

OBSERVATIONS ON NESTING BEHAVIOR OF THE COMMON POTOO IN VENEZUELA

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Abstract.—Reproductive behavior of potoos (*Nyctibiidae*) is not well known; this paper reports nesting behavior of a pair of Common Potoos (*Nyctibius griseus*) during the rainy season in central Venezuela. The nest site was observed from 31 May 1991 to 20 Aug. 1991. The single nestling was first seen 8 July, and was brooded by a parent until 18 July. It then roosted alone at the nest until its departure on 11 August, at an estimated age of 49 d. Adult potoos displayed three types of nest defense: remaining motionless (relying on camouflage), cautious movement to conceal the nestling, and employing an active, vocal distraction display at night.

OBSERVACIONES SOBRE LA CONDUCTA DE ANIDAMIENTO DE *NYCTIBIUS GRISEUS* EN VENEZUELA

Sinopsis.—Se conoce muy poco sobre la conducta reproductiva de los *Nyctibiidae*. En este trabajo se informa la conducta de anidamiento de una pareja de *Nyctibius griseus* durante la época de lluvias en la parte central de Venezuela. Se observó por primera vez el polluelo en julio 8 el cual fue cubierto por sus padres hasta el 18 de julio. De esta fecha en adelante, el polluelo permaneció solo en el nido hasta su partida el 11 de agosto, a una edad estimada de 49 días. Los adultos presentan tres tipos de defenza del nido. A saber: a) manteniéndose inmóviles (dependiendo de su camuflage natural), b) movimientos cuidadosos para cubrir al polluelo, y c) empleando una distracción vocal por las noches.

One of the most unusual groups of birds in the tropical Americas is the *Nyctibiidae*, or potoos. This small family of nocturnal birds has cryptic coloration and an upright, unmoving stance during the day, which provide an effective mimicry of the branches on which they perch. Information on behavioral ecology of potoos is sparse. The most complete works to date are observations of Common Potoos (*Nyctibius griseus*) by Skutch (1970) in Costa Rica, and Alvarez del Toro (1971) in Chiapas, Mexico. This paper documents some previously undescribed behavior of nesting Common Potoos.

METHODS

Observations were made at Hato Masaguaral, a ranch in the llanos (plains region) of Guarico state, Venezuela. The vegetation types and climate of this study site are described by Troth (1979). The potoo nest was located in shrub woodland bajo, a seasonally flooded semi-open forest type.

As a result of other research commitments, observation times were opportunistic rather than systematic. Most nest watches occurred in the early afternoon, and consisted of 10–20 min observation with Zeiss 10 × 50 binoculars from a distance of 15 m. Work schedules and the availability of moonlight allowed only one night watch, and the unstable position of the nest prevented accessing it directly.

The nest was situated atop a dead *Zanthoxylum culantrillo* snag, approximately 15 cm in diameter and 5 m high, and consisted of a shallow depression, apparently with no material added by the birds. A potoo was first seen at the site on 31 May 1991, and at least one had been heard in the vicinity earlier (S. Stolson, pers. comm.). I began observations 2 June, and visited the site every 2–3 d. It was not confirmed that this was an active nest until the chick was first seen on 8 July, although the chick must have been present and concealed by the parent for many days by this time (see Discussion). After 8 July, the nest was visited a minimum of once every 2 d until the young potoo was no longer brooded by day, at which time observations became less frequent.

RESULTS

The adult potoo(s) observed at the nest always assumed an alert, or alarm posture when approached, and confined its movements to imperceptibly slow turns of its head to keep the intruder in view. This pose, with raised bill, compressed plumage, and outstretched neck, enhances the branch-mimicking camouflage (Alvarez del Toro 1971, Borrero 1974). Borrero's (1974) report that Common Potoos require 17–23 s to attain the posture is consistent with my observations. If undisturbed for 10–15 min, the potoo would gradually relax to a less rigid resting position.

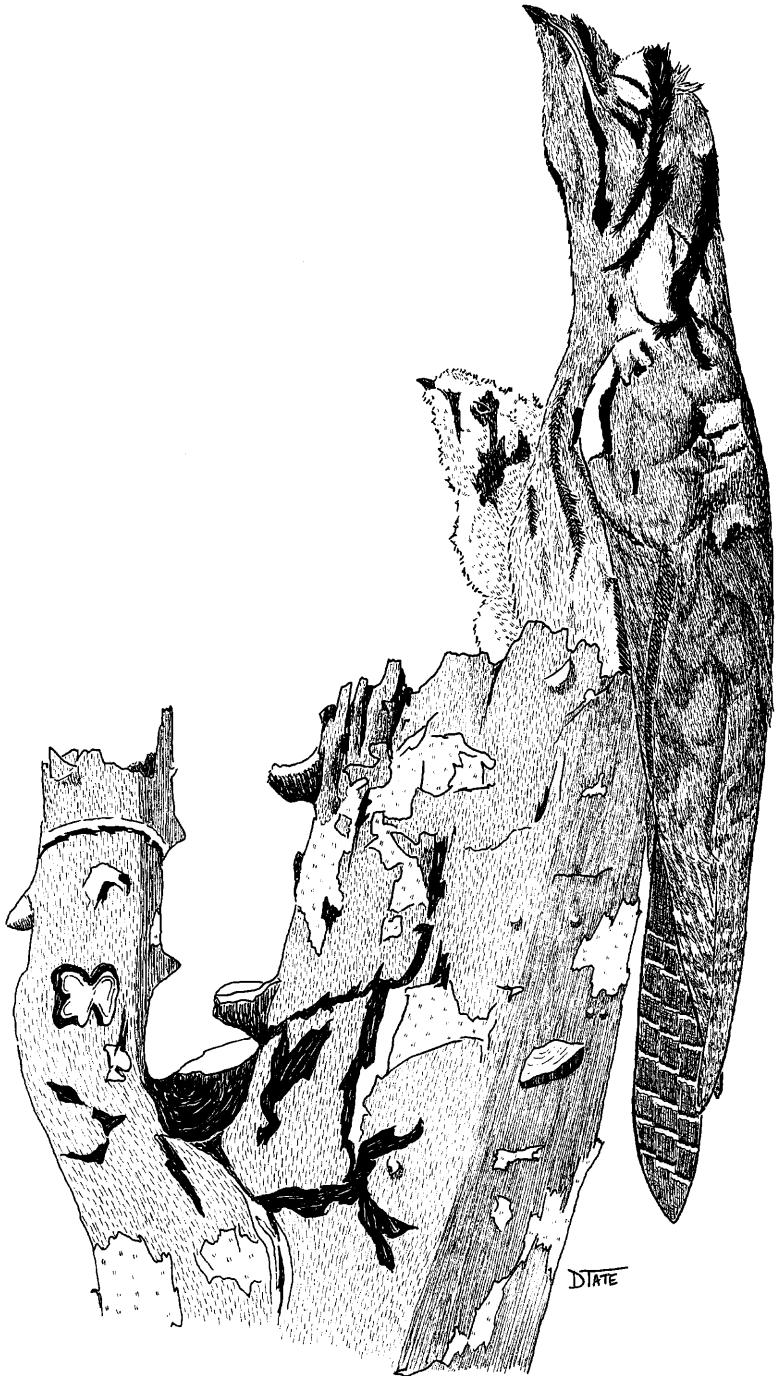
A second adult potoo was discovered on 14 July, perched at an elbow bend of a tree 250 m northwest of the nest site. It was not known if this bird was the mate of the bird on the nest. This second bird never assumed the alarm pose; it maintained a relaxed posture even when closely approached.

The single potoo nestling was at first covered in whitish down, speckled black, with a dark bill and eyeline. It was 12 cm long on 9 July, measured (from photograph) relative to the adult potoo (length 38 cm, Meyer de Schauensee and Phelps 1978). The nestling grew rapidly over the following 2 wk. On 11 July, its tail was visible over the stump edge. By 14 July, the head and body length of the young potoo was nearly two-thirds that of the adult, although it appeared much slimmer, and contour feathers were prominent.

Up to and including 15 July, both adult and chick were always in the same position when approached. The adult perched upright on the south edge of the stump, facing inwards with its long tail pressed against the trunk or hanging parallel to it. The nestling was always in front of, and facing the same direction as its parent (see Fig. 1). An advantage of this orientation was seen on the morning of 15 July, during one of the frequent heavy rainstorms of the season. By leaning slightly forward, the

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FIGURE 1. Brooding position of adult and nestling Common Potoo, showing adult in alarm posture.



adult potoo shielded the nestling from rainfall without compromising its own camouflage.

On 16 July, the young potoo perched beside its parent on the stump rim. On the following day, the young potoo was seen alone for the first time. An adult potoo was again seen at the nest on 18 July, but thereafter the nestling was alone during the day.

The young potoo was capable of at least short flights by 7 August, when it was found on a branch of the nest tree to which it could not have walked. Its plumage was now grayer and more adult-like, with tail feathers slightly more than half the length of an adult's. Over the next 3 d the chick was seen on three different perches, in the nest tree and in another tree nearby. The fledgling potoo was gone from the nest area on 11 August (P. Curlee, pers. comm.) and was not seen again. Several searches after this date found no potoos in the nest vicinity or at the other known perch.

Development of the cryptic alarm posture was part of the maturation process. By 15 July, the young potoo would always assume the alarm pose upon my approach, but it relaxed sooner than the attending adult. The chick also moved more frequently. An unusual behavior by the adult(s) at the nest, which functioned to conceal the nestling, was recorded on two occasions.

On 11 July, I observed the nest from an open area 15 m away, from which both adult and young were clearly visible in profile. After assuming the alarm pose the adult remained motionless for 2 min, then began moving to its left. The motion was slow and fluid enough that only the bird's change in position was noticed, not the motion itself. The movement lasted for approximately 3 min, and described an arc of nearly 90° around the stump edge. In doing this, the adult intercepted my line of vision to the chick, which was now effectively obscured by the back of the adult. I then approached more closely, and watched from a new location with the nestling again in sight, but the adult did not change position except for slight turns of its head.

On 15 July, five observers arrived at the nest site. I watched from the same position as 11 July while the potoos were observed and photographed by others at closer range. The adult potoo remained motionless during this time. Four observers then left; I remained to continue observations. Once again, the adult potoo crept slowly sideways until the nestling was hidden from view, taking about 3 min to complete the movement.

On the night of 21 July observation began at 2230, and the young potoo was alone at the nest. There was no sight or sound of adult potoos until 2305, when an adult arrived swiftly and silently on the stump edge in front of the young. After a slight pause the adult lowered its bill and appeared to feed the nestling.

When a flashlight was shone on the potoos, they both immediately assumed the alarm posture, and remained motionless for 3–4 min after the light was turned off. I then attempted to elicit a response by imitating

the potoos' voice. An answer came from the opposite direction. The adult on the nest then flew towards the calling bird and gave a different call.

Upon closer approach, the two potoos alternately flew a short distance ahead, landed in a conspicuous location, and called. This leapfrogging continued until I had been led approximately 300 m away from the nest. Beyond 300 m, both birds fell silent and one was seen flying back towards the nest tree.

DISCUSSION

In Costa Rica, Skutch (1970) found the Common Potoo breeding during the dry season, and concluded that this was typical for the species. Alvarez del Toro (1971), however, reports that Common Potoos breed in the rainy season in southern Mexico, and nesting activity in Venezuela was observed from May through August (this study), entirely within the wet season of the region (Troth 1979). The Great Potoo (*N. grandis*) also breeds during the wet season at this site (Vanderwerf 1988).

Although both parents incubate and brood in the Common Potoo, usually the same individual attends the nest by day (Alvarez del Toro 1971, Skutch 1970), suggesting that my observations are primarily of the same individual. According to Skutch (1970), the parent is capable of completely concealing the chick for several days after hatch, and the bird I observed appears to have done this. By comparing the nestling's size, appearance and development with descriptions and photographs by Alvarez del Toro (1971), Borrero (1970) and Skutch (1970), I estimated the hatch date to be 23 Jun. 1991.

Skutch (1970) used failure to return to the nest site as a measure of nestling period, which was 51 d in Costa Rica. This standard would indicate a nestling period of approximately 49 d for the potoo I observed. A Great Potoo in the same vicinity had a nestling period of at least 55 d (Vanderwerf 1988).

The behaviors described in this paper suggest that Common Potoos adopt different defensive strategies depending upon circumstances. For a lone potoo, or a brooding adult with an active predator close to the nest, the best course to avoid detection is to remain motionless and rely on camouflage. In the case of a more distant, localized threat, however, the risks resulting from very gradual movement by an adult are exceeded by the advantages of concealing the less cryptic nestling.

Nocturnal predators rely less on vision for locating prey (McFarland 1985), therefore a different strategy may be required at night. Distraction displays are known to occur in many bird species (Ehrlich et al. 1988) and have been recorded among other Caprimulgiformes such as the European Nightjar (*Caprimulgus europaeus*), Poorwill (*Phalaenoptilus nuttalli*) and Lesser Nighthawk (*Chordeiles acutipennis*) (Armstrong 1949b). A gaping threat display has been described for nestlings of both the Great Potoo (Haverschmidt 1948) and Common Potoo (Borrero 1970), but no documentation of adult distraction displays among the *Nyctibidae* could be found. The conspicuous movements and vocalizations exhibited by the

pair of potoos observed in Venezuela suggest that an advertising distraction display (Armstrong 1949a) does exist among Common Potoos.

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