

151. Notes on the Food Habits of *Takydromus tachydromoides* (Schlegel)

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Little definite is known as to the habits of the "Kanahebi," *Takydromus tachydromoides*, which is of very common occurrence in Japan. In order to determine its economic value for the destruction of noxious insects, the present work has been carried out with the material collected on the river-sides near Tokyo.

General Habits:— This lizard is of moderately large size and measures about 20 cm. from the snout to the tail end. In the male the body is blackish olive on the dorsal and white on the ventral side. The female differs from the male in having the ventral surface of a yellow tint which gets deeper in the breeding season.

This lizard is restricted in range to Hokkaido and Japan proper. Its congenial habitat is found on grassy moist land near mountain torrents, swamps and rivers.

It is entirely diurnal in its habits and apparently active throughout the daytime. On fine days it comes out and prowls about. Oftentimes it is found to rest on shiny places. On rainy or cloudy days it remains under rocks or other objects.

Of natural enemies the most deadly one is the snake which is occasionally found to devour this lizard. While resting on the shiny places, the lizard is intently on the watch. Warily it creeps away and retreats to shelter if its capture be attempted.

Broadly speaking, this lizard enters its long winter sleep about the end of October. Its hibernation lasts at the end of April or the beginning of May.

The breeding season may be stated to extend over some summer months from late May to early September, especially from early July to middle August. In this season the female changes its ventral colour into a deep yellow. Before mating this lizard performs a kind of courtship. The male and female come nearer each other and move their body rhythmically for a while. Thence the male catches hold of

the neck of the female. Twisting the body in some measure, the former comes to stand at the side of the latter and finally accomplishes the mating. The mating lasts for about 15 minutes.

In general spawning takes place in the daytime, especially at sunset, about 12 days after the mating. Close to the stump of plants, on the ground, are laid 2 to 9 eggs, which are invariably covered with soils. The mating and spawning appear repeated for certain times throughout the season.

The egg, absorbing moisture, enlarges day by day until it attains its maximum size. About the 42nd day after deposition the egg hatches. The newly hatched young measures about 61 mm. from the snout to the tail end and moves rapidly like the adult.

Food Habits :— An examination of 80 stomachs has revealed that the food of this lizard consists wholly of animal matters. Spiders and insects appear generally to form the great bulk of the food, but some other forms also are eaten. Remarkable is it that an example was found to devour a certain crustacean. Table 1 shows the changes of stomach contents in three different seasons, ie. May to June, July to August and September to October. The number of stomachs inspected are in these seasons 16, 40 and 24, of which 2, 11, and 8 are empty.

Table 1.

Kind of food	May to June		July to August		September to October	
	Number occurred	Number in each stomach	Number occurred	Number in each stomach	Number occurred	Number in each stomach
Spiders	7	0.488	26	0.65	12	0.500
Insects						
Hymenoptera	0	0	1	0.025	0	0
Diptera	12	0.750	1	0.025	1	0.042
Coleoptera	6	0.375	2	0.450	3	0.125
Lepidoptera	2	0.125	14	0.350	4	0.167
Trichoptera	0	0	1	0.025	2	0.083
Hemiptera	0	0	4	0.100	4	0.167
Orthoptera	2	0.125	4	0.100	4	0.167
Tysanura	0	0	1	0.025	1	0.042
Undetermined	0	0	1	0.025	0	0
Crustacea						
Amphipoda	0	0	0	0	1	0.042
Total	29	1.813	55	1.375	32	1.333

In the food animal groups just mentioned there were several families as in Table 2.

Table 2.

Kind of food	Time occurred	Family and number of individuals occurred
Spiders	34	Salticidae 8, Lycosidae 5, Theridiidae 3, Clubionidae 3, Argiopidae 2, Pisauridae 2, Thomisidae 1, Oxyopidae 1, Lynyphidae 1, undetermined forms 19
Hymenoptera	1	Apidae 1
Diptera	11	Syrphidae 8, Muscidae 4, undetermined forms 2
Coleoptera	7	Chrysomelidae 11
Lepidoptera	20	Pyralidae 3, undetermined forms 17
Trichoptera	3	Limnophilidae 3
Hemiptera	7	Fulgoridae 5, Jassidae 3
Orthoptera	11	Acrididae 5, Locustidae 2, Tettigidae 2, undetermined forms 2
Tysanura	2	Aphoruridae 2
Amphipoda	1	Gammaridae 1

Small as the material is, it proves that this lizard presents a tendency to prefer spiders and insects of small sizes. Notwithstanding the capture of a large number of spiders which are generally considered as a beneficial race, the lizard may be stated to be of some value in keeping noxious insects in check. Some plant-fragments and coarse sands were occasionally found in the stomach contents.

Feeding Experiments:— Making use of twenty lizards, a series of feeding experiments has been carried out with the following results:

The lizard kept in captivity is capable of devouring insects larger than those which it catches in the field. Dragonflies and ephemeras partly mutilated serve as less unpalatable foods. Earthworms also are taken.

Not only presents this lizard an indication to abominate some animals with bad smell, such as the ants, cockroaches, myriapods, etc., but it hardly feeds on dead insects, as has been observed by PRITCHET¹⁾ in some American lizards.

Even in starvation, the adult lizards neither attack each other nor take any dead material. Very rarely the adult in starvation is found to attack and devour the young which is kept in the same cage.

1) PRITCHET, ANNIE H. 1905. Some Experiments in feeding Lizards with the protectively coloured Insects. Biol. Bull., Vol. 5, No. 5.