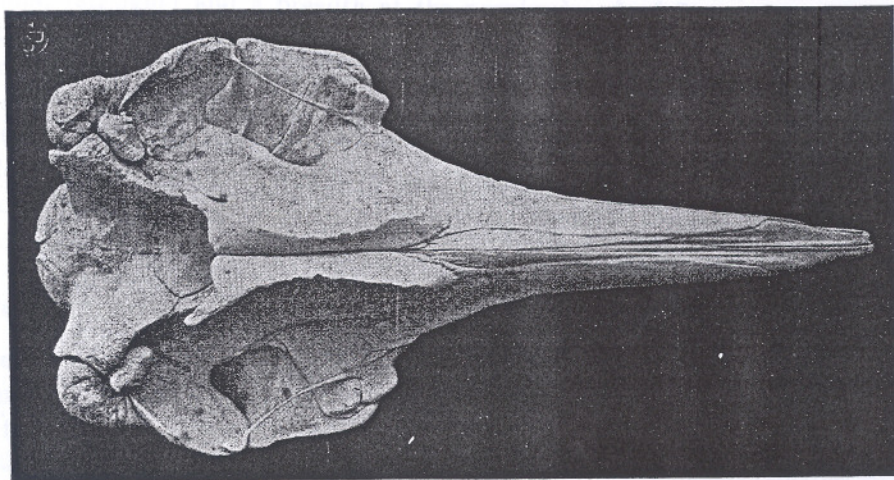
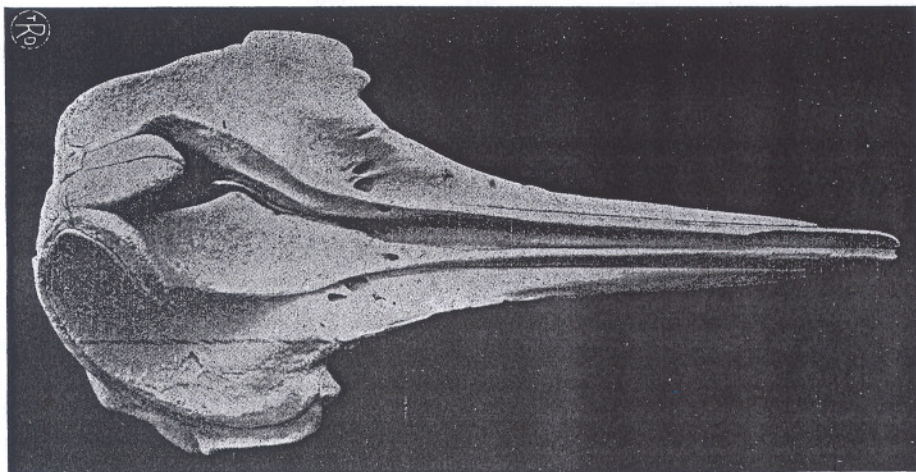
The metapophysis on the seventh cervical is conical, on the first till the sixth dorsal vertebra rather short. On the 7th. dorsal the metapophysis is larger, vertical, extending upward not yet fully separated from the transverse process, a large hole existing between the two. On the following vertebrae the metapophyses become squared and thin being of about equal size as far as the 6th lumbar, decreasing on the succeeding vertebrae and hardly noticeable on the ninth caudal.

The transverse processes become flattened and nearly straight on the eighth dorsal decreasing in length on the lumbar and caudal vertebrae and directed more forward. They disappear on the ninth caudal.

Measurements of Vertebrae.

| | Greatest height | Greatest breadth | Length of body | Height of body (1) |
|--------------------------------|--------------------|---------------------|-------------------|--------------------------|
| 1st to 4th cervicals together. | 203 mm. | 240 mm. | 78 mm. | |
| 1st dorsal vertebra | 272 " | 214 " | 48 " | 60 mm. |
| 7th " " | 354 " | 284 " | 96 " | 65 " |
| 8th " " | 371 " | 342 " | 101 " | 69 " |
| 9th " " | 384 " | 332 " | 107 " | 74 " |
| 1st lumbar " | 391 " | 329 " | 111 " | 79 " |

(1) Measured along the anterior end.



Ziphius cavirostris, dorsal and ventral view of skull.



| | | | | |
|----------------------------|---------|---------|---------|---------|
| 10th lumbar vertebra | 399 mm. | 274 mm. | 153 mm. | 103 mm. |
| 1st caudal " | 363 " | 238 " | 148 " | 105 " |
| 7th " " | 202 " | 135 " | 118 " | 104 " |
| 12th " " | 72 " | 82 " | 57 " | |
| 15th " " | 40 " | 53 " | 41 " | |
| 18th " " | 18 " | 33 " | 26 " | |
| 20th (last), " | 10 " | 21 " | 17 " | |

Number of the chevron bones ten. * •

Sternum.

The sternum consists of five pieces. First piece scarcely wider than long, posterior notches much broader and longer than anterior ones, parallel-sided; greatest length 250 mm., greatest breadth 259 mm. Third piece: — greatest length 121 mm., greatest breadth 143 mm. The two very elongated pieces of the fifth segment separated throughout, greatest length 140 mm., greatest breadth (of half) 48 mm.

Ribs.

There are only seven ribs present, but as in other specimens of *Ziphius cavirostris* there are always at least nine ribs and as in our skeleton there is a wide gap between the length of the first rib and the next one, I guess that two pairs of ribs, the second and third, are missing. The first rib has a length of 385 mm. (straight) and a breadth at the proximal end of 70 mm., at the distal end of 57 mm. The next rib has already the long and slender form of all the other ribs and is 697 mm. long. Otherwise the ribs gradually lengthen from the first to the fifth or sixth one and, moreover, the second one has still the flattened appearance of the first. So I think the next to the first rib in our skeleton is not the second one but the fourth one. The fifth rib (No. 3) is the longest, having a length of 720 mm.; the ninth (last) rib (No. 7) is 508 mm. long. The eighth and ninth ribs have only one articulation, the seventh rib one on one side and two articulations on the other side; the other ribs have two articulations.

Scapula.

There are no distinct ridges on the scapula. Acromion of nearly equal breadth throughout, parallel with the anterior border of scapula; coracoid much shorter than the acromion, at base much narrower, the tip expanded. Greatest length (height) of scapula 253 mm., greatest breadth 342 mm.

Fore limbs.

These are missing except for the head of the humerus.

Pelvic bones.

The pelvic bones are of small size, greatest length of the longest piece 97 mm. The posterior ends of the bones are bent downward ending in a rather acute point.