

Observations on the Diet of the Christmas Island Owl

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The Christmas Island Owl *Ninox squamipila natalis* is restricted to Christmas Island, Indian Ocean (10°25'S., 105 43'E.). It inhabits the thick, relatively undisturbed forest of the plateau and shore terraces of the island (Gibson-Hill 1947). The ICBP Bird Red Data Book (King 1981) lists it as 'rare', with recent population estimates of less than 100 individuals (van Tets 1976). Habitat destruction for phosphate mining poses a threat to this species, as well as to other endemic forms; conservation measures proposed include protection of forest areas and the revegetation of mined areas (King 1981). A portion of the southwestern corner of the island was recently set aside as a national park. For effective management programs to be implemented, information of the species' biology is required.

Because of the paucity of information of the Christmas Island Owl, morphometrics and stomach content analyses of three recent specimens are presented. Two were found dead near human habitation in 1981 (exact dates not known) by Mr J. Hicks and are now deposited as study skins in The Australian Museum. The third was found on 14 May, 1984, by H. Yorkston; it has been made into a skin/skeleton preparation.

Specimen AM 0.56477; adult female, oviduct not enlarged but curled indicating that the bird had previously bred; weight 190 g; total length 280 mm; wing 200 mm; tail 138 mm; exposed culmen 25.4 mm; tarsus 36.3 mm; no moult; skull fully pneumatized.

Stomach contents: (reptile) gecko *Hemidactylus frenatus*, whole individual, snout-vent length 55 mm, approximate weight 3.5 g; (insect) cockroach *Periplaneta americana*, 1 relatively intact adult, length 35-40 mm, plus 11 heads; mantid fragments, including complete forefemur, length 18 mm.

Specimen AM 0.56512; adult male, testes slightly enlarged; weight 130 g; total length 270 mm; wing 200 mm; tail 125 mm; exposed culmen 24.3 mm; tarsus 36.0 mm; no moult; skull fully pneumatized.

Stomach contents: (insect) cockroach *P. americana*, fragments only.

Specimen AM 0.57984; adult female, oviduct curled, perhaps slightly thickened, indicating that the bird had previously bred; weight 130 g; total length 272 mm; wing 198 mm; tail 131 mm; exposed culmen 24.7 mm; tarsus 38.5 mm; no moult; skull fully pneumatized.

Stomach contents: (reptile ?) small bones; (insect) grasshopper and beetle, fragments only.

The stomach content analysis supports previous reports that this species feeds on large insects and to a lesser degree small vertebrates (lizards and birds) (Ovington 1978). It is of interest that the major prey species of these specimens are not indigenous to Christmas Island. *H. frenatus*, commonly called the House Gecko, is widespread and has been introduced to many islands, including Australia. It is nocturnal and arboreal and usually confined to human settlements. Cogger, Sadler and Cameron (1983), during a survey of the reptiles of Christmas Island, recorded it from around both occupied and abandoned buildings, old plantations and other disturbed areas, but did not find it in adjacent native climax forest. The cockroach *P. americana* is a cosmopolitan nocturnal pest of dwellings, markets and storehouses.

Although the Christmas Island Owl requires undisturbed habitat for breeding, the stomach analysis indicates that they are able to obtain food from disturbed areas such as human settlements. It is important to the conservation of

this species that despite habitat changes it is not totally excluded from such areas. That birds were found dead around habitation, possibly because of collisions with buildings or automobiles (based on post-mortem examination), suggests, however, that such an association is not entirely beneficial.

References

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Tool Use by the Palm Cockatoo *Probosciger aterrimus* During Display

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The Palm Cockatoo *Probosciger aterrimus* is distributed through the rainforests of northern Cape York Peninsula, Queensland, Aru Islands and New Guinea (Foreshaw, 1969).

The following observations were made at Iron Range, north-eastern Cape York Peninsula during a six month period between March and August 1983. At three localities in the Iron Range area, Palm Cockatoos were found displaying atop dead eucalypt trunks; in all cases these trunks were hollow, near vertical, had been broken off and stood 10 to 15 m tall. Two were at the edge of rainforest and one within one kilometre of it. Two of the localities were observed regularly and each appeared to be within the territory of a pair of cockatoos. Maximum activity at these display sites took

place early in the morning and late in the afternoon, chiefly in June and July but also at other times of the year.

My curiosity was first aroused by loud tapping sounds coming from the forest. Subsequent investigation revealed the source; I was camped not more than 60 m from one of these display sites. As I had been occupying this campsite continuously for 14 weeks (since the beginning of March), activity at this display site did not commence until early June. Activity increased through June, then tailed off through July.

Observations

Early one morning I awoke to the sound of loud knocking coming from the display site near my camp. On investigation I found a Palm