A GREENLAND RIGHT WHALE CAUGHT AT OSAKA BAY

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INTRODUCTION

A strange whale was captured alive at Osaka Bay by the fishermen. But it died in the next morning and was hauld ashore. Information of the incident reached us and we happend to get a valuable chance to investigate a whale (*Balaena mysticetus* LINNAEUS, 1758), very rare in Japan, even in the world.

Fig. 1. The Greenland right whale tethered at Hamadera fishing port.
(Photo by Yomiuri Press, Osaka)

It seemd that the whale had strayed from north and came into the adjacent waters of Japan, but did not through the Seto Inland Sea. If he had passed through the Inland Sea, there must have been many islands and boat or set nets on the route, so he should have tangled in a net or should have been seen by the people. There was no such report from there, so he had no other way but through around the Point Shionomisaki and got into the Osaka Bay, that is, he did occur at the south of 33°28′N.

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Hitherto, this species has occurred no other place in the world on 33°28′ N. around, San Diego and Casabranca for example.

Our news was not only the evidence of this occurrence. When an experienced whaling worker Mr. Shiozaki came from Taiji for flensing and saw the whale, he cried " Oh Isozemi." Then I asked him what Isozemi was. He told me that Isozemi, a kind of whale, has been really rare, but he has seen an individual once on the beach of Taiji just after the World War II. He had seen either black right whales and gray whales. Then he found Isozemi which was resemble to the black right whale but had no bonnet, had protruded blow hole. The whale was smaller than the present one and had darker and shorter baleen plates.

We can not record this as a scientific evidence but it can be presumed that a whale, apparently different from black right whale or gray whale, was captured at Taiji.

More study is necessary to make it clear whether Isozemi and Greenland right whale are same species. Mr. T. Higashi, Director of the Taiji Whale Museum, is investigating if another Isozemi evidence might be found in the Record of Ancient Whaling at Taiji. In any case, considered from above, another Greenland right whale might have come to the Pacific coast of Japan.

DISCOVERY AND CAPTURE

On June 23, 1969, the Miyatamaru No. 1 and No. 2, both were 20 gross tons fishing boats, equipped with a circular net, belonged to Hamadera Fishermens Union in Sakai City, had been operating " Konoshiro " (*Konosirus punctatus* TEMMINCK *et* SCHLEGEL) fishing. Then the fishermen caught a short wave radio from another boat saying " a whale is in sight". The visibility at that time was, however, so poor that they could not find the whale. At about 8 a.m., they happend to find a school of " Konoshiro " and wound the net. Then they saw the whale floating and spouting at the center of the circular net and caught him at about 10 a.m.

According to the fishermen's talk, the story was as that, but considering from the fact that the able distant of swimming underwater by this whale is not great, we have some doubt on this story. According to the Osaka meteorological observatory the weather at 10 a.m. on that day was cloudy with light south wind about 3 m/sec and visibility was 7 km. We can not immagine the fishermen failed to find the whale in that weather condition. Although fishermen themselves knew little about the International Whaling Convention someone might have warned them that they should be punished if they had intended to catch the whale. Then they might have made up the story. But we have no other way than trust them. The whale was towed to the port after the catch and died in the next morning at about 5 a.m.

CAUSE OF DEATH

The whale died 20 hours after its capture.

The question of what made this whale die, was asked by many people at the spot.

It may be that he was dragged in the water to the reverse direction by a power

of the machinery. To be dragged to the entirely reverse direction makes severe damage to the vertebrae of a whale. A rope which had constricted the tail peduncle at capture had not been untied until death.

Moreover, it was suspected that the whale might have got pneumonia caused by inhaled water into the lung which was sucked at the reverse dragging. The intestine had been so decomposed as well as, or more than, the muscles that no special evidence was found from anatomical examination. However, it is proper to say that the whale died rather instantly without receiving a damage from harpoon or gun.

EXTERNAL OBSERVATION

External measurement

The external measurement of this whale is shown in Table 1.

TABLE 1. EXTERNAL MEASUREMENTS OF GREENLAND RIGHT WHALE FROM OSAKA BAY (cm)

	Measurements	Length	% of total length
1.	Total length	640	100.0
2.	Tip of rostrum to blowhole	132	19.2
3.	Tip of rostrum to eye	172	27.2
4.	Tip of rostrum to angle of gape	186	29.1
5.	Tip of rostrum to ear	190	29.7
6.	Tip of rostrum to anterior insertion of flipper	204	31.9
7.	Tip of rostrum to axilla	245	38.3
8.	Distance between eye and ear	24	3.75
9.	Anus to reproductive aperture	63	9.8
10.	Anus to anterior end of reproductive groove	115	18.0
11.	Total spread of tail flukes	182	28.4
12.	Notch of tail flukes to anterior insertion of tail flukes	56	8.8
13.	Notch of tail flukes to tip of tail fluke	L. 99	15.5
		R. 94	14.7
14.	Tip of flipper to anterior insertion of flipper	97	15.2
15.	Tip of flipper to axilla	77	12.0
16.	Greatest width of flipper	43	6.7
17.	Height of body, at the insertion of tail flukes	35	5.5
18.	Height of body, at anus	80	12.5
19.	Height of body, at umbilicus	90	14.1
20.	Depth of body above the eye	70	10.9
21.	Depth of rostrum at browhole	53	8.3
22.	Greatest height of lower lip	55	8.6
23.	Depth of body below the angle of gape	40	6.3
24.	Depth of body below the anterior insertion of flipper	30	4.7
25.	Distance between the anterior insertions of flipper along dorsal surface	260	40.6
26.	Straight length of nostril	10	1.6
26.	Distance between nostrils, at anterior ends	2	0.3
27.	Distance between nostrils, at posterior ends	10	1.6

TABLE 2. NUMBER OF HAIRS OF GREENLAND RIGHT WHALE FROM OSAKA BAY

Upper jaw, tip (Right half)	25
Upper jaw, behind the nostril (Left half)	9
Lower jaw, tip (Right half)	42
Lower jaw, along mandible (Right half)	21

Body color and scars

Body color was bluish grey all over, but not jet black, darker on the dorsal and slightly lighter toward the ventral, and exceptional white portions were at the tip of the lower jaw, at the base of the flippers and around the tail peduncle a little anterior than the flukes. White areas at the tip of the lower jaw and around the nabel were distincet and clearly seen in the dark body colour. At the insertion of the flippers, white color was less distinct and fading away toward the periphery. A white band, 25 cm wide, around the tail peduncle was also less distinct or rather vague.

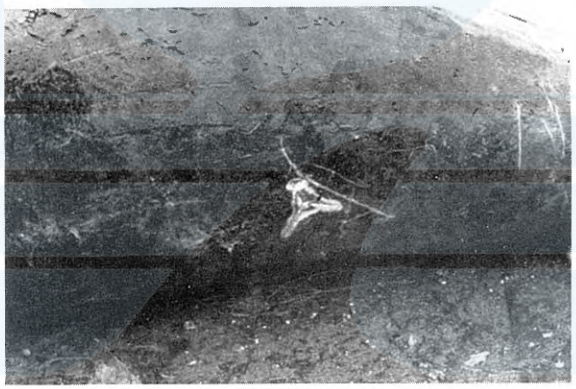

Fig. 2. Half heald triangular scar presumed to have been shot by a bomblance of Eskimo.

Fig. 3. Half heald three lined scars presumed to have been injured by the screw of a catcher boat of Eskimo.

In the left side of the caudal trunk, a triangular scar was seen, shape of which was fitted to that of a " *Bomblance* " harpoon of Eskimo. In the middle of the back, slightly left of the dorsal ridge, three lines of half heald scars, were seen. It may be suspected that a catcher boat which must have been with outboat engin, for five men or so, and belonged to the Eskimo who shot the bomlance, passed on the back of the whale and made it injured by the screw.

The skin was rough and warty with tiny spots, which looked like the skin of a manatee, but, observed closely, the spots were neither bulbs nor pores.

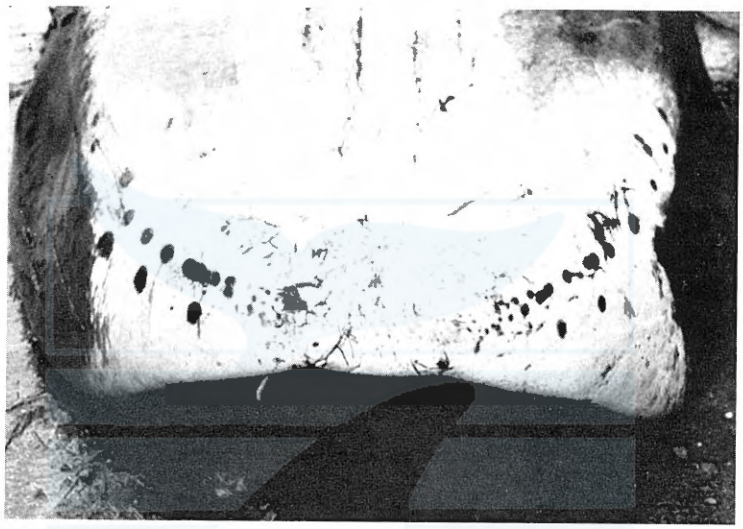

Fig. 4. White colored portion at the tip of the lower jaw of the Osaka specimen.

Hair

The whale had no black right whale-like bonnet nor humpback-like swellings of bulbs but about ten pieces of hair around the outer nostrils. In the white area at the lower jaw, there were black dots scattered and a piece of hair grew from each of them. As we noticed an onlooker picked one of the hair up, something might have been lost or overlooked at the spot.

Nostrils

Taking a side view, the nostrils of the Greenland right whale are seen at the top of the arched head, while those of black right whale are seen slightly backward than the top. Nostrils of this whale were seen at the top in a pent-house shape in down view and there was a longitudinal depression between the slits. While we were dissecting the whale, it was noticed that the cartilage of vomer formed the nostrils and stretched into the blubber just beneath the black skin.

External ear meatus

The ear hole were very small at the point a little higher than and a little back-

Fig. 5. Dorsal view of the upper jaw, showing the nostrils.

ward from the eye. The external meatus was collected and dissected, and tender, greyish black, claylike substance was found stuffed in it. This phenomenon is common to the black right whale.

Thickness of the blubber

The blubber which covered the whole body, showed almost same thickness in every part; when the blubber was cut opened from the angle of gape to the tail flukes, thickness of the opened surface along the line was nearly constant. In this case, thickness of the black portion of the blubber was included in the measured value which is 9.0 cm.

WEIGHT

Weighing of the body had been desired, however, urgent treatment was required. Moreover, when the flensing was commenced, we had to work in a hurry because the specimen was so decomposed that muddy fluid dripped when the muscles and intestine were taken in hand. So weighing was regretfully given up. But considered of the body length, 6.4 m, this whale may be presumed as 3 tons.

INTERNAL ORGANS

The liver and the kidney were completely decomposed. The stomach had been broken and the content could not be discriminated, only the fact that there was no bone of a fish nor other boney substance, was made sure. The tongue was also decomposed and was swelling, but at its tip, waving fringe of the lactating stage was slightly remained.

Testes and penis

Only right side of the testes was found and weighed as 0.65 Kg, the left side of it may have been lost in the maddy inner organs. The penis was very thin, 6 cm in dimeter at the corona of the glans. The length of the glans was about 20 cm and total length of the penis was 65 cm.

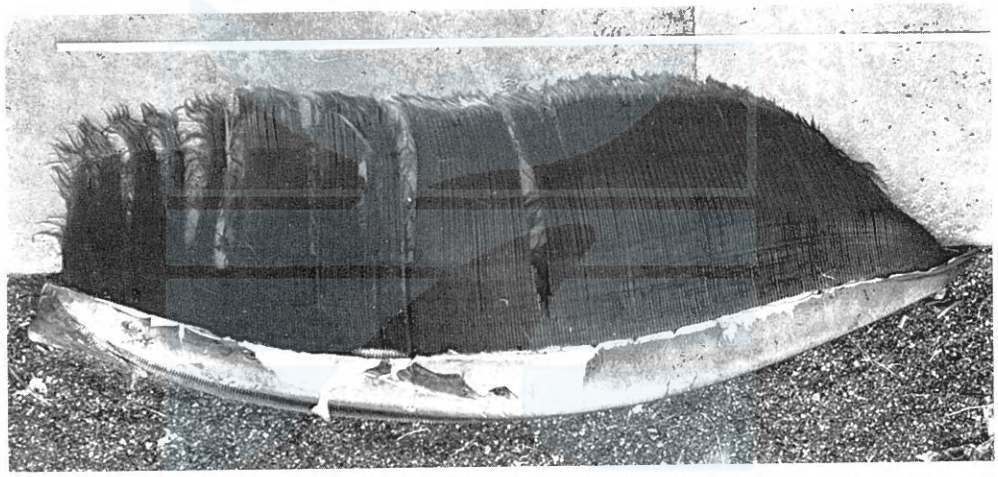

Fig. 6. Left series of the baleen plates (up side down).

Fig. 7. The longest baleen plate of both sides.

BALEEN PLATES AND THE AGE DETERMINATION

The number of the baleen plates, 311 plates in the left side and 305 plates in the right side, was greater than that of black right whale or gray whale. Length of the plates are indicated in the Table 3. At the tip of the baleens, a characteristic portion

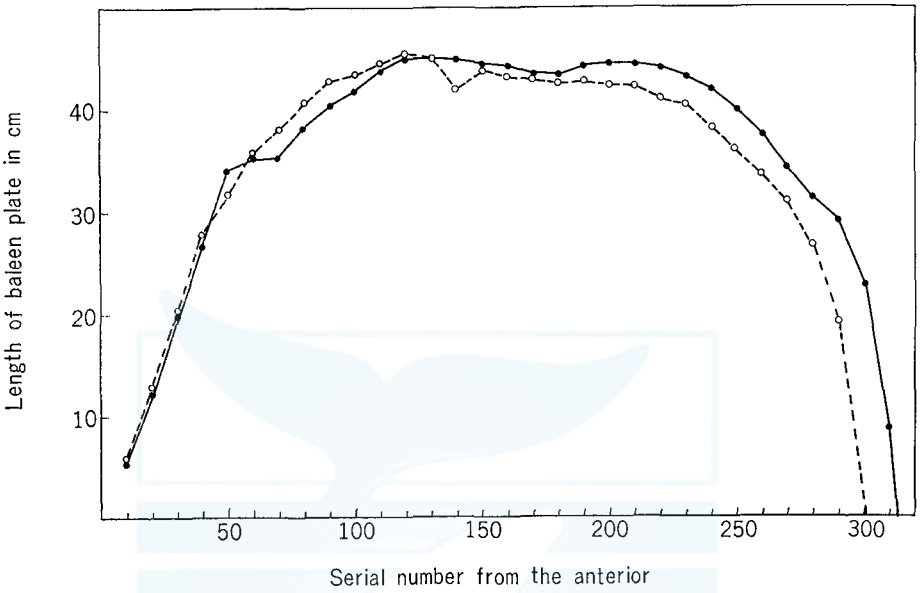

Fig. 8. Length of the baleen plates of the Osaka specimen.
Open circles and dotted line indicate the right side, and closed circles and solid line do the left.

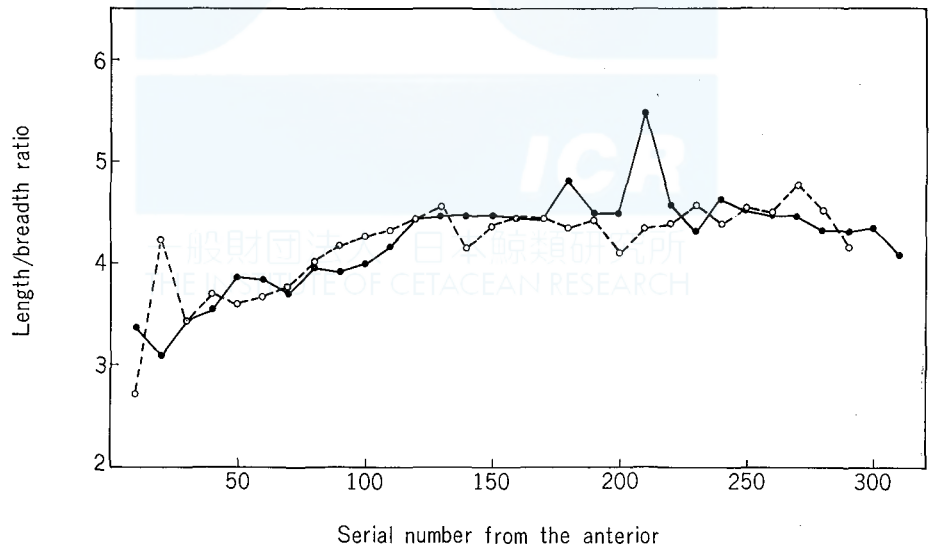

Fig. 9. Ratio of the length to the breadth of baleen plate, simbols are same with Fig. 8.

which grow only in prenatal period, was seen. Two annual growth ridges were observed on the each plates and the first ridge was at the border which divided the prenatally grown portion from the one grew after birth. The second ridge was at 13.5 cm from the root. The distance between the two ridges was 34.5 cm and the lateral edge of that portion convexed considerably, which may indicate an annual growth period, one year.

Like other whales, those ridges are considered to be created during every winter. Supporsing the growth rate of the first one year is little different from that of the second one, age of this whale can be presumed as about 1.36 year old, that

TABLE 3. MEASUREMENTS OF BALEEN PLATES OF GREENLAND RIGHT WHALE FROM OSAKA BAY (mm)

Serial number	Left				Right			
	A	B	C	A/B	A	B	C	A/B
10	54	16	32	3.38	57	21	30	2.71
20	121	39	43	3.10	131	31	42	4.23
30	197	58	56	3.40	201	59	56	3.41
40	266	75	72	3.55	278	75	76	3.71
50	340	88	62	3.86	318	88	90	3.61
60	352	92	100	3.83	356	97	100	3.67
70	352	95	102	3.71	382	101	104	3.78
80	380	96	106	3.96	407	102	102	3.99
90	404	103	104	3.92	429	103	111	4.17
100	423	106	110	3.99	434	102	116	4.25
110	438	105	112	4.17	445	103	118	4.32
120	450	102	114	4.41	451	102	121	4.42
130	450	101	121	4.46	450	99	122	4.55
140	447	100	119	4.47	420	101	123	4.16
150	444	99	122	4.48	437	100	122	4.37
160	442	100	117	4.42	432	97	120	4.45
170	435	98	115	4.44	431	97	117	4.44
180	432	90	112	4.80	426	98	112	4.35
190	442	98	89	4.51	429	97	109	4.42
200	445	99	98	4.49	422	103	106	4.10
210	444	81	84	5.48	422	97	102	4.35
220	440	96	83	4.58	410	93	100	4.41
230	432	100	83	4.32	404	88	98	4.58
240	421	91	79	4.63	382	87	96	4.39
250	399	88	80	4.53	363	86	91	4.54
260	376	84	89	4.48	337	75	83	4.49
270	344	77	83	4.47	310	65	74	4.77
280	316	73	75	4.33	267	59	59	4.53
290	291	67	65	4.34	192	46	50	4.17
300	231	53	56	4.36				
310	86	21	46	4.10				
Total number of plate		311				305		

A: length of plate, from gum line to tip along lateral edge.
B: breadth of plate at gum line, at right angle to the lateral edge.
C: length of root along lateral edge.

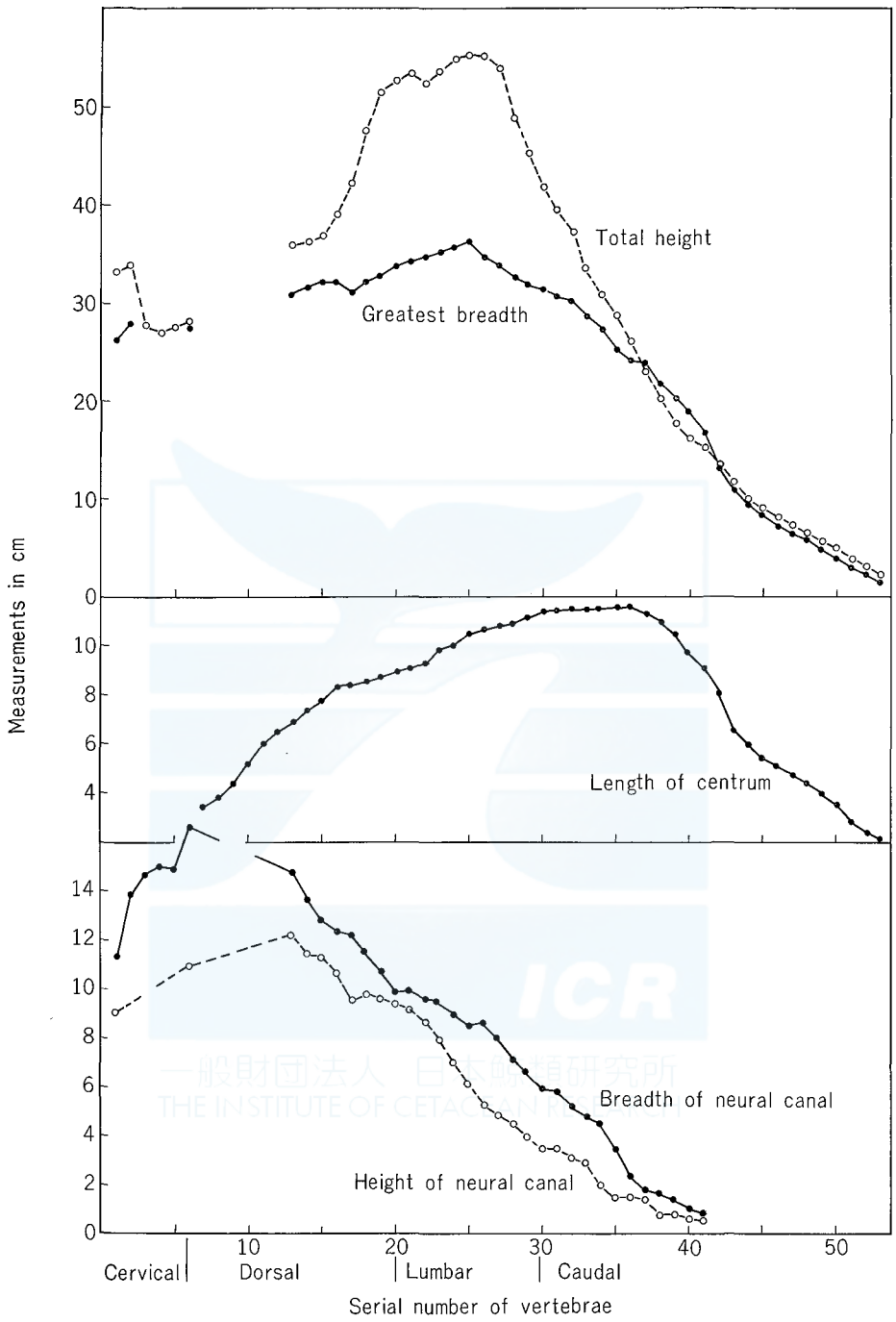

Fig. 10. Dimensions of the vertebrae of the Osaka specimen.

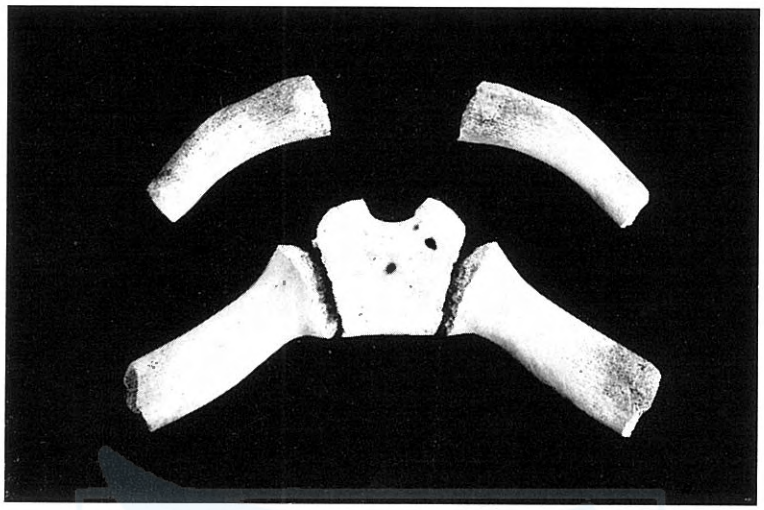

Fig. 11. Hyoid bones of the Osaka specimen.

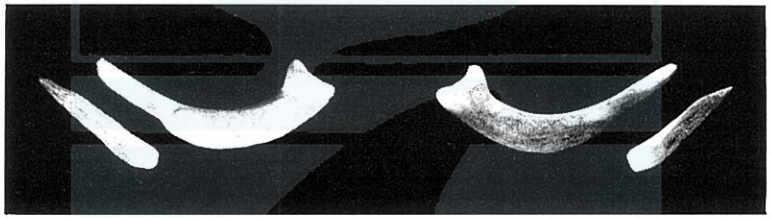

Fig. 12. Left and right lachrymals and malars of the Osaka specimen.

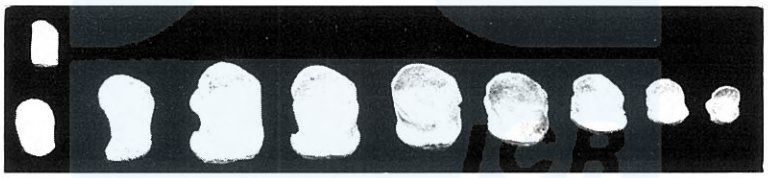

Fig. 13. Chevron bones of the Osaka specimen.

is one year and four month.

EXTERNAL AND INTERNAL PARASITES

External observation was done carefully, but, neither *Cyamus* nor *Pennella*, Barnacle nor *Conchoderma* was found. Only thin membrane of diatoms were seen on the parts of the body surface. White scars injured by microparasites were seen at the angle of gape and the abdominal side.

Internal parasites could not be discriminated because of decomposition of the internal organs.

TABLE 4. SKULL DIMENSIONS OF GREENLAND RIGHT WHALE FROM OSAKA BAY.

	Measurements		in cm	% of skull length
1.	Straight length of skull, tip of rostrum to condyle		198.0	100.0
2.	Straight length of rostrum		146.0	73.7
3.	*Length parallel with the axis of skull, from tip or rostrum* to posterior end of premaxillae	L.	152.7	77.1
		R.	152.8	77.1
4.	——— to anterior end of nasal, median		128.5	64.9
5.	——— to anterior orbital margin	L.	158.3	79.9
		R.	159.5	80.5
6.	——— to ant-orbital proc. of maxilla	L. & R.	154.4	77.9
7.	——— to anterior most point of occipital		159.0	80.3
8.	——— to posterior ends of pterygoid, median		174.2	87.9
9.	——— to posterior ends of palatine, median		170.5	86.1
10.	——— to anterior ends of palatine, median		146.4	73.9
11.	Length of maxilla, along superior lateral surface	L. & R.	156.0	78.7
12.	Straight length of premaxilla	L.	157.2	79.4
		R.	158.2	79.9
13.	Length of premaxilla, along superior surface	L.	163.0	82.3
		R.	163.5	82.5
14.	Straight length from tip of rostrum to anterior end of nasals, median		133.5	67.4
15.	Length from anterior ends of nasal to tip of rostrum along superior curve		144.0	72.7
16.	Straight length from tip of rostrum to anterior end of vomer visible on palate		83.7	42.3
17.	Length of vomer visible on palate		89.7	45.3
18.	Length of nasals, median		21.0	10.6
19.	Breadth of nasals, distal		11.1	5.6
20.	Breadth of nasals, proximal		7.7	3.9
21.	Breadth of rostrum at middle of rostrum		18.0	9.1
22.	,, at base		37.7	19.0
23.	Greatest breadth of superior nares		12.9	6.5
24.	Greatest breadth of premaxillae opposite superior nares		24.7	12.5
25.	Breadth of premaxillae at middle of rostrum		13.6	6.9
26.	Breadth between aterior ends of orbital proc. of frontal		100.2	50.6
27.	Breadth between centers of orbit		97.5	49.2
28.	Breadth between posterior ends of orbital proc. of frontal (greatest)		103.4	52.3
29.	Breadth of skull at orbital proc. of maxilla		100.0	50.5
30.	Breadth of skull at squamosals		102.1	51.5
32.	Straight length of lacrimal	L.	7.0	3.5
		R.	7.7	3.9
33.	Straight length of malar	L.	12.5	6.3
		R.	12.3	6.2
34.	Breadth between the highest points of squamosal		47.8	24.1
35.	Breadth of orbital proc. of frontal at distal end	L. & R.	11.8	6.0
36.	Greatest breadth of occipital		61.7	31.1
37.	Distance between anterior most point of supraoccipital to foramen magnum		44.8	22.6
38.	Breadth of occipital condyles		27.5	13.9

Continued . . .

TABLE 4. Continued.

	Measurements		in cm	% of skull length
40.	Breadth of foramen magnum		9.0	4.5
41.	Height of foramen magnum		7.5	3.8
42.	Height to skull at the highest point of occipital, when tip of rostrum and center of foramen magnum are put horizontal		68.0	34.3
43.	Height of skull at superior nares (maximum), at same posture		72.8	36.7
44.	Mandible, straight length	L.	185.2	93.5
		R.	184.2	93.0
45.	„ , length along lateral border	L.	191.5	96.7
		R.	193.0	97.4
46.	„ , length along internal border	L. & R.	186.0	93.9
47.	„ , depth at middle	L.	9.6	4.8
		R.	9.8	4.9
48.	„ , depth at coronoid proc.	L. & R.	19.6	9.9
49.	„ , depth at condyle	L.	25.3	12.8
		R.	25.4	12.8
50.	„ , breadth at condyle	L.	22.4	11.3
		R.	22.5	11.4

SKELETON

Vertebral formula of this whale indicate a little difference from that of Greenland right whale reported before. The first six cervical vertebrae were fused and the seventh was independent. This may have been caused by the very young age of this animal. There were 12 pairs of ribs which consisted of 10 pairs of two-headed ribs and 2 pairs of single-headed ribs. So the number of thoracic vertebrae was decided as 12. Generally, in other species of baleen whales, the last pair of ribs do not join to the vertebrae and found separately in the nearly abdominal part of the body. However, in this whale, when carefully observed, the last pair of ribs were attached to the vertebra. There were 10 lumbar vertebrae and 24 caudal ones with which 9 pairs of chevrons were attached. In most other species of whales, cranial chevrons and also caudal ones are separated into two laminae. In this whale only the first (cranial) chevron bone was separated.

The number of the digits also indicated a little difference from the number which had been reported by other scientists. Considering of the very young age of this whale, and some change were to be achieved in this whale later, the number is presented in a table only for reference.

The carpals had not been ossified, this may also because of the very young age.

Measured value of the skull is shown in Table 4, and those of vertebrae, ribs hyoid bones, chevron bones, scapulae and pectoral bones are shown in Tables 5, 6, 7, 8, 9 and 10 respectively.

As to the pelvic bones, taking X-ray photograph had been desired and kept into the refrigerator of the Taiji Whale Museum, however, when the refrigerator was repaired, the bones were taken for other useless things and were thrown away. Whenever we recall this accident we are fallen into deep regret. A question of how

TABLE 5. MEASUREMENTS OF VERTEBRAE OF GREENLAND RIGHT WHALE FROM OSAKA BAY (cm)

Vertebral number		Length of centrum	Breadth between transverse proc.	Total height	Breadth of neural canal	Height of neural canal
C[1]	1	14.0	33.3	26.3	11.3	9.0
	2		33.8	28.0	13.9	
	3		27.7		14.7	
	4		27.0		15.0	
	5		27.5		14.9	
	6		28.0	27.7	16.6	10.9
	7	3.4				
D[2]	1	3.8				
	2	4.4				
	3	5.2				
	4	6.0				
	5	6.5				
	6	6.9	36.0	31.0	14.8	12.2
	7	7.4	36.2	31.8	13.7	11.4
	8	7.8	37.0	32.2	12.8	11.3
	9	8.4	39.0	31.8	12.4	10.6
	10	8.4	42.2	31.1	12.2	9.5
	11	8.5	47.4	32.2	11.5	9.8
	12	8.7	51.6	32.9	10.7	9.6
L	1	8.9	52.7	33.9	9.9	9.4
	2	9.1	53.5	34.2	10.0	9.2
	3	9.3	52.4	34.7	9.6	8.6
	4	9.9	53.6	35.0	9.5	7.9
	5	10.0	54.9	35.6	9.0	7.0
	6	10.5	55.3	36.2	8.5	6.1
	7	10.7	55.3	34.7	8.6	5.3
	8	10.8	54.0	33.8	8.1	4.9
	9	10.9	48.8	32.6	7.2	4.5
	10	11.2	45.3	31.7	6.6	4.0
Ca	1	11.4	41.7	31.4	6.0	3.5
	2	11.4	39.4	30.6	5.8	3.5
	3	11.5	37.2	30.3	5.2	3.2
	4	11.5	33.5	28.8	4.8	2.9
	5	11.5	30.8	27.3	4.5	2.0
	6	11.6	28.6	25.3	3.5	1.5
	7	11.6	26.1	24.3	2.4	1.5
	8	11.3	23.0	23.7	1.8	1.4
	9	11.0	20.2	21.7	1.6	0.8
	10	10.5	17.8	20.4	1.4	0.8
	11[3]	9.8	16.1	19.0	1.1	0.6
	12	9.1	15.1	16.7	0.8	0.5
	13	8.0	13.4	13.3	—	—
	14	6.6	11.8	11.0	—	—
	15	6.0	10.0	9.4	—	—
	16	5.4	9.0	8.4	—	—
	17	5.1	8.1	—	—	—
	18	4.8	7.3	—	—	—

Continued . . .

TABLE 5. Continued.

Vertebral number	Length of centrum	Breadth between transverse proc.	Total height	Breadth of neural canal	Height of neural canal
Ca 19	4.4	6.4	—	—	—
20	4.0	5.8	—	—	—
21	3.5	5.0	—	—	—
22	2.8	3.9	—	—	—
23	2.4	3.1	—	—	—
24	2.1	2.2	—	—	—

1) 1st to 6th are fused.
2) Rami of neural arche and centrum of 1st to 5th are separated each other. Neural arches of 6 and 7th are not fused to the centrum.
3) Transverse proc. disapper.

TABLE 6. MEASUREMENTS OF RIBS OF GREENLAND RIGHT WHALE FROM OSAKA BAY (cm)

Serial number	Left			Right		
	Straight length	Length along visceral border	Largest breadth at the position near the distal end	Straight length	Length along visceral border	Largest breadth at the position near the distal end
1	66.5	70.0	9.4	62.5	69.5	10.3
2	73.0	93.0	12.1	72.5	94.5	12.0
3	77.0	112.0	11.0	76.0	113.0	11.4
4	82.5	119.5	9.6	81.0	120.5	9.6
5	86.0	124.5	7.8	85.0	124.0	8.7
6	85.0	125.0	8.5	87.0	125.0	7.9
7	85.0	123.0	6.4	86.5	124.5	6.9
8	83.0	118.5	5.0	83.0	119.5	4.9
9	80.0	109.0	5.1	79.5	108.5	4.7
10	76.5	92.5	5.7	76.5	92.0	5.4
11	74.0	80.0	6.6	73.0	80.5	6.6
12	68.0	70.0	6.1	68.0	70.0	6.2

TABLE 7. MEASUREMENTS OF HYOID BONES OF GREENLAND RIGHT WHALE FROM OSAKA BAY (cm)

	Left		Right
Stylohyoids, straight length	12.2		11.5
„ , width at distal end	3.2		3.2
„ , width at praximal end	4.0		3.5
Thyrohyoids, straight length	13.0		12.5
„ width at distal end	4.3		4.7
„ , width at proximal end	6.6		6.5
Basihyoid, Length at anterior process	8.8		8.8
„ , width between anterior proc.		4.2	
„ , greatest width		9.4	
„ , width at posterior edge		5.8	

TABLE 8. MEASUREMENTS OF CHEVRON BONES OF GREENLAND RIGHT WHALE FROM OSAKA BAY (cm)

Number	Height	Antero-posterior breadth at proximal end.	Transverse breadth
1	L. 6.3	3.2	—
	R. 6.9	4.7	
2	9.9	6.0	11.7
3	9.1	7.9	10.7
4	10.9	7.3	11.6
5	10.0	7.9	11.1
6	7.6	7.1	10.1
7	5.9	6.2	6.6
8	4.7	4.3	6.8
9	3.9	3.4	5.9

TABLE 9. MEASUREMENTS OF SCAPULAE OF GREENLAND RIGHT WHALE FROM OSAKA BAY (cm)

Measurements	Left	Right
Length	47.5	47.7
Height	38.0	37.8
Acromion proc., length	8.2	8.7
„ , breadth at distal end	3.7	3.7
Coracoid proc., length	3.2	2.4
Glenoid cavity, length	14.4	14.4
Glenoid cavity, breadth	12.2	12.2

TABLE 10. MEASUREMENTS OF BONES IN FLIPPERS (cm)

Measurements	Left	Right
Humerus, length	20.2	20.6
„ , proximal breadth	15.6	15.5
„ , distal breadth	14.9	15.0
Radius, length	26.3	26.4
„ , proximal breadth	10.6	10.6
„ , distal breadth	11.0	10.9
Ulna, length	26.4	26.0
„ , proximal breadth	9.5	9.3
„ , distal breadth	9.9	9.4

much above mentiond cartilages were to be occified later, was left.

The skeletal specimen was mounted and kept at the Taiji Whale Museum.

SUMMARY

A very young Greenland Right Whale, (*Balaena mysticetus* LINNAEUS, 1758), 6.4 m in body length, was caught at Osaka Bay in June 23, 1969. Here is the report of the morphological and osteological study done on this whale. It was a great pleas-

ure to investigate a rare species of a whale by a precious chance. It was a matter for some regret that the most internal organs were hardly examined because of complete decomposition and no organic specimen was collected. However, a complete skeleton was collected (pelvic bones were accidentally lost later) and measured. The skeleton is now kept and exhibited at the Taiji Whale Museum.

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EXPLANATION OF PLATES

PLATE I

1. Greenland right whale, Osaka specimen, Male.
2. Dorsal view of the Greenland right whale, just after expiration.
   (Photo by Yomiuri Press, Osaka)
3. Spouting of the Greenland right whale, only nostrils were seen above the water surface.
   (Photo by Sankei Press, Tokyo)

PLATE II

Dorsal, lateral and ventral views of the skull of the Greenland right whale.

PLATE III

1. Lateral view of the skull of the Greenland right whale, mandible attached.
2. Dorsal view of the mandibles of the Greenland right whale.
3. Posterial view of the skull of the Greenland right whale.

PLATE IV

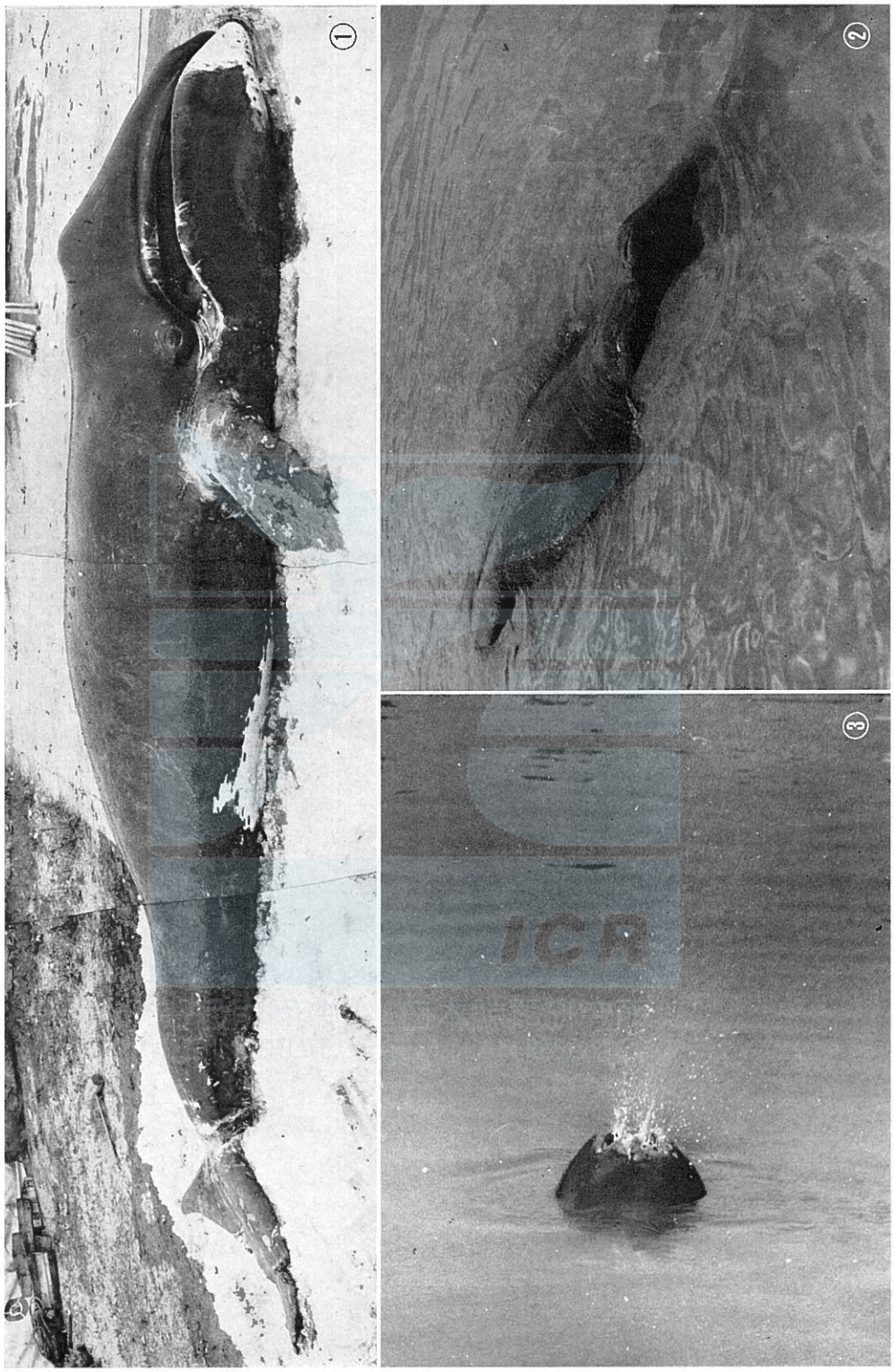
Anterior (1), lateral (2) and posterior (3) views of the cervical vertebrae of the Greenland right whale.
Lateral views of the thoracic (4), lumber (5) and caudal (6) vertebrae of the Greenland right whale.

PLATE V

Outer view of the ribs and the sternum of the Greenland right whale.

PLATE VI

1. Lateral view of the left scapula of the Greenland right whale.
2. Lateral view of the right scapula of the Greenland right whale.
3. Dorso-lateral view of the right flipper of the Greenland right whale.
4. Bones in the left flipper of the Greenland right whale.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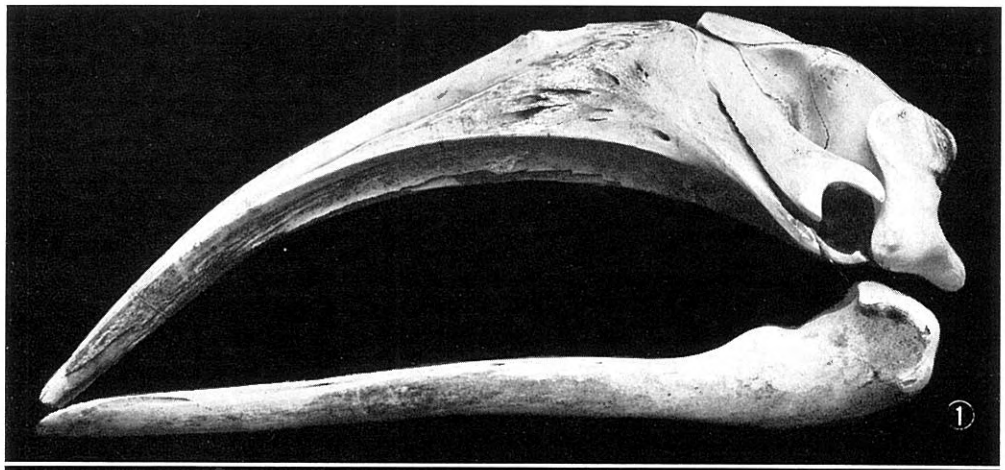

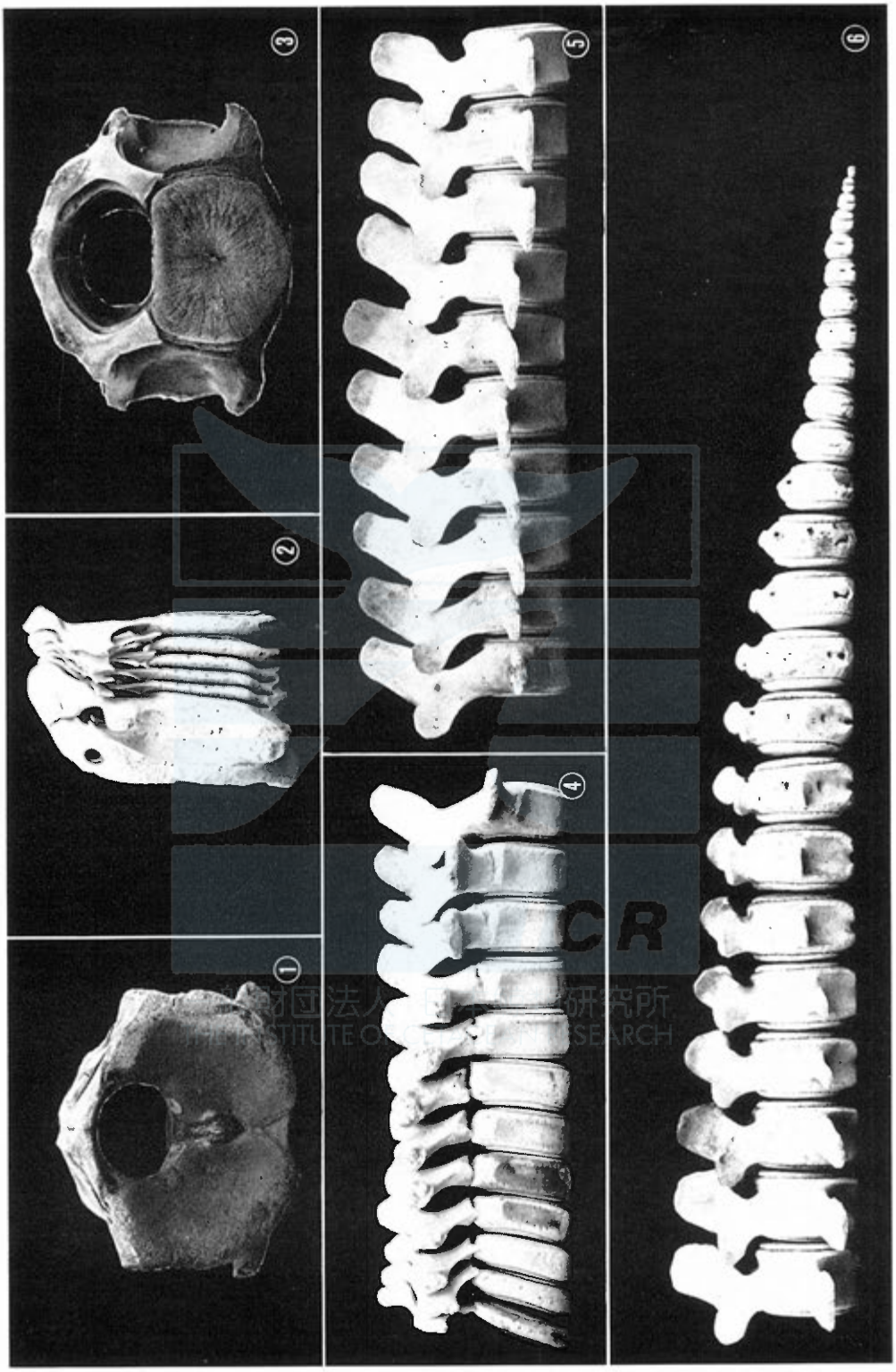
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