

## OBSERVATIONS ON THE FEEDING UPON *PSITTACANTHUS CALYCVLATUS* BY BROWN-HOODED PARROTS (*PIONOPSITTA HAEMATOTIS*)

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Little is known about the diets of New World parrots (Snyder *et al.* 1978, Gnam 1988, Katak 1979, Higgins 1979, Brandt & Machado 1990, Galetti & Rodrigues 1992, Oren & Vovaes 1986, Sazima 1989, Galetti 1993). Despite this, they remain important elements of tropical forests in terms of biomass consumed, seed predation, and seed distribution.

In this study, the feeding of Brown-hooded Parrots (*Pionopsitta haematotis*) in the mountain pine ridge of Belize, Central America, is described. The Brown-Hooded Parrot is a medium-sized bird (21 cm long, 160 g) (Forshaw 1989, Smithe 1966) that occurs from southern Caribbean Mexico (Veracruz, Oaxaca, Yucatan) south to western Panama, north western Colombia, and eastern Bolivia. Despite its large range, being considered "common" in several areas, its life history and ecological requirements are poorly documented. For example, its eggs remain undescribed (Forshaw 1989). Here we report on feeding behavior of this little-known species.

### *Study site, Methods, Results*

From mid-October 1988 to mid-November 1988 we observed a population of the Brown-hooded Parrot (*Pionopsitta haematotis*) in the Mountain Pine Ridge Forest Reserve, Cayo District, Belize, Central America. The Mountain Pine Ridge Forest Reserve is a 515 km<sup>2</sup> forest receiving an annual rainfall from 1300 to 2000 mm. The area adjoins the lower montane belt where elevation exceeds 650 meters (Holdridge 1967, Hartshorn *et al.* 1984). Standley & Record (1936) were used as authorities for plant identification.

The Brown-hooded Parrot was observed, using 20 x 80 Helinon binoculars, for 32 days feeding upon the cherry-sized fruit of an aboreal

mistletoe, *Psittacanthus calyculatus* in the crowns of Caribbean Pine (*Pinus caribaea*). From 07:00 to 18:00 we observed 2–20 (mean 12, n = 28 ± 4) parrots enter the crown of pines and feed upon the mistletoe. Observations were made daily except for four days in which heavy rains prevented feeding. The parrots landed on exposed branches and walked into the outer portion of the crown where the mistletoe grew. The parrots left the area at sunset returning at sunrise. It is not known if the same individuals returned daily or if some nourishment was obtained at times other than during our observational period (e. g., roosting).

The greatest feeding activity appeared from 07:00 to 09:00 h and again between 16:00 and 18:00 h. Between 09:00 and 16:00 h birds could be seen vocalizing, preening and "occasionally" feeding. During peak times feeding represented 90 % of the parrot's activity. During non-peak times about 10 % of the total activities were to feeding. Red-lore Parrots (*Amazona autumnalis*) were also observed in the crowns of the pines and flying overhead each morning, but we did not observe them feeding upon the mistletoe fruits. Such feeding, however, has been noted by others (D. James, *pers. comm.*).

### DISCUSSION

In the genus *Pionopsitta*, the only published dietary notes are those of *P. haematotis* feeding on figs (*Ficus* spp., Maraceae) in the forests of western Panama (Wetmore 1968), corn (Land 1970), bananas (Olivares 1957), berries of small or mid-sized tree, *Myrciara floribund* (Skutch 1981), fruits of *Cecropia obtusifolia* (Estrada 1984) and "fruits and seeds" (Gonzales-Garcia 1992, Hallinan 1924).

Roth (1983) observed the closely related Orange-cheeked (Barraband's) Parrots (*P. barrabandi*) in Brazil feeding on 6 plants including 3 Moraceae, 2 Leguminosae, and 1 Olacaceae. Howell (1971) noted Pale-vented Pigeons (*Columba cayennensis*) feeding on the mistletoe (*Psittacanthus mayanus*) in Nicaragua. Additionally, feeding upon mistletoe fruits by euphonias and chlorophonias, whose digestive system appear specialized for their consumption, has been noted by Davidar (1987) and Snow & Snow (1988). The Brown-hooded Parrot has been recorded from sea-level to 1900 meters (Wetmore 1968). Its feeding upon mistletoe fruits may indicate opportunistic feeding behavior as the species preferred habitat appears to be lowland and lower montane rainforest (Monroe 1968). Given the small size of mistletoe fruits the possibility of parrots dispersing seed through endozoochory should be investigated.

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