

Near Queremal the species observed in the melastome trees occupy different habitats to some extent. *Tangara parzudakii* is a species of mossy limbs in the crowns of trees in the cloud forests at 4,500 to 9,700 feet elevation. *T. icterocephala* favors the edges of second growth between 1,600 and 4,500 feet elevation, and *T. gyrola* is commonest in the treetops at similar elevations. Of species centering at the elevation of Queremal, *Pipraeidea melanonota* is commonest in bushy pastures in wet regions while *Tangara ruficapilla* is most frequent in bushy pastures in dry or overgrazed areas. *T. labradorides* is most common in the lower levels of second growth, while *T. arthus* favors the edges of second growth and *T. nigroviridis* the forest edge and crown. *T. heinei* and *T. cyanicollis* favor isolated trees and the edges of groves and second growth. However, the species overlap in their habitats, and move into each others' zones to some extent when a good source of food is available.

Do these species contravene the "competitive exclusion principle," that a species tends to exclude others from its own niche? Probably in these cases fruit is abundant only briefly and in such a quantity that no one species would gain by expending energy to exclude others. The normal habitats may be restricted by the insect portion of these birds' diets. There seems to be no competition, and hence no exclusion, when fruit is superabundant.

It is possible that most foods are like the berries of *Conostegia* in that they are eaten by more than one species and occur irregularly. Food, then, would usually be superabundant when and where it does occur. If most foods are superabundant, the usual statements that superabundant foods are not to be considered in applying the competitive exclusion principle result in a rather extreme restriction of the principle. It may be better to include superabundant foods by stating the principle as an evolutionary tendency which is often held in abeyance or opposed by an "irregularity principle": that is, biological or physical fluctuations create niches which can temporarily be exploited by more than one species, since full exploitation of a niche always lags behind the appearance of the niche. Various species, such as the tanagers at Queremal, may be well suited for exploiting a succession of irregular food supplies. What factors keep the species in somewhat separate habitats but allow them to overlap at Queremal may become evident if the species are studied carefully.

I thank John Wurdack of the U. S. National Herbarium for identifying the melastome. This study was supported by fellowships from the National Science Foundation and the Frank M. Chapman fund of the American Museum of Natural History.—EDWIN O. WILLIS, *American Museum of Natural History, New York, New York*.

#### **Red-winged Blackbirds searching beneath pine bark for insects in winter.—**

Most observers usually associate the Red-winged Blackbird (*Agelaius phoeniceus*) with open country such as marshes or upland fields and their wooded or brushy borders. On the wintering grounds in the coniferous belt of the southeastern United States, however, Red-wings spend some of their time feeding in pine forests. In the course of a day's feeding they move back and forth between pine woods and harvested fields of corn, peanuts, and cotton, or weed fields. It is not unusual to see Red-wings feeding in a scattering of pine trees at the edge of a marsh or in some upland area, but I was surprised to find them in dense stands of pine and to observe their method of feeding there.

At Burgaw, Pender County, North Carolina, 15 January 1964, at 1345 hours, I encountered a flock of approximately 2,000 male Red-wings feeding in corn stubble.

Ten minutes later, the entire flock left the corn field for the edge of a dense stand of loblolly pine (*Pinus taeda*). After alighting in the pines, some of the birds began preening; others extracted seeds from cones; still others searched for insects in the terminal buds of branches or beneath bark. The Red-wings did most of their searching beneath the bark along limbs, not up and down the trunk like a woodpecker or nuthatch. The flock gradually worked from the edge to the interior of the dense stand of loblolly pines where they continued this type of feeding until 1515 hours.

I also observed Red-wings feeding in this manner in a stand of longleaf pine (*Pinus palustris*) in the Tuskegee National Forest, Macon County, Alabama, 17 January 1965. While walking through the stand I heard what I thought was the typical sound of a woodpecker or nuthatch removing bark from a pine tree, and saw pieces of bark dropping from the tree. I expected to see a Red-cockaded Woodpecker (*Dendrocoptes borealis*) or Brown-headed Nuthatch (*Sitta pusilla*), but saw instead a group of 14 adult male Red-wings searching for insects beneath the bark of the pine tree.

I have observed Red-wings feeding in dense pine stands on several occasions over a period of five years, each time in the winter months. In no instance did this pattern of feeding seem to be associated with any unusual environmental condition.—BROOKE MEANLEY, *Patuxent Wildlife Research Center, Laurel, Maryland.*

**Abnormal tongue in a Reef Heron.**—An adult Reef Heron (*Demigretta gularis*) was taken three miles south of Hurgatta, Red Sea Governorate, Egypt. The heron was taken on the coast of the Red Sea by the author and Ibrahim Helmy (Medical Zoologist with the U. S. Naval Medical Research Unit-3, Cairo) on 1 January 1964.

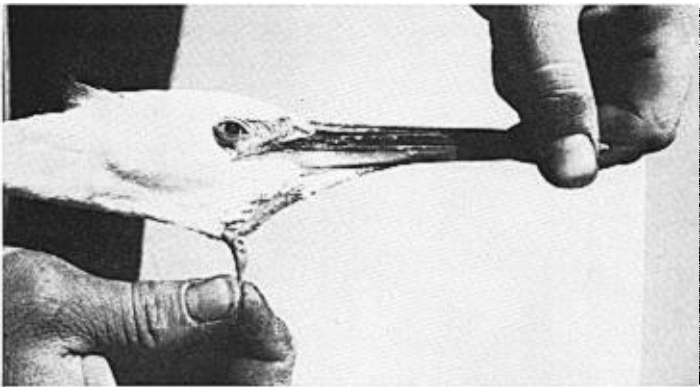


Figure 1. Reef Heron with abnormal tongue. Photograph taken in the field by Ibrahim Helmy.

On examining the specimen, we noted that the tongue was evident on the external ventral aspect of the throat (Figure 1). From the condition of the inside of the mouth it appeared that the heron had received some injury, perhaps from swallowing a spiny animal. The tongue must have protruded through the hole and the wound then healed, leaving the tongue permanently outside the body. The bird appeared to be in normal health when shot. The specimen is preserved in alcohol at the Oregon State University Museum of Natural History (no. 5581).—CHRIS MASER, *Museum of Natural History, Oregon State University, Corvallis, Oregon.*