

OBSERVATION ON TWO MANDIBLES OF *MESOPLODON*

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In 1958 the author reported the *Mesoplodon ginkgodens* as a new species of the Ziphioid whales. Yet not many comments on this report have been received. But some one might consider that, *M. ginkgodens* closely resembles *M. stejnegeri* or *M. bowdoini*. On the other hand some may be of the opinion that a sufficiently adequate series of specimens is not available to determine the limit of variation.

Now, the author has collected some mandibles of young *Mesoplodon*. The collection is very interesting as an accumulation of adequate series of specimens.

Late in June, 1960, after the author send the specimen of *Mesoplodon* stranded at the Akita Beach to the Whales Research Institute, he went to Ayukawa for his routine work on whale investigation. Mr. Y. Kimura was waiting for him in Ayukawa, and he regreted that the two whales perhaps belonging to *Mesoplodon* which were caught in several days ago, had not been preserved. When he went to the whaling station, however, one pair of the mandibles of the whale (Ayukawa Mesoplodon No. 2) and a left side mandible of the other whale (Ayukawa Mesoplodon No. 3) were found, but most of the bones had been already treated in the cooker. These whales were caught by "Hachiryu-maru", which is a catcher boat for small species whaling, at a point about 30 miles southeast of Kinka-san within a few days. The whaling company reported on both individuals as being a 15 feet long male Cuvier's beaked whale (*Ziphius cavirostris*). Measurements of these mandibles are shown in Table 1.

The body lengths of the whales as well as the mandibles have certain similarities in sizes. However the shape of the teeth and the position where the teeth are situated give an impression that they belong to a different species. Ayukawa Mesoplodon No. 3 has a tooth that closely resembles that of the Ogawa specimen of *M. ginkgodens* (Nishiwaki & Kamiya, 1958). This tooth was under growth and the root is not completed as shown in Fig. 2 of Plate II.

The teeth of the Ayukawa Mesoplodon No. 2 are snapped at the part where the teeth are inserted into the alveolae. This was caused by perhaps a worker trying to take out the teeth with a rod. The upper half of the teeth were placed near the cooker for a few days. When

the author went to the factory with Mr. Kimura, these pieces of the teeth had been already lost. Observation of the lower half of the teeth showed that the roots were almost finished with the pulp cavity slightly showing. From this point of view the specimen No. 2 may be considered as slightly older than the specimen No. 3.

The author can not say whether the teeth have appeared from the gum or not. It seems that in the case of *Physeter* the teeth cut the gum when they reach sexual maturity, and in the most of the species of *Delphinidae* the teeth grown up from the gum when they reach the weaning period. It seems that in case these two individuals reach the same age at about the same time, many differences on the teeth and

TABLE 1. MEASUREMENT OF THE MANDIBLES

Serial No. of specimen	Ayukawa No. 2 (<i>M. stejnegeri</i>)		Ayukawa No. 3 (<i>M. ginkgodons</i>)
	Left	Right	Left
Length of mandible	702 mm	709 mm	666+ mm (700)
Distance from anterior end of mandible to coronoid process	685	687	648+ (682)
Length of symphysis	191	191	136+ (172)
Distance from anterior end of mandible to anterior end of alveolus	152	150	92+ (130)
Distance from anterior end of mandible to posterior end of alveolus	242	243	126+ (158)
Depth of mandible at posterior margin of tooth	76	74	67
Minimum depth of mandible between tooth and coronoid process	63	63	61
Breath across mandiblar condyles	345		
Distance from coronoid process to angle	116+, (138)	112+, (132)	124
Vertical length of tooth	—	—	52
Horizontal length of tooth	72	69	75
Breath of tooth (transverse)	8	7	7

mandibular characteristics may appear. The author concludes that these two specimens do not belong to the same species. The author received the impression that the specimen No. 2 belongs to *M. stejnegeri* and the specimen No. 3 is presumed as *M. ginkgodons*, though the available data were scanty.

As result of the foregoing observations, it seems that some Ziphioid whales, that belong to *Mesoplodon*, were caught as *Ziphius cavirostris* in the past days at Ayukawa. The parties concerned in whaling should observe the Ziphioid whales more carefully in the future in order to avoid the repetition of similar oversights.

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EXPLANATION OF PLATES

PLATE I

Fig. 1 (Upper). Lateral views of mandibles. Upper two are *Mesoplodon stejnegeri* of Ayukawa specimen No. 2, and lower one is *Mesoplodon ginkgodens* of Ayukawa specimen No. 3.

Fig. 2 (Lower). Reversed lateral views of mandibles. Upper one is *Mesoplodon ginkgodens* of Ayukawa specimen No. 3, and lower two are *Mesoplodon stejnegeri* of Ayukawa specimen No. 2.

PLATE II

Fig. 1. Dorsal views of mandibles. Left side one is left mandible of *Mesoplodon ginkgodens* of Ayukawa specimen No. 3, and right side one that both side bones are attached is *Mesoplodon stejnegeri* of Ayukawa specimen No. 2.

Fig. 2. Lateral and ventral views of teeth are shown in upper and lower lines respectively. Left one is *Mesoplodon ginkgodens* of Ayukawa specimen No. 3 and right side two are *Mesoplodon stejnegeri* of Ayukawa specimen No. 2 in both lines.





