

be considered before comparing differential selection of prey species by a raptor or differential predation on a prey species by different raptors.

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Food and foraging ecology of the Chestnut-bellied Cuckoo.—On Jamaica the 19 species of endemic land birds are poorly known from the standpoint of feeding and other aspects of niche utilization, competition, and resource partitioning. Therefore, the following information of food and foraging behavior of the Chestnut-bellied Cuckoo (*Hyetornis pluvialis*) should be helpful in the future analyses of this species. To my knowledge the only references to its food habits are that of Gosse (*The birds of Jamaica*, London, Van Voorst Press, 1847, pp. 277-278) who states that it feeds on insects and of Salmon (*Gosse Bird Club, Broadsheet No. 6:19, 1966*) who observed this species capturing a praying mantis in flycatcher fashion.

This study was carried out in the Lluidas Vale (Worthy Park) region, St. Catherine Parish, Jamaica during the spring and summer of 1970 and summer of 1971. A description of the study area has been published elsewhere (Cruz, *Quart. J. Florida Acad. Sci.*, 35: 72-80, 1972).

I found the Chestnut-bellied Cuckoo to be a fairly common resident in partially cleared areas, such as forest edges, wooded pastures, and citrus groves, but it was rare in heavily wooded areas. It was usually encountered singly, but sometimes in pairs, hopping from limb to limb or "gliding" from tree to tree. The flight pattern is very distinctive, consisting of a few flaps alternating with a glide. It flies gracefully and slowly, never more than a short distance, and usually lands in shrubbery or concealing arboreal vegetation. Particularly apparent in flight are the long rectrices and rounded wings. The members of a pair do not as a rule stay together either in flight or while foraging through the vegetation,

TABLE 1
FORAGING BEHAVIOR OF THE CHESTNUT-BELLIED CUCKOO

Foraging Zones	Gleaning for			Percentage of Foraging
	Invertebrates	Vertebrates	Hawking for Insects	
Proximal half of tall shrubs and small trees ^a	6 ^b	2	—	47(8) ^c
Distal half of tall shrubs and small trees	2	—	—	11(2)
Proximal half of medium trees	2	1	—	18(3)
Distal half of medium trees	2	—	1	18(3)
Proximal half of large trees	—	—	—	—
Distal half of large trees	—	—	1	6(1)
Percent of foraging behavior	70(12) ^c	18(3)	12(2)	100(17)

^a Tall shrubs and small trees (1.5 to 4.5 m), medium trees (4.5 to 10.5 m), and large trees (greater than 10.5 m).

^b Number of times foraging pattern was recorded in each foraging zone.

^c Number in parentheses indicates total number of observations.

but straggle along one behind the other, often several trees apart, and often keeping in contact by calling. Its foraging activities were confined mainly to the inner branches of high shrubbery, small to medium trees, and rarely large trees (Table 1). The foraging pattern of the Chestnut-bellied Cuckoo included gleaning from branches, twigs, and leaves; and flycatching or hawking. Gleaning was the more frequent tactic employed and flycatching was the less frequently used (Table 1). As the number of feeding observations was small (17), it may not be truly representative. More extended observations could possibly show that other techniques or other feeding methods are used more frequently.

Of the 17 feedings recorded, 14 (82 percent) were on invertebrates, and 3 (18 percent) were on vertebrates (Table 1). The food items taken included slugs (Stylommatophora), insects (Orthoptera, Coleoptera, Lepidoptera, and other unidentifiable insects), tree frogs (*Eleutherodactylus?*), and lizards (*Anolis*). The most common food items recorded were insects, particularly orthopterans and lepidopterans. The stomach contents of a female Chestnut-bellied Cuckoo collected on 10 May 1970 consisted of one slug (*Vaginalus* sp.), four snails (Xanthonychidae?), six grasshoppers (Acrididae), two hairy caterpillars (Lepidoptera), and lizard egg shell fragments (Gekkonidae). There was no evidence of snail shell fragments in the stomach contents, although the soft parts of the snails were present almost intact. This suggests that the cuckoo extracts the snail from its shell before eating it.

While these observations show the foraging pattern of the Chestnut-bellied Cuckoo to be flexible and diverse, much work still needs to be done to complete our knowledge of its niche utilization pattern.

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Interordinal copulation on coastal Venezuela.—The evening of 26 December 1970 between 18:10 and 18:30 Roger F. Pearson, William J. Schaldach, Jr., Allan R. Phillips, and I were driving slowly through a grassy coconut grove at Playa de Guaicamacuto, 7 km east of Puerto Cabello, Carabobo, Venezuela, in search of certain members of the Tyrannidae in which we were interested. Our attention was drawn to a pair of *Myiozetetes* flycatchers calling from electricity wires about 30 m from us. To the left of the nearer flycatcher was perched a pair of Ruddy Ground Doves (*Columbina talpacoti*). All four birds were facing us, each approximately one meter apart, but with the flycatcher farthest from us perched separately on the hind wire, and thus somewhat behind the nearer flycatcher. As we watched the nearer dove departed. The nearer flycatcher (presumed male) flew at once and lit beside the remaining dove (presumed female). The dove lifted its rufous wings, holding them vertically in intimidation display. The flycatcher immediately mounted the dove. It appeared to us that copulation was successful and the flycatcher returned to its original position on the wire.

I am not familiar with the posture and movements used by receptive *Myiozetetes* females but Paul Schwartz, Estación Biológica de Rancho Grande, later informed us that both *M. similis* and *M. cayanensis* occur at Puerto Cabello (and Phillips later collected both near by). The race of the latter from that region shows considerable rufous in the wings and to some extent in the tail. Hence I suspect *M. cayanensis* was the flycatcher involved, in which case the visual signals of color and some appropriate wing movements by the