ORGAN WEIGHTS OF *DUGONG DUGON*

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When the International Ocean Exposition (1975) took place in Okinawa, two dugongs (*Dugong dugon*) were donated from Indonesian Government to Japanese Government, but these died within a short period of 22 and 23 days after arrival. With the permission of Philippine Government, three more dugongs were subsequently imported to Japan until recently and attempts were made to maintain them. While two of these dugongs died, the remaining one still remains healthy in Toba Aquarium, after two years record history of maintenance in May 1979, daily renewing the record of maintenance of dugong in Japan. Apart from these, a dugong cadaver was brought to Japan from Philippine for scientific studies. In January 1979, moreover, a female infant dugong was caught by a fishing net in the suburbs of Nago, Okinawa (26°32′N, 128°07′E) and an attempt was made to maintain it, but death occurred 33 days later.

TABLE 1. BODY AND INTESTINE LENGTHS AND THEIR RATIOS IN SIX SPECIMENS OF *DUGONG DUGON*

Specimen number	Body length (m)	Small intestine (m)	Large intestine (m)	Ratio
D-1	1.38	5.40	8.80	10.3
D-2	1.55	5.85	7.45	8.6
D-3	1.58	7.30	12.46	12.5
D-4	1.69	6.66	12.70	11.5
D-5	2.04	7.13	12.25	9.5
D-6	2.54	9.60	14.50	9.5

We have conducted a biological survey and investigation on the cause of death in these six animals. In the present paper, the organ weights in these six dugongs and the ratio of each value to body weight was summarized in Table 2. Most of the organs were weighed fresh at autopsy, but some of them were weighed after fixation in 10% formalin solution.

In addition, the length of the intestine (Table 1), and the photographs of external appearance of main organs (Pl. I–IV) were given. The body length was

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TABLE 2. BODY LENGTH, BODY WEIGHT AND ORGAN

Specimen number		D-1	D-2
Body length		135.0 cm	155.0 cm
Sex		M	M
Body weight (at autopsy)		47.0 kg	52.2 kg
Body weight (at capture)			
Locality		Philippines (Luzon Isl.)	Philippines (Luzon Isl.)
Brain		160.0 g (0.340)	
Spinal cord			
Heart		107.0 (0.228)	160.0 g (0.306)
Spleen			9.0 (0.0172)
Lung	l	625.0 (1.330)	425.0 (0.814)
	r		495.0 (0.948)
Stomach			
Small intestine			
Large intestine			
Liver		675.0 (1.436)	755.0 (1.466)
Pancreas		18.0 (0.038)	16.0 (0.0306)
Parotis	l	50.0 (0.106)	
	r	55.0 (0.117)	
Kidney	l		150.0 (0.287)
	r		150.0 (0.287)
Adrenal	l		1.0 (0.00191)
	r		0.8 (0.00153)
Thyroid			
Thymus	r		
	l		
Pituitary		0.6* (0.000127)	
Testis	l	3.0* (0.00638)	
	r		
Epididymis	l	2.0* (0.00426)	
	r		
Ovary	l		
	r		
Integument =(Blubber)		13,000.0 (27.66)	

* calculated from the value after preservation in 10% formalin solution.
Figures in parentheses indicate percentages of body weight.

defined as the length from the tip of the head to the tail base. The body weight was recorded at the time of death. Since body weight undergone a considerable variation according to the condition of maintenance, the body weight at the time of capture was also described together. The detailed anatomical findings of these internal organs currently under investigation will be reported elsewhere in a morphological research journal.

ACKNOWLEDGMENTS

We wish to express our thanks to the Directors and staffs of the Kamogawa Sea

WEIGHT OF SIX SPECIMENS OF *DUGONG DUGON*

D-3	D-4	D-5	D-6
158.5 cm	169.7 cm	204.0 cm	254.0 cm
F	M	F	F
76.5 kg	80.1 kg	120.5 kg	220.5 kg
		155.0 kg	262.0 kg
Okinawa	Philippines (Luzon Isl.)	Indonesia (Sulawesi Isl.)	Indonesia (Sulawesi Isl.)
218.0 g (0.286)	225.0 g (0.280)	250.0 g (0.207)	250.0 g (0.113)
40.0 (0.0528)			
		265.0 (0.220)	500.0 (0.227)
19.0 (0.0362)	29.0 (0.0362)	18.0 (0.015)	28.0 (0.0127)
		900.0 (0.747)	1,650.0 (0.748)
		950.0 (0.788)	1.450.0 (0.658)
910.0 (1.194)		1,950.0 (1.618)	4,250.0 (1.927)
1,440.0 (1.889)		1,800.0 (1.494)	4,000.0 (1.814)
1,900.0 (2.493)		2,600.0 (2.158)	4,450.0 (2.018)
1,125.0 (1.476)	1,780.0 (2.222)	1,650.0 (1.369)	3,150.0 (1.429)
45.0 (0.0591)	40.0 (0.0499)	50.0 (0.041)	45.0 (0.0204)
	263.0 (0.328)	350.0 (0.290)	600.0 (0.272)
	260.0 (0.324)	320.0 (0.266)	500.0 (0.227)
	1.7 (0.00212)		3.5 (0.00159)
	1.5 (0.00187)		3.4 (0.00154)
25.5 (0.0335)	7.0 (0.00873)	11.5 (0.0095)	16.0 (0.00726)
45.5 (0.0597)			
49.0 (0.0643)			
0.6 (0.000787)		0.9 (0.00075)	0.9 (0.000408)
	2.1 (0.00262)		
	1.2 (0.00149)		
			12.0* (0.00544)
18,600.0 (24.41)			

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EXPLANATION OF PLATES

PLATE I

Fig. 1. Ventral dissection of the thracoabdominal viscera. Female, 204 cm length. D: duodenal diverticulum G: gallbladder H: heart S: stomach

Fig. 2. Ventral aspect of the thoracic viscera. Male, 158.5 cm length. Arrow shows the left superior vena cava. A: arch of the aorta.

Fig. 3. Hemisection of heart of a 254 cm length, female. The deep interventricular sulcus is indicated by the arrow.

PLATE II

Fig. 1. Stomach and proximal duodenum. Female, 204 cm length. Cg: cardiac gland Dl: left duodenal diverticulum Dr: right duodenal diverticulum O: oesophagus

Fig. 2. Visceral aspect of the liver. Female, 204 cm length. R: right lobe G: gallbladder

Fig. 3. Ventral aspect of intact pancreas. Male, 169.7 cm length. C: cauda of pancreas

Fig. 4. Digestive tract. Female, 158.5 cm length. C: cecum D: duodenal diverticulum I: small intestine K: kidney L: liver LI: large intestine S: stomach

Fig. 5. Dorsal aspect of the spleen. Female, 204 cm length.

PLATE III

Fig. 1. Ventral aspect of the right kidney. Female, 204 cm length. U: ureter

Fig. 2. Posterior view of the male reproductive tract and urinary bladder of a 135 cm length. B: urinary bladder E: epididymis S: seminal vesicle T: testis U: ureter

Fig. 3. Ventral aspect of the adrenal gland. Male, 155 cm length.

Fig. 4. Visceral aspect of the right ovary of 254 cm length. The ovarian follicle indicated by the arrow.

Fig. 5. Ventral aspect of the pituitary gland. Female, 204 cm length. ×5.5

PLATE IV

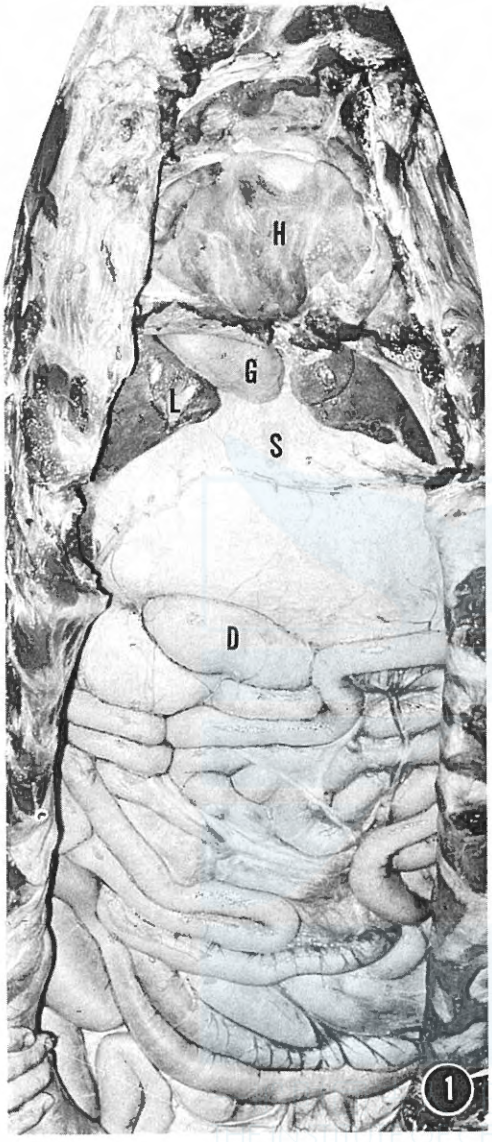
Fig. 1. Dorsal aspect of the brain. Female, 254 cm length.

Fig. 2. Lateral aspect of the brain. Female, 254 cm length.

Fig. 3. Ventral aspect of the brain. Female, 254 cm length.

Fig. 4. Dorsal aspect of the spinal cord. Male, 135 cm length. $C_1 \sim Th_3$ (left) and $Th_4 \sim Th_8$ (right).

Fig. 5. Dorsal aspect of the spinal cord. Male, 135 cm length. $Th_9 \sim Th_{13}$ (left), $Th_{14} \sim Th_{18}$ (middle) and $Th_{19} \sim L_4$ (right).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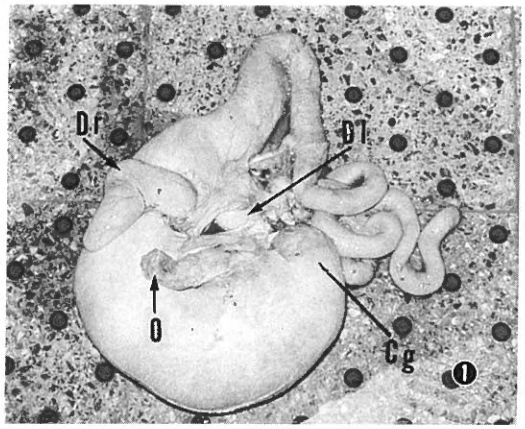
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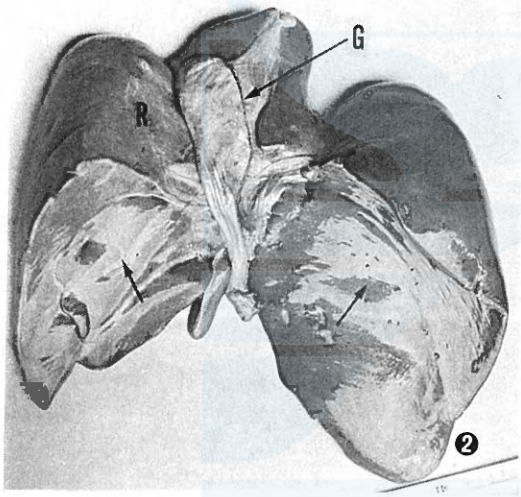
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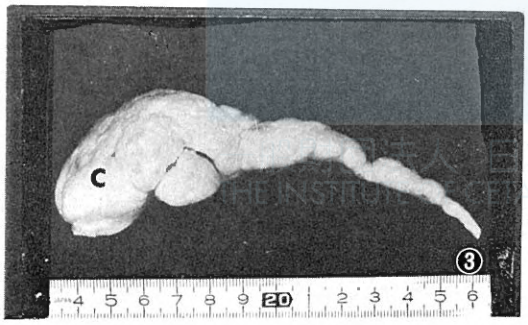
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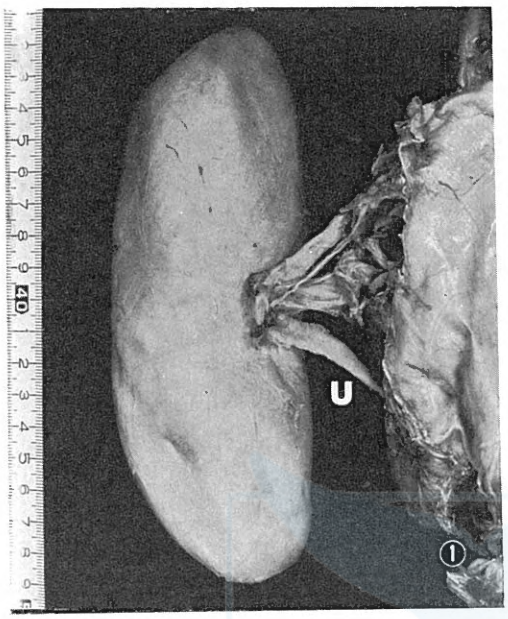
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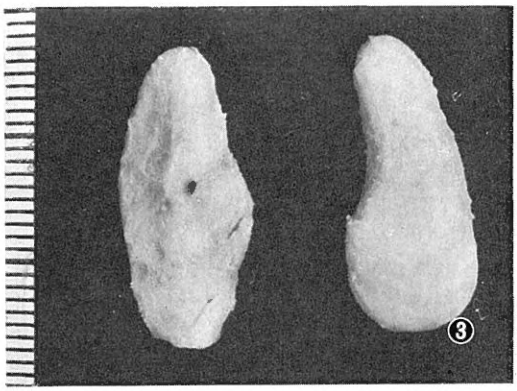
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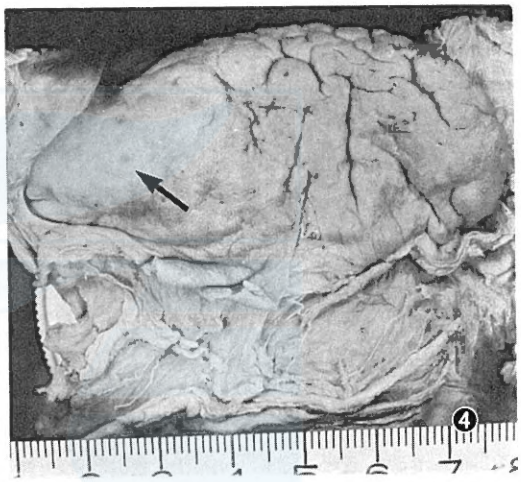
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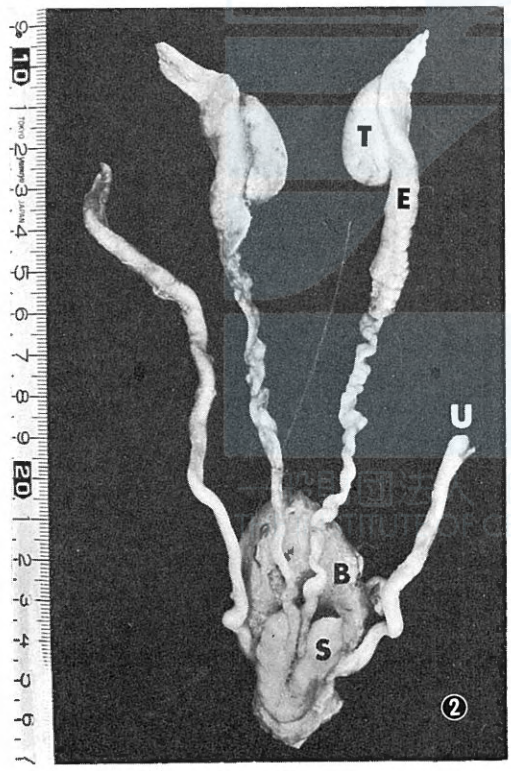
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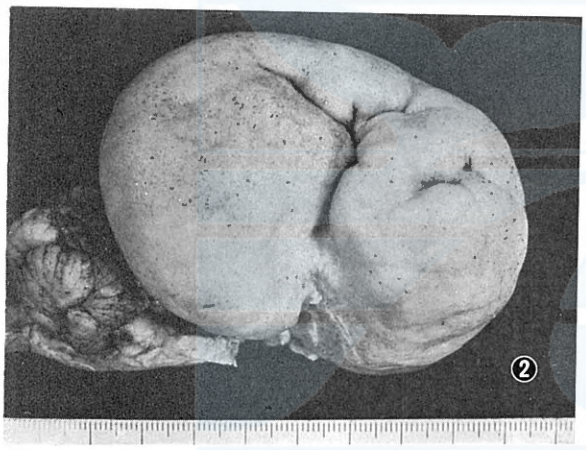
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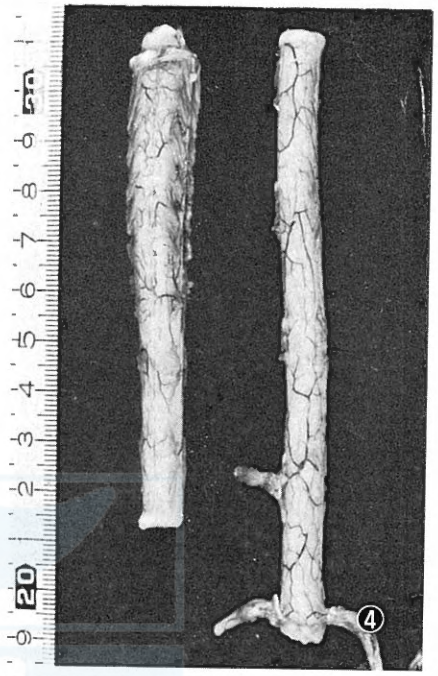
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