arrival and territorial behavior of the latter species. Baumgartner (Auk, 56:274–282, 1939) found that no other large owl species nested or fed within the territories of Great Horned Owls, even in areas where Barred Owls were common. However, the Craigheads (Hawks, owls, and wildlife; Harrisburg, Stackpole Co., 1956) found instances of Long-eared Owls maintaining territories partially or entirely within those of Great Horned Owls. Apparently some interspecific territorial behavior does occur among large owls, but its exact extent is as yet undetermined. The behavior described in this note suggests its possible occurrence between Long-eared and Barred Owls.—JOHN W. FITZPATRICK, *40 Mallard Road, St. Paul, Minnesota 55110, 9 November 1972.*

Use of marked prey to study raptor predation.—The food habits of many raptors have been studied by analysis of pellets (e.g., Errington, Condor, 32:292–296, 1930). In addition, hunting territories and prey preferences could be studied if the home ranges of most prey were known. Southern and Lowe (J. Anim. Ecol., 37:75–97, 1968) marked small mammals with numbered leg bands and then used the bands recovered in pellets to estimate hunting territories and prey selection of Tawny Owls (*Strix aluco*). However, they did not give information on the proportion of tags ingested by the owls. Since many tags could be lost as indicated for Marsh Hawks (*Circus cyaneus*) feeding on cotton rats (*Sigmodon hispidus*) marked with subcutaneous radioactive Cobalt-60 tags (Schnell, J. Wildl. Mgmt., 32:698–711, 1968), comparison of prey selection between different raptors would be biased if tags of marked prey were differentially ingested and regurgitated by the predators.

I examined the proportion of tags recovered in pellets of Barn Owls (*Tyto alba*) and Screech Owls (*Otus asio*) feeding on live old-field mice (*Peromyscus polionotus*). Radioactive tags (see Hirth, et al., Ecology, 50:332–339, 1969 and references therein for use of radioisotopes as markers for vertebrates) were used so that all live mice, loose tags, or tags in pellets were recovered, however, radioactive tags would not be necessary in field studies of prey selection by raptors or other predators.

Old-field mice were tagged with radioactive Tantalum-182 pins (1×5 mm) inserted subcutaneously through a hypodermic needle into the dorsal neck region. Mice were released into large mouseproof enclosures (3.6 m wide $\times$ 9.0 m long $\times$ 3.9 m high) containing either a Barn Owl or Screech Owl (described in Kaufman, Ph.D. disser., Univ. Georgia, 1971). Pins were then relocated in pellets or loose in the pens with a portable beta-gamma survey meter (EP 432) with a NaI-Tl activated crystal (range approximately 7 m).

Barn Owls and Screech Owls killed and ate 21 and 11 tagged mice, respectively. A greater proportion of the ^{182}Ta pins were recovered in Barn Owl pellets (16 in 9 pellets, 5 not in pellets) than in Screech Owl pellets (6 in 5 pellets, 5 not in pellets). Differences in tag recovery in pellets for Barn Owls (76 percent) and Screech Owls (55 percent) was probably due to differences in eating behavior, since Barn Owls often swallowed each mouse whole until several mice had been eaten while Screech Owls nearly always tore each mouse into pieces. If prey were larger, such as cotton rats, Barn Owls would tear up their prey and a greater proportion of tags would be lost as in Marsh Hawks (Schnell, op. cit.).

In summary, the proportion of tags (ear tags, leg bands, or subcutaneous tags) recovered in pellets from different raptors would be dependent on prey size, predator size, and feeding behavior of the raptor, and any differences in the recovery of tags would have to

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		Hawking for Insects	Percentage of Foraging
	Invertebrates	Vertebrates		
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.