

SHORT COMMUNICATION

## Nesting of the Common Potoo, *Nyctibius griseus* (Gmelin, 1789) (Aves: Nyctibiidae) in an urban environment in central Cerrado

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### Abstract

This is a report on two nesting attempts by the Common Potoo (*Nyctibius griseus*) in an urban environment at Palmeiras de Goiás, Goiás state, central Brazil. In December 12, 2006, a nest was found on a tree (*Caesalpinia pothoroides*), 2.8 m above the ground. This nest contained a white egg with dark red and brown patches. A few days later, no eggs were found in this nest. Other nesting attempt was recorded on October 9, 2007, when a chick was found in the same place used as nesting site in 2006. The young was not found in the next days. Our study is the first to document the nesting of *N. griseus* in the Cerrado core area.

**Key words:** Caprimulgiformes, nest site, Cerrado, urban ecology.

Potoos (Nyctibiidae) are nocturnal and cryptic birds endemic to the Neotropical region (Sick, 1997). The seven species inhabit mainly forests, where they spend the day perched on broken trunks or branches keeping a vertical posture (Cohn-Haft 1999). They most often feed on flying insects during the crepuscular period or at night (Cohn-Haft 1999). Potoos are monogamous birds that nest on tree depressions to which they add no nesting material (Vanderwerf, 1988; Sick, 1997; Cohn-Haft, 1999; Lopes & Anjos, 2005).

The Common Potoo (*Nyctibius griseus*) is widely distributed throughout most of the Neotropics (Sick, 1997; Sigrist, 2006). It can be found in a wide range of habitats such as woodlands, savannas, secondary forests and mangroves (Sick, 1997; Cohn-Haft, 1999; Cooper & Kay, 2004). Camouflage and behavior are similar to those of other species of the family (Tate, 1994; Cohn-Haft, 1999). Despite being considered a common species, with low sensitivity to human disturbance, its biology remains poorly known (Tate, 1994; Stotz et al., 1996, Cohn-Haft, 1999).

The breeding biology of *N. griseus* has been examined in detail in a few countries, such as Costa Rica, Ecuador, Mexico

and Venezuela (Skutch, 1970; Tate, 1994; Greeney et al., 2004), and few studies were developed in Brazil. For example, Goeldi (1896) described its nest in forests of Rio de Janeiro. A more detailed description of its breeding habits involved observations on two nests in a University campus in southern Brazil (Lopes & Anjos, 2005). As a result of the scarcity of studies, the breeding biology of *N. griseus* remains little or not known in several Neotropical regions, including the Cerrado.

This study reports on two nesting attempts by *N. griseus* in the urban environment of Palmeiras de Goiás (16°52'30" S; 49°52'30" W; at an altitude of 600 m), central Goiás state, Brazil, in the core area of the Cerrado domain (Brazilian savanna). This municipality harbors about 21,000 people within an area of 1,540 km<sup>2</sup> (IBGE, 2007), and is located 79 km from Goiânia (the state capital). The original landscapes around the city were typical of the Cerrado region (Eiten, 1972; Oliveira & Marquis, 2002), with grasslands and savanna woodlands dominating uplands, and gallery forests, marshes and *veredas* occurring in the valleys. Due to intense agriculture and wood extraction in the last years, Palmeiras de Goiás is now surrounded by soybean, corn and eucalypt plantations. Remnants of forest and non-forest native vegetation are embedded within these exotic-vegetation matrix. The regional climate is tropical and marked by two well defined seasons – wet and dry (Assad, 1994). Most of the annual precipitation (1,200 mm to 2,000 mm) falls between October and March. The

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**Figure 1** - Nest of *Nyctibius griseus* with an egg in the urban zone of Palmeiras de Goiás, central Brazil, in mid December 2006.

dry season occur between May and September. June and July are the coldest months, while higher temperatures occur between December and February (Assad, 1994). The neighborhood where the nesting tree was located was composed of residences and commercial buildings. Most streets are paved and car traffic can be intense. Observations on both nests occurred every 2-3 days until the nest content (egg or chick) disappeared.

**First nesting attempt.** A nest of *N. griseus* was found on a tree (*Caesalpinia pothoroides*, Fabaceae), in December 12, 2006. On the occasion, an adult was on the nest, its vertical posture making it resemble the apex of a broken branch, as described previously (Tate, 1994; Cohn-Haft, 1999; Sick, 1997; Lopes & Anjos, 2005; Sigrist, 2006). The nesting tree was adjacent to other four trees, forming a continuous canopy. Around this group of trees, shrubs were absent and grasses occurred as isolated patches. The nesting tree was on the walking side of a paved road with intermediate car traffic.

The nest was 2.8 m above the ground, higher than nests reported in Goeldi (1896), but lower than nests found in other studies (Muir & Butler 1925, Skutch 1970, Borrero 1970, 1980, Tate 1994, Lopes & Anjos 2005). The nest cavity, nearly round, was close to the major trunk of the tree (Fig. 1), formed by the decomposition of the interior of the basal portion of a broken branch. This is a nest of the “simple/unlined type” of the “elementary standard” of Simon & Pacheco’s (2005) classification; narrower (33 mm in diameter) than those of nest cavities described previously (Goeldi, 1896; Muir & Butler, 1925; Borrero, 1970; Lopes & Anjos, 2005), and with a depth (22 mm deep) comparable to those of nests found in southern Brazil (Lopes & Anjos, 2005).

The nest had only one white egg, with dark red and brown patches concentrated on its equator and large pole as described in previous studies examining the reproduction of *N. griseus* in other regions (Cohn-Haft, 1999; Cooper & Kay, 2004; Lopes &

Anjos, 2005). No material was found in the nest, in agreement with findings of potoo nests elsewhere (Goeldi, 1896; Muir & Butler, 1925; Skutch, 1970; Borrero, 1980; Tate, 1994; Cohn-Haft, 1999; Lopes & Anjos, 2005). Also, no feces were found inside or below the nest, similarly to reports by Skutch (1970) and Lopes & Anjos (2005). This clean aspect probably reduces the probability of nest finding by predators, as suggested for birds in general (Sick 1997).

**Second nesting attempt.** In December 9, 2007, an adult and a chick were found on the same cavity used as nesting site in the previous year. The adult was partially covering the chick with its abdominal feathers. Both the adult and young were in vertical position, as reported previously for this species (Tate, 1994; Cohn-Haft, 1999; Lopes & Anjos, 2005). The chick was totally covered by white down, as reported for recently-born youngsters (Lopes & Anjos, 2005). On few occasions, the adult adjusted its position on the nest, trying to hide the young. As occurred in the previous nesting attempt, no feces or nesting materials were found on the nest or in the tree surroundings.

The last months of the year are usually marked by both high temperatures and precipitation in the study area (Assad, 1994). During this period, artificial lights in the city attract high quantities of insects (L. G. A. M., pers. obs.). Thus, the nesting period of *N. griseus* at Palmeiras de Goiás appears to occur during high food availability. According to Cohn-Haft (1999), the breeding activities of potoos may be restricted to a short period in some localities. Our findings are in agreement with Tate (1994), who recorded the reproduction of *N. griseus* during the rainy season in central Venezuela, and with Lopes & Anjos (2005), who found two nests of *N. griseus* during a rainy, warm period in southern Brazil.

Consecutive visits to the nesting tree revealed the development of the breeding attempts. In January 8, 2007, after the first nesting attempt, no eggs were found in the nest. Detailed search in the surroundings of the tree did not result in the finding of egg pieces or of the young and it was concluded that the nest was preyed. On the other hand, the young produced in the second nesting attempt could be followed for more than 10 months, but was not seen in the nest after October 28, 2008. In the last visit it was found on the nest, it was nearly the size of an adult, and most of its cover and flight feathers were developed. We are unsure about the success of this breeding attempt, as this young potoo could have flown out of the nest or been preyed. Although *N. griseus* may find suitable conditions for reproduction (insects and nesting trees) in urban environments, their nesting success may be threatened. We suggest that the most likely nest predators in the study area are people and domestic cats. Our study is the first to document the nesting of *N. griseus* in the Cerrado core area, although these records were done in an urban environment. Studies conducted in Cerrado natural landscapes are still needed for the understanding of the common potoo reproduction in Central Brazil.

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#### References

- Assad, E. D. 1994. **Chuva nos cerrados. Análise e Espacialização.** Embrapa/SPI, Brasília, 423 pp.
- Borrero, J. L. 1970. Photographic study of the potoo in Colômbia. **Living Bird, 9:** 257-263.
- Borrero, J. L. 1980. Notas sobre el comportamiento del Perico de Pluma (*Nyctibius griseus*). **Lozania, 32:** 1-6.
- Cohn-Haft, M. 1999. Family Nyctibiidae (potoos). In: del Hoyo, J.; Elliot, A. & Sargatal, J. (Ed.). **Handbook of the Birds of the World. Vol. 5: Barn-owls to Hummingbirds.** Barcelona, Lynx Edicions. pp. 288-301
- Cooper, D. & Kay, B. 2004. Common Potoo *Nyctibius griseus*. **Cotinga, 22:** 95-96.
- Eiten, G. 1972. The cerrado vegetation of Brazil. **Botanical Review, 38:** 205-341.
- Goeldi, E. A. 1896. Sobre a nidificação do *Nyctibius jamaicensis*, Urutáo e *Sclerurus umbretta*, Vira-Folha. **Ibis, 7:** 210-217.
- Greeney, H. F.; Gelis, R. A. & White, R. 2004. Notes on the breeding birds from an Ecuadorian lowland forest. **Bulletin of the British Ornithologist's Club, 124:** 28-37.
- IBGE. 2007. **Cidades.** Rio de Janeiro. Fundação Instituto Brasileiro de Geografia e Estatística. Website: <http://www.ibge.gov.br/cidadesat/default.php>
- Lopes, E. & Anjos, L. C. 2005. Observações sobre a reprodução de *Nyctibius griseus* no campus da Universidade Estadual de Londrina, norte do Paraná. **Ararajuba, 13:** 109-112.
- Muir, A. & Butler, A. L. 1925. The nesting of *Nyctibius griseus* (Gmel.) in Trinidad with photographs by Alec Muir, and some remarks by A. L. Butler. **Ibis, 12:** 654-659.
- Oliveira, P. S. & Marquis, R. J. 2002. **The Cerrados of Brazil. Ecology and Natural History of a Neotropical Savanna.** New York, Columbia University, 398 pp.
- Sick, H. 1997. **Ornitologia Brasileira.** Rio de Janeiro, Nova Fronteira, 862 pp.
- Sigrist, T. 2006. **Aves do Brasil. Uma Visão Artística. Birds of Brazil. An artistic view.** São Paulo, Fوسفertil, 672 pp.
- Silva, J. M. C. 1995. Birds of the Cerrado region, South America. **Steenstrupia, 21:** 69-92.
- Simon, J. E. & Pacheco, S. 2005. On the standardization of nest description of neotropical birds. **Revista Brasileira de Ornitologia, 13:** 143-154.
- Skutch, A. 1970. Life history of the Common Potoo. **Living Bird, 9:** 265-280.
- Stotz, D. F.; Fitzpatrick, J. W.; Parker III, T. A. & Moskovits, D. K. 1996. **Neotropical Birds: Ecology and Conservation.** Chicago, University of Chicago, 478 pp.
- Tate, D. P. 1994. Observations on nesting behavior of the Common Potoo in Venezuela. **Journal of Field Ornithology, 65:** 447-452.
- Vanderwerf, E. A. 1988. Observations on the nesting of the Great Potoo (*Nyctibius grandis*) in central Venezuela. **Condor, 90:** 948-950.