A Preliminary Study of the Food Habits of Natricine Snake, *Amphiesma v. vibakari* on Hegura-jima Island

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Abstract: *Amphiesma v. vibakari*, the only snake species inhabiting Hegura-jima Island was collected. All snakes were forced to regurgitate stomach contents. Two snakes contained undigested earthworms. Another snake excreted a lump of mud which could be the remains of completely digested earthworms.

Key words: *Amphiesma v. vibakari*; Hegura-jima Island; Stomach contents; Earthworm

Hegura-jima Island (37°50'N, 136°55'E) is a small island (the area about 2 km²) which is located 50 km north of Wajima on the Noto Peninsula, Ishikawa Prefecture, Japan. Only one natricine snake, *Amphiesma v. vibakari* occurs there (Ohno, 1969; Tokumoto, 1983; Ohgushi and Tokumoto, 1986). In the mainland of Japan, the diet of *A. v. vibakari* was reported to be anurans (Fukada, 1959; Moriguchi and Naitou, 1982). However, no anurans inhabit this island. This has lead to question of what are the food resources of *A. v. vibakari* on Hegura-jima Island. There were two hypotheses: 1) insects (e.g. Orthoptera) are the major prey items (Ohno, 1969) and 2) the lacertid lizard, *Takydromus tachydromoides* and earthworms are major ones (Sengoku, 1979). But no one has been able to document the food habits of *A. v. vibakari* on this island.

This paper is the first report of the food habits of *A. v. vibakari* on Hegura-jima Island. The snakes were collected during four days (18–19 May, 25–26 July) during the daytime in 1989. On 19 May, I surveyed mainly the western part of the island and on the other days the whole island. All individuals collected were forced to regurgitate their stomach contents. Snout-vent length (SVL) and tail length were measured to the nearest mm.

Although active *A. v. vibakari* were not observed. 11 snakes (5 males and 6 females) hiding under stones or a board and two carcasses (1 male, 1 unknown sex) were collected (Table 1). One male (SVL 29.5 cm) and one female (SVL 20.2 cm) each contained a fragment of un-

TABLE 1. Date, SVL and stomach contents of *A. v. vibakari* collected on Hegura-jima Island in 1989.

Date	Sex	SVL (cm)	Stomach contents	Note
18 May	male	36.7	—	—
18 May	male	34.6	—	—
18 May	male	28.7	—	—
19 May	female	41.8	—	gravid
19 May	male	21.6	—	—
19 May	female	39.6	—	gravid
19 May	female	39.8	—	gravid
19 May	male	35.1	—	carcass
19 May	male	29.5	earthworm	—
19 May	female	29.2	—	—
19 May	female	40.1	—	—
19 May	—	—	—	carcass
26 July	female	20.2	earthworm	—

digested earthworm (total length about 20 mm and 51 mm, respectively). Another female (SVL 41.8 cm) excreted a lump of feces. The analysis of the lump of feces showed no exoskeleton. It was inferred that a lump of mud in an earthworm eaten by *A. v. vibakari* was excreted without being digested. This was regarded as indirect evidence that *A. v. vibakari* fed on earthworms.

A. v. vibakari on Saru-shima is reported to consume the lacertid lizard, *Takydromus tachydromoides* (Aoki et al., 1979). On the other hand, *A. v. vibakari* artificially introduced to Miyake-jima consumed an earthworm and a hatchling skink, *Eumeces okadae* (Hasegawa, 1990). On Hegura-jima Island, the lacertid lizard, *T. tachydromoides*, which seems to be another potential prey of *A. v. vibakari*, occurs (Tokumoto, 1978; Nakamura, 1983). But so far we have not found the snake to prey on this lizard. This suggests that the food habits of *A. v. vibakari* on Hegura-jima Island are quite different from those on the Japanese mainland.

ACKNOWLEDGMENTS.—I would like to thank Dr. R. Ohgushi, Dr. K. Nakamura, Mr. S. Sengoku and Ms. I. Hasegawa for critical reading of the manuscript. Thanks are also extended to Mr. M. Hasegawa for providing valuable references and to Mr. K. Nishimura for his assistance in the field.

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要旨 舢倉島のヒバカリの食性 (予報)

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1989年に4日間、舢倉島に棲む唯一のヘビ類であるヒバカリを採集した。すべての個体の胃内容物を強制嘔吐法により検査した。2個体が未消化のミミズの断片を含んでいた。また他

の1個体は、完全に消化したミミズの残りと思われる一塊の泥を排泄した。

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