

FEEDING AND DIETARY HABITS OF THE BAR-WINGED PRINIA IN RICEFIELDS

by

Dewi S. Prawiradilaga

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Introduction

The Bar-winged Prinia *Prinia familiaris* is endemic to Sumatra, Java, Karimunjawa and Bali. It is found commonly in a variety of habitats such as gardens, open country and ricefields. Although widely distributed, its food and feeding habits have not been well described. According to Hoogerwerf (1949), Sody (1989) and MacKinnon (1990), it feeds mainly on insects and other small animals. This paper describes the feeding and dietary habits of the species from ricefields based on analyses of its stomach contents, and then compared with the result of previous food analyses collected from elsewhere in Java (Hoogerwerf *op cit* and Sody *op cit*). The study was carried out in the vicinity of Bogor (6°28'S, 106°46'E). The total ricefield area, mixed with other crops along the bunds such as coconuts, papaya and bananas, was 3.3 ha.

Methods

Observations were conducted between August 1988 and May 1989 at three stages of rice cultivation: newly planted, maturation and harvest, as described in Prawiradilaga & Sudaryanti (1990). The birds were observed using Nikon 8x20 binoculars, and feeding behaviour recorded in a note-book. In order to collect data on diet, birds were caught by mist-nets, weighed, killed and sexed. The gizzard was preserved in 70% alcohol and dissected the following day. The contents were sorted on a petri dish under an Olympus Zoom x 10-40 microscope. Food items, both entire or fragmented, were identified with the use of Borror & De Long (1954) and Kalshoven (1981) and checked with insect collections at Museum Zoologicum Bogoriense where necessary. Most items could be identified to family level, but few to genus or species. Counting of food items was based on groups of prey.

Results and Discussion

Although present at all stages of rice cultivation, numbers of Bar-winged Prinias increased during the mature phase, when the insect population also increases (Ubaidillah *et al.* 1991). The birds feed mainly during the morning; c.50% of observations were before 10.00, 41% at midday, and only 9% after 14.00 hours. The bird employed three main feeding techniques:

1. Hop-peck: the bird moves in short hops on the ground between the rice stems with its body held horizontal, pausing regularly to pick up food with a quick pecking movement;
2. stand-peck: the bird perches on the rice plant in an upright posture and pecks food directly off them;
3. Stand-peck-fly-perch: the bird commences with the second technique, then carries its prey to a higher perch nearby. This technique was employed mainly when a rather large prey was caught such as a caterpillar.

When feeding, the Bar-winged Prinia prefers to be solitary, and only in a few instances was social activity such as singing observed.

To analyze their diet, 27 individuals (3 breeding and 24 non-breeding) were caught. They weighed between 9.7 and 14.1 gm (average 11.7 + 1.2). From the 27 gizzards, 3 were empty and the remainder contained 1 - 23 food items (average 9.5, see Table 1).

Table 1. Food of Bar-winged Prinia based on stomach contents.

	n_1	%	oc.	$\bar{x} \pm s.d$
<u>Insects</u>				
Orthoptera	5	8.5	18.5	1.0
Coleoptera	20	33.8	63.0	1.2 ± 0.6
Lepidoptera	5	8.5	18.5	1.0
Hemiptera	23	39.0	63.0	1.3 ± 1.3
Homoptera	1	1.7	3.7	1.0
Diptera	2	3.4	7.4	1.0
Hymenoptera	1	1.7	3.7	1.0
<u>Others</u>				
Arachnida	1	1.7	3.7	1.0
Rice seed	1	1.7	3.7	1.0
<u>Total</u>	59	100		9.5 ± 1.4

Note: n_1 = number of prey items found;
 % = percentage of each group of total;
 Oc. = occurrence (percentage of samples in which a group is present);
 $\bar{x} \pm s.d$ = mean number of group per sample with standard deviation.

Main prey items were Coleoptera and Hemiptera, followed by Orthoptera and Lepidoptera. Within Hemiptera, Tingidae were the most preferred prey followed by Pentatomidae (*Scotinophara cinerea*), Corixidae, Corsidae and Oreidae. Among Coleoptera, most important prey were Chrysomelidae (Cassida and Ceratia); Staphylinidae and Carabidae were collected only from one sample. Most Lepidoptera were taken as larvae and the Orthoptera intake consisted of Mantidae and Acrididae (*Oxya* spp.). Homoptera, Diptera (flies), Hymenoptera (Formicidae) and Arachnidae were preyed by a small number of birds, while rice seed was taken only by one bird.

These observations indicate that the diet of the Bar-winged Prinia is derived from seven orders of insects, with arachnids and occasional rice seed. This contrasts with the findings of Hoogerwerf and of Sody (*op cit*) who respectively found only two orders (Micro Coleoptera and Lepidoptera) and six orders (Orthoptera, Coleoptera, Lepidoptera, Hemiptera, Hymenoptera and Isoptera).

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Address:

Research & Development Centre for Biology-LIPI, P.O. Box 110, Bogor 16122, Indonesia.