

SIAMESE TWINS OF MINKE WHALES OF THE SOUTHERN HEMISPHERE

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Several authors have examined the whales which were raised on board more attentively and with more interest during the past southern ocean whaling expeditions. It gave the opportunity to reveal rare cases of atavism (Ogawa and Kamiya, 1957; Nemoto, 1963; Ohsumi, 1965; Zemsky and Berzin, 1961). Various cases of abnormalities in the development of foetus stage (Nishiwaki, 1957; Ohsumi, 1959; Ivashin, 1960, 1977) and cases of foetus mortality and extrauterine pregnancy (Ivashin, 1960, 1963, 1977; Ichihara, 1962; Kamiya and Miyazaki, 1974) were recorded.

Formation of conjoint pair of foetus is a pathological case, such cases are rare among marine mammals. Kawamura (1969) was the first to describe Siamese twins of Cetaceans. Zemsky and Budylenko (1970) examined female humpback whale of the southern hemisphere (body length – 12.7 m), in the uterine horn of which Siamese twins were found. Japanese scientists registered a blue-white dolphin with abnormal twins, which was collected in coastal water of Japan (Kawamura and Kashita, 1971; Kamiya, Miyazaki and Shiraga, 1981).

On 4 January, 1981, one female minke whale (body length–9.0m) with a pair of Siamese twins was caught, and such twins are for the first time recorded. It was taken at 64° 35'S, 81° 05'E. In the left uterus horn there were two females of 50.5 and 49.0 cm in total length, conjoining in abdominal and partly in lateral areas of the body. Their dorsal and abdominal sides could be distinguished (Figs 1 and 2). This case can be considered as ventropagus (Patten, 1959).

The foetuses were connected at the tip of the mouth to the umbilicus, the connected area was about 20.5 cm, that is 40.6% of the total length. The following parts were separate: upper jaws at the tip of the mouth, partly lower jaws, caudal peduncles, (which dranched only at the umbilicus level, where two umbilical cords came together, connected by a mesentery). The distance between both rostrums was 3.6 cm. The right foetus (with the body length – 120 cm) had harelip on the lower jaw (Fig. 3), as in the case with

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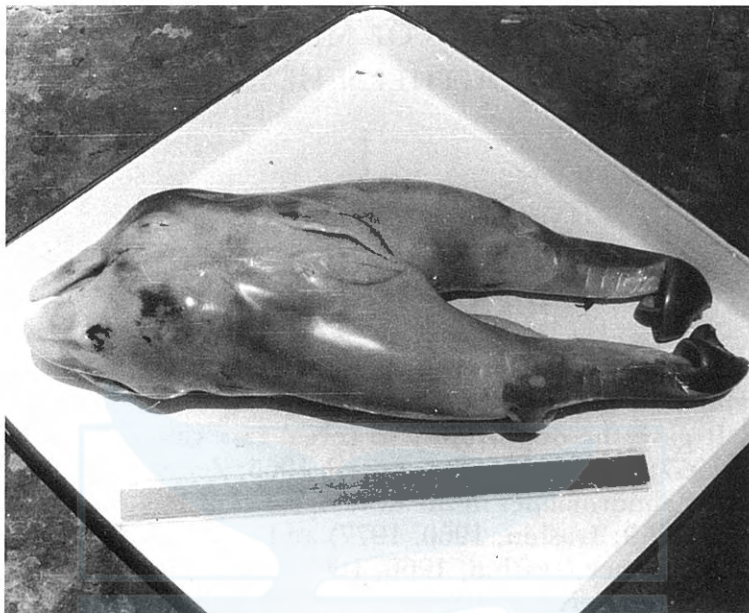


Fig. 1. Minke whale Siamese twins (dorsal side).



Fig. 2. Minke whale Siamese twins (abdominal side).

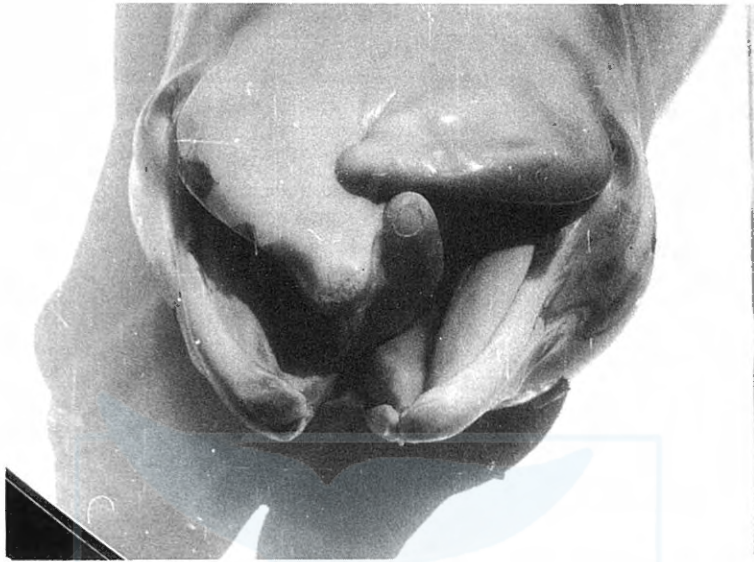


Fig. 3. Head of minke whale Siamese twins (from the abdominal side). The cleft lower jaw can be seen.

humpback whale described by Zemsky and Budylenko (1970). Data on the twins measurements are given in Table 1. The twins considered had clearly manifested asymmetric disposition of the eyes, pectoral fins and mouths. On the dorsal side the tip of the mouth common for the two foetuses was shifted more forward than on the abdominal side; pectoral fins were displaced in the caudal direction. On the connected side, the eye of each foetus was shifted in the direction of the rostrum. The distance between the eyes on the connected side was 1.8 cm, on the opposite side 11.5 cm (Figs 1 and 2). The distance between genital openings was 5 cm. Vibrissae on the foetuses heads were distributed unevenly (Table 2). Abdominal strips were not seen. The combined weight of the twins was 3,200 g.

The left ovary collected from the calf having the twins weighed 445 g and was $14 \times 7.5 \times 3$ cm in size. Only one functioning corpus luteum was observed and was 7.5 cm in diameter and six corpora albicantia were found on it. This fact indicates the twins were identical ones, coming from one follicle. The right ovary was $15.5 \times 7.0 \times 3.5$ cm in size, its weight was 285 g. At least thirteen growth layers were recognised on the earplug though it was slightly hard to read.

TABLE 1. MORPHOLOGICAL DATA OF SIAMESE TWINS OF MINKE WHALES

Measurements	Left foetus		Right foetus	
	cm	%	cm	%
	Left/Right side side	Left/Right side side	Left/Right side side	Left/Right side side
1. Total length	50.5	100	49.0	100
2. Tip of the snout to the middle of blowholes	7.3	14.5	6.8	13.9
3. Tip of the snout to mouth angle	12.5/8.4	24.8/16.6	8.4/12.3	17.1/25.1
4. End of the snout to eye centre	11.6/10.7	23.0/21.2	12.5/10.7	25.5/21.8
5. Eye centre to the centre of the ear	-/5.5	-/10.9	4.9/-	10.0/-
6. Tail fork to the notch of the caudal fin	14.0	27.7	12.0	24.5
7. Width of the tail flukes	4.3/4.3	8.5/8.5	4.5/4.5	9.2/9.2
8. Tail fork to umbilicus	24.0	47.5	23.5	48.0
9. Tail fork to anus	15.7	31.1	15.7	32.0
10. Anus to genital opening (Center to center)	1.3	2.6	1.2	2.4
11. Height of the dorsal fin	2.0	4.0	2.0	4.1
12. Length of the dorsal fin base	3.5	6.9	3.3	6.7
13. Length of the pectoral fin from the end to the pit	6.8/6.4	13.5/12.7	6.8/5.7	13.9/11.6
14. Length of the pectoral fin on the external edge	8.4/8.0	16.6/15.8	7.9/7.9	16.1/16.1
15. Pectoral fin curve length	7.5/7.5	14.9/14.9	7.5/7.5	15.3/15.3
16. Maximum length of the pectoral fin	2.3/2.3	4.6/4.6	2.3/2.3	4.7/4.7
17. Length of the head (from snout to ear)	-/16.5	-/32.7	16.7/-	34.1/-
18. Breadth of the head	9.3	18.4	9.5	19.4
19. Height of caudal peduncle of the dorsal fin	5.3	10.5	5.3	10.8
20. Length of flukes from the fork to the end	5.8/5.8	11.5/11.5	5.8/5.8	11.8/11.8
21. Span of flukes	11.3	22.4	11.2	22.9
22. From the end of the upper jaw to the end of the lower jaw	3.5	6.9	5.7/7.0	11.6/14.3
23. Length of the blowhole	1.3	2.6	1.1	2.2
24. From the snout to the beginning of the pectoral fin	17.0/21.5	33.7/42.6	20.5/18.0	41.8/36.7
25. Width of the body at the umbilicus level	7.3	14.5	7.6	15.5
26. The distance between pectoral fins	9.5	18.8	9.3	19.0

TABLE 2. NUMBER OF VIBRISSAE OF SIAMESE TWINS OF MINKE WHALES

Location	Left foetus		Right foetus	
	Left	Right	Left	Right
Blowhole	3	1	3	2
Upper jaw	2	2	2	2
Lower jaw	3	2	2	1
Lower jaw protuberance	9	7	6	7

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