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Food of the Long Eared Hedgehog in Ravines Near Agra

POKARM JEŻA USZATEGO W OKOLICACH AGRY

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Maheshwari U. K., 1983: Food of the long eared hedgehog in ravines near Agra. Acta theriol., 29, 10: 137—140 [With 2 Tables]

Annual and seasonal food composition of 165 long eared hedgehog *Hemiechinus auritus collaris* (Gray, 1830) studied from their stomach contents revealed that the main diet composed of insects (47.4% by number method and 39.74% by weight method). Beetles constituted more than 75% of the insect food. Oligochaetes, amphibians, reptiles and mammals also occurred in low proportion (7—10%). It appears that the food of the hedgehogs is related to the availability of the prey.

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I. INTRODUCTION

The long eared hedgehog *Hemiechinus auritus collaris* (Gray, 1830) is fairly common in chalesar ravines near Agra, India. It has been

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observed in the Thar desert that the hedgehogs feed mostly on the coleopteran insects, egg shells, amphibians etc. (Krishna & Prakash, 1960). However, the available information on the food and feeding habits of the insectivore *H. a. collaris* in nature is scanty and therefore a detailed study of its composition of food in nature was carried out during 1975 and 1976. The results of the study are presented in this communication.

II. STUDY AREA

The study was conducted in chalesar ravines (27°10'N and 78°02'E), 14 km east of Agra, on the western bank of river Jamuna. In general the topography is very undulating, the slopes vary from steep to very steep. It harbours a large variety of trees: *Acacia nilotica, Dalbergia sisso, Prosopis* spp. and *Dendrocalamus stricusus.* Among other plants *Caparis decidua, Tamarix* spp., *Zyzyphus nummularia, Calotropis* spp. and *Tephrosia purpurea* are common.

III. METHODS

The hedgehogs, *Hemiechinus auritus collaris* were collected in all the seasons during 1976 and 1977. They were sexed, weighed and dissected to remove the alimentary canal. The contents of the stomachs were collected in petridishes and subjected to the analysis by the following methods. They were also identified to various zoological groups.

Number method. In this method, the number of individual food organisms was recorded and expressed as percentage of the total number of food items in the stomach (Hynes, 1950).

Weight method. The stomach contents were oven dried at 30—40°C and weighed on semi-micro Mettler balance. All the food items of various seasons were also weighed (Murton *et al.*, 1964).

IV. RESULTS AND DISCUSSION

The analysis of the food of the hedgehogs on an annual basis (Table 1) indicates that its main food is composed of insects (47.45% number method and 39.74% weight method; beetles constituting about 75% of the total insects consumed). Oligochaetes, crustaceans, amphibians, reptiles and mammals occurred in the stomachs of the hedgehogs almost in equal proportion (7—10%). Bird feathers and egg shells were also found in low quantity.

Analysis of stomach contents on a seasonal basis (Table 2) indicate that the variation in the food item between seasons is not significant. Surprisingly the intake of oligochaetes, crustanceans, and amphibians increased during this season as compared to winter and summer. The occurrence of reptiles in stomach contents was found to be maximum during summer (15%). Mammals fell prey in maximum proportion (26.9%) during winter months. Likewise arachnids were consumed in large quantity during summer (Table 2).

From the above it appears that the food of the hedgehog, *H. a. collaris* is related to the availability of prey and that it is not a selective feeder, as also observed by Krishna & Prakash (1960). The earthworms move towards the soil surface during monsoon and they are probably available

to them in abundance. Likewise, crustaceans and amphibians, mostly younger animal, are available to hedgehogs relatively in large number during monsoon as most of them breed during this season and thus fall easy prey to the hedgehogs.

The preference of hedgehogs for insects and especially beetles could be due to the odour emmited from their body (Brockie, 1959; Dimelow, 1963) which probably makes it easy for the hedgehog to trap them.

Table 1

Per cent occurrence of various food items in the stomach of 165 hedgehogs collected from nature during two years 19 stomach were found to be empty.

Food items	Number of stomachs in which occurred	Percent occurrence	
		Number method	Weight method
Annelida			
Oligochaeta	67	8.85	10.22
Arthropoda			
Coleoptera	114	28.24	30.83
Diptera	70	7.63	3.28
Lepidoptera	47	3.79	2.37
Dermaptera	18	1.79	1.17
Hymenoptera	49	6.00	2.09
Arachnida	39	4.42	2.30
Chelopoda	36	5.26	10.40
Diplopoda	16	2.31	1.52
Isopoda	10	1.73	0.20
Amphibia	66	8.42	13.41
Reptilia	78	8.16	7.29
Aves	27	2.79	0.52
Mammalia	45	7.42	10.34

Table 2

Percent occurrence of various foods of the hedgehog during the three seasons (weight method).

Food items	Per cent occurrence (% weight)		
	Winter	Summer	Monsoon
Annelids	3.89	8.73	14.38
Insects	43.86	46.73	34.66
Arachnids	2.77	6.53	0.14
Crustaceans	4.53	4.17	19.91
Amphibians	5.37	9.37	19.66
Reptiles	9.70	15.00	3.06
Aves	1.16	0.80	0.04
Mammals	26.94	4.66	3.69
Unidentified material	2.68	4.66	4.38

Yalden (1976) also suggested that hedgehogs searched carabid beetles due to the presence of chemicals and their odour in the body.

No plant material was found from the stomach contents of hedgehogs, confirming Prakash's (1956) observations. However, Kalabukhov (1928) suggested that vegetable matter may be eaten occasionally to quench

thirst. This explanation, however, does not appear to be feasible since the water contents in insect body is very high (Robinson, 1928). However, Yalden (1976) and Campbell (1973) also found substantial quantity of plant in stomachs of the European hedgehogs, *Erinacenus europaeus*. It is interesting that the food of the two hedgehogs *Hemiechinus* and *Erinaceus* residing different habitats differ pertaining to vegetable food, similar variation in the natural food of the insectivorous shrew, *Suncus murinus sindensis*, has been observed. In Rajasthan, it chiefly feeds on vegetation (90.7%) on an annual basis (Advani & Rana, 1981) whereas in Pakistan it is reported to prefer insects (Roberts, 1977).

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