

TRADITIONAL USE OF LIMESTONE CAVE BY NESTING GREEN PARAKEETS (*ARATINGA HOLOCHLORA*)

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Little is known regarding the nesting biology of the Green Parakeet (*Aratinga holochlora*). The nominate race of the Green Parakeet *A. h. holochlora* occurs in tropical and subtropical woodlands, farmlands, and plantations in Mexico from southwestern Chihuahua and southern Nuevo Leon south into Veracruz (AOU 1983). A related race, the Socorro Parakeet *A. h. brevipes* (often considered a separate species) inhabits forested regions of the island of Socorro in the Revilla Gigedo Group off the west coast of Mexico (Forshaw 1989). An additional subspecies, the Pacific Parakeet (*A. h. strenua*), occurs from Chiapas, Mexico south into El Salvador (Howell & Webb 1995). In this paper we report on the colonial nesting of the Green Parakeet *A. h. holochlora* in the walls of a limestone cave in southern Tamaulipas, Mexico.

STUDY SITE, METHODS, RESULTS

A large limestone cave (dimensions: 40 m wide x 20 m high x 35 m deep) with its entrance within a cliff face approximately 100 m above highway 85, is 3 km southwest of the city of Mante, Tamaulipas on the outskirts of the small village called "El Abra". The cave was visited on 26 August 1983 by J. Eitniewar, S. McGehee, and W. Crawford and again 17–18 January 1984 (J. Eitniewar, S. McGehee, and W. Waddell). Additional observations were recorded by S. McGehee, B. Brown, and D. Ladd from 1–2 March 1987. The cave was not visited again until 2 March 1997 by J. Eitniewar, M. Gartside, and A. Aragon T. On 16 May 1997 J. Eitniewar, A. Aragon T., and J. T. Baccus returned to the

site. A. Aragon T. revisited the site on 8 July 1997.

Nesting activities were documented 17–18 January 1984 (Eitniewar 1984). During this time young parakeets were leaving their nest sites within the cave wall. One parakeet was removed from a nest in a crevice and photographed (see Eitniewar 1984). Another was found dead on the floor of the cave. On 16 May 1997 at 16:00 h we observed 12 birds (reduced from 26 noted on 27 March 1997) all in pairs. In addition to the six pairs, three recently fledged birds, of lighter coloration, were perched together on a stick protruding from the cave wall. Parakeets were present at the cave during all visits.

During August 1987 and during all 1997 visits a pair of Bat Falcons (*Falco rufifigularis*) were observed either chasing or feeding upon parakeets.

DISCUSSION

Previous reports of Green Parakeets nesting include Gehlbach *et al.* (1976) who observed nesting in cavities during early April in trees along the banks of the Rio Corona, west-central Tamaulipas. During November of 1990 and December 1992, Rodriguez-Estrella *et al.* (1995) located seven nests of Socorro Parakeets all in cavities 2.3–3.8 m above the ground in *Bumelia socorrensis* trees. Three cavities were reused in 1992. According to Thurber *et al.* (1987) Pacific parakeets in El Salvador breed from June–September in cavities in vertical rock faces. Additional observations of Green Parakeets nesting is reported by E. Enkerlin (pers. comm.)

230 km southeast of the cave near the city of Aldama. According to Enkerlin, Green Parakeets nest at Rancho Los Colorados in Chaca trees (*Bursera simaruba*) from June to August. Nest cavities chosen are frequently abandoned cavities excavated by Golden-fronted Woodpeckers (*Melanerpes aurifrons*).

Nesting dates vary substantially throughout this species' range with nesting reported from November until August. Rodriguez-Estrella *et al.* (1995) reports that nesting is determined by food resource availability with fruits and seeds from *Bumelia socorrensis*, *Guettarda insularia*, and *Psidium socorrense* constituting the diet. A young parakeet's crop examined by J. Eitniear during August at Aldama, Mexico, also contained fruits. One dead parakeet found at our cave site, however, had a crop full of dried seeds the size of millet (*Panicum*). Given the more arid location of the cave, fruits may not have been available. This warrants further investigation.

The predation by falcons and the subsequent mobbing of raptors by parakeets is well documented in the literature (Cade 1982, Eitniear *et al.* 1990). While the number of parakeets declined from approximately 70 birds in 1983 to 26 in 1997 it is likely due to the capturing of parakeets for the pet trade and not due to excessive predation by falcons and other raptors.

Nesting in colonies in rock crevices and singularly in pairs in tree cavities, by the same species of a New World psittacine, is seldom encountered. Additional examples of this behavior include the Military Macaw (*Ara militaris*) known to nest in both tree cavities and colonial in rock crevices in western Mexico (Rowley 1984) and the Puerto Rican Amazon (*Amazona vittata*), Hispaniolan Parrot (*A. ventralis*), and Cuban parakeet (*Aratinga enops*), all Caribbean island species that both nest in tree cavities and in cliff/cave potholes (Snyder *et al.* 1987, J. Wiley, pers. comm.). However, both the Maroon-fronted Parrot (*Rhynchopsitta terrisi*)

and Patagonian Parakeet (*Cyanoliseus patagonus*) nest in cliff faces but have not been documented to also nest in tree cavities (Forshaw 1989).

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