STOMACH CONTENTS OF JAPANESE WILD BOAR IN WINTER

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Abstract: Stomachs of wild boars were collected from hunters in the central Japan. 134 contents were analysed and measured their volumes and weights. Some correlations were seen between the volume and the dry weight of stomach content. Vegetable items of the foods, such as rhizomes, were found in 95% of the samples, whereas animal items, such as earthworms, were found in 30%. Caloric estimation showed the animals lived under poor nutritional conditions in winter.

Keywords: Wild boar, *Sus scrofa leucomystax,* Suidae, Energetics, Metabolism, Asia.

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One hundred and forty-one (141) stomachs of Japanese Wild boar *(Sus scrofa leucomystax)* were collected in the central Japan in winter of 1970 to 1971. No content was found in seven stomachs, so 134 contents were analyzed, after measuring their volumes and weights (Asahi, 1975). The correlation between the volumes of stomach contents and the recorded body weights was not clear, but some relations occured with the dry weights of stomachs contents (Fig. 1).

The vegetable items were found among 95% of specimens (Fig. 2). Most of them were fibrous tissue and sludge, so, the identifications of food species were very difficult. The subterranean stems and roots included Japanese thatch grass

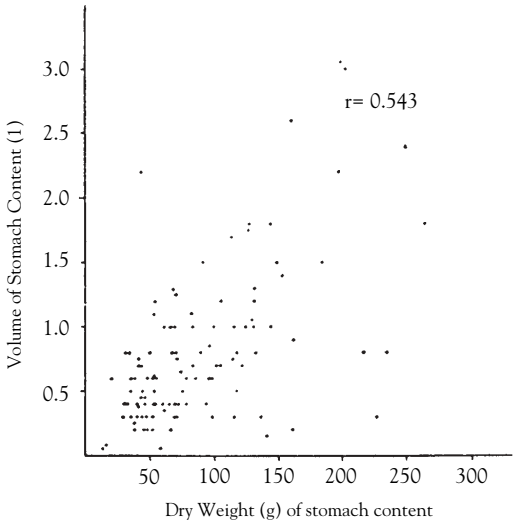

Figure 1 - Relation between dry weight (in g) and volume (in l) of stomach content

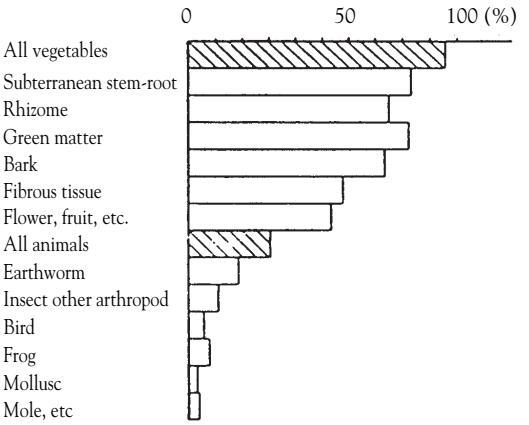

Figure 2 - Occurence of each food item

(*Imperata cylindrica,* Graminaea). Starch-grains of rhizomes were microscoped, that most of them were potatoes (*Solanum tuberosum,* Solanaceae, cultivated), arrow-roots (*Puearia lobata,* Leguminosae) and wild yam (*Discora* sp., Araceae). In green matters, leaves of Japanese thatch grass, eurya (*Eurya japonica,* Theaceae), etc, and in seeds, rice (*Oryza sativa,* Graminaea, cultivated) and wild grapes (*Vitis* sp., Vitaceae) were seen.

The animal items were found among 30% of stomachs (Fig. 2). They were chiefly earthworms. Insects were beetles and their larvae. In frogs, tree frog *(Hyla japonica)* and forest green tree frog *(Rhacophorus arboreus)* were seen, and in birds, feathers and bones of chicken were seen.

After separation for each item, they were measured the volumes, fresh and dry weights (Tab.1).

Table 1. Dry weight (mg) of stomach contents' various food items: average and values of two specimens (see text).

	SR	Rh	Gr	Ba	Fi	FS	P	A
Average	817.1	728.1	88.6	614.7	1425.2	427.2	3285.0	81.9
V-103	250	2040	10	8400	6880	0	9353	23
B-7	0	0	114	3152	4203	0	6680	105

SR: subterranean stem and root; Rh: rhizome; Gr: green matter; Ba: bark; Fi: fibrous tissue; FS: flower, fruit, and seed; P: other plant matter; A: animal matter.

We could estimate the caloric nutrition value in food, if 4 kcal/g dry weight for the vegetable items, and 5 kcal/g for the animal items (Tab. 2). To the flowed-away sludge, we would consider 0.4 kcal/g in fresh weight, that were estimated as the difference from the total contents which were initially measured. The average dry weight and energetic value of the stomach contents of the specimens were 817.1 g, and 86.3 kcal. But, in those cases, the average value was meanless, I think. The maximum contents in the specimen V-103 was 3050 ml in volume and its caloric value was 380 kcal. And, the maximum nutritional calorie (509 kcal) was found in the specimen B-7 of which total content was 3000 ml.

Table 2. Estimation of caloric nutrition (kcal): average and values of two specimens.

	BW(kg)*	BM** (kcal/day)	Daily need (kcal/day)	Stomach content (kcal)	(% to need)
Average	38.9	1090	2180	86.3	4.0
V-103	60.0	1509	3020	380	16.6
B-7	60.0	1509	3020	509	16.9

*BW = Body weight, **BM = Basal Metabolism

If we assume that the needs of Wild boar would be: 2 x 70 x BW $^{0.75}$ kcal/day, where BW is the body weight (after Brody, 1945, and Kleiber, 1961), an animal weighing 60 kg requires 3020 kcal/day. The maximum estimated calories from stomach contents was only 16% of this daily need. Yamamoto (1974) had ever estimated the caloric nutritions of Japanese black bear *(Selenarctus thibetanus japonicus)* by the same method. It showed that the stomach contents of this animal may satisfy about the half of daily need.

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