ISSN (impresso) 0103-5657
ISSN (on-line) 2178-7875

Revista Brasileira de Ornitologia

Volume 19
Número 3
Setembro 2011

www.ararajuba.org.br/sbo/ararajuba/revbrasorn

Publicada pela
Sociedade Brasileira de Ornitologia
São Paulo - SP

Revista Brasileira de Ornitologia, 19(3), 424-427
Setembro de 2011

NOTA

The baby shall stay safe: the Common Potoo leaves the daytime perch and protects its nestling from rainstorm

Ivan Sazima

Museu de Zoologia, Caixa Postal 6.109, Universidade Estadual de Campinas. Cidade Universitária, CEP 13083-970, Campinas, SP, Brasil. E-mail: isazima@gmail.com (retired and associated as voluntary researcher).

Recebido em 13/03/2011. Aceito em 22/05/2011.

RESUMO: O bebê deve ficar seguro: a mãe-da-lua deixa seu poleiro diurno e resguarda o ninhego durante tempestade. Urutaus (Nyctibiidae) são aves noturnas que deixam seu poleiro diurno somente quando ameaçadas diretamente. Registro aqui um episódio de mãe-da-lua *(Nyctibius griseus)* que saiu do poleiro diurno para resguardar seu ninhego de tempestade com fortes rajadas de vento e chuva pesada. O adulto ficou em postura encolhida, abrigando o ninhego na plumagem do peito e formando com a cabeça um tipo de cobertura por cima do filhote, que se aconchegou ao corpo do adulto. O ninhego estava sozinho no poleiro havia dois dias, por seu tamanho ter ultrapassado a capacidade do ninho de abrigar dois indivíduos confortavelmente. Durante chuvas menos fortes, em dias antes e depois da tempestade, o ninhego permaneceu sozinho no poleiro, indicando que o adulto tem percepção do risco que o filhote pouco desenvolvido corre durante grandes tempestades. Em situações similares, é previsível que este tipo de cuidado parental seja registrado para outras espécies de *Nyctibius.*

PALAVRAS-CHAVE: *Nyctibius griseus;* Deslocamento diurno; Proteção à prole.

KEY-WORDS: *Nyctibius griseus;* Diurnal movement; Parental care.

The potoos (Nyctibiidae) are nocturnal birds that remain stationary during the day perched on a variety of roosts such as stumps, branches dead or alive, and leave the perch or nest only when directly threatened (ffrench 1991, Cohn-Haft 1999). The Common Potoo *(Nyctibius griseus)* usually lays one egg on upright or strongly angled broken branches or stumps, snags, elbow bends of branches dead or alive, which have a slight depression or a knothole on the top to accommodate the egg and later the nestling (*e.g.,* Muir and Butler 1925, Skutch 1970, Cohn-Haft 1999, Lopes and Anjos 2005, Cestari *et al.* 2011).

The individual that incubates during daytime is presumed to be the male, whereas the female would brood at night (Cohn-Haft 1999). When the nestling is too large for an adult to perch with it comfortably, the daytime attending parent stops brooding and the chick remains alone on the nest while the adult perches elsewhere (Cohn-Haft 1999, IS *pers. obs.*).

Herein I record an episode in which an adult, which brooded during the day but left the nestling unattended at daytime two days earlier, left its daytime perch and protected the nestling during a rainstorm. I comment on this apparently unusual daytime behaviour and provide a few additional insights on the parental care among the Nyctibiidae.

METHODS

The brooding potoo individual and later the nestling alone were observed at nest on an almost vertical, broken branch of a tree that borders a walkway (~ 22°49'05"S, 47°04'16"W) in the campus of the Universidade Estadual de Campinas, Campinas, São Paulo, South-eastern Brazil. The birds were watched on several occasions from early morning to late afternoon and a few early nights from 12 February (when the chick was about 3-4 days old) to 12 March 2011 (when it was about 31-32 days old). From 28 February to 8 March the nestling was checked twice daily due to an unusually prolonged (for the season) and intense cold spell with almost continuous rains. The adult and the nestling were observed with naked eye, through 10 × 50 binoculars and a 70-300 telephoto zoom lens mounted on a SLR camera, from a distance of 6-7 m. The daytime brooding adult was recognised as the same individual throughout the observations by its general colour and plumage markings. *"Ad libitum"* and "behaviour" sampling rules (Martin and Bateson 1986), both of which are adequate for rare behaviours and opportunistic records, were used throughout the observations. Voucher copies of digital photographs are on file at the Museu de Zoologia da Universidade Estadual de Campinas (ZUEC).

RESULTS

Throughout the day, the nestling was initially sheltered among the chest feathers of the brooding adult (Figure 1), moving on the nest from time to time and peering from under the adult's feathers. At the age of about 11-12 days it perched mostly with its back directed towards the adult's chest (but also the other way round), preened itself, stretched the wings, peered around and moved as far as the precarious nest site and the perching parent allowed.

At the age of about 18-19 days, the chick already perched alone on the nest and sunbathed (Figure 2). After a light rain in early afternoon, it crouched on the nest (Figure 3) and a few droplets were visible on its head and back. The following day the nestling crouched alone under a drizzle, again with a few droplets on the head and

FIGURES 1-6: (1) Brooding Common Potoo *(Nyctibius griseus)* at daytime, its nestling about 11-12 days old partly visible under the parent's feathers; (2) Seven days after, the chick perches alone on the nest and sunbathes in midmorning; (3) After a light rain at midafternoon of the same day, the nestling crouches with a few droplets on its head and back; (4) During a strong rainstorm at midday of the following day, the same adult that brooded by day is partly wet on the head and back and crouches on the nest, the chick huddling up to its parent, (5) After the lengthy cold spell was over, the nestling about 31-32 days old perched on the nest, peered around, and preened itself; (6) Its plumage partly wet after an intense rain at midafternoon of the following day, the chick crouches alone on the nest. Dates for the photos: 20 February 2011 (1), 27 February (2, 3), 28 February (4), 10 March (5), 11 March (6).

back. However, at midday began a storm with heavy rain (51.7 mm) and squalls up to 56.9 km/h that lasted about 60 min, the temperature dropping from 26.5 to 20°C. Under a moderate rain that followed the storm the same adult that brooded the nestling at daytime until two days earlier crouched over the chick, which huddled up to its parent (Figure 4). The head and back of the adult were partly wet, whereas the nestling had a few droplets on the head and chest.

It rained lightly to moderately almost continuously the following five days and nights after the rainstorm, the temperature oscillating between 17 and 22°C. Checked in the morning and the afternoon on the five days, the nestling crouched alone on the nest with a few droplets on its head and back. The nestling was fed by the adults on all rainy nights.

At the age of about 31-32 days, the chick peered around, preened itself (Figure 5), stretched the wings, and moved on the nest at daytime apparently oblivious to people walking or talking on the walkway under the nest. After the cold spell was over but still rained occasionally, the nestling crouched alone on the nest even under moderate to intense rains (up to 37.3 mm in 60 min), its head and back partly wet (Figure 6). From time to time the chick straightened up a little and shook off the droplets from the plumage.

DISCUSSION

To the best of my knowledge, daytime movements away from the perch among Nyctibiidae are restricted to occasions when the bird and/or its brood are in immediate danger (ffrench 1991, Cohn-Haft 1999). However, Skutch (1970) describes three brief sorties to catch insects by a brooding Common Potoo at very early morning. The episode described here is an unusual instance of parental care, apparently unrecorded for potoos to date. As the Common Potoo individual that protected the nestling was the same that brooded at daytime, I suppose that it was the male (see Sick 1997, Cohn-Haft 1999). Irrespective of its sex, however, the adult that left its perch and moved during daytime due to the rainstorm provides a new view on parental care among potoos.

The most likely explanation is that the adult perceived the risks imposed on the still very young nestling by the squalls and the heavy rain. The squalls could cause the nestling to fall to the ground (see an account of such accident with a podargid nestling in Holyoak 1999), and almost certainly die there. The heavy rain could soak the nestling, which would lose at least part of its plumage insulation (Burton 1985, Sick 1997) and would chill and die or become ill. A question to ponder is that the parent perceived the rainstorm as a real danger, since subsequent and almost continuous light to moderate rain (occasionally intense) due to the cold spell did not cause the adult to move from its daytime perch and protect the nestling.

Potoos are known to nest at exposed sites (*e.g.,* Skutch 1970, Sick 1997, Cohn-Haft 1999, Lopes and Anjos 2005, Cestari *et al.* 2011, IS *pers. obs.*) and thus are faced with weather conditions that include direct exposition to sun, rain, and wind, aside from temperature fluctuations. As the nestling about three weeks old was exposed for five days in a row to almost continuous light to moderate rain (even if partially protected by the canopy) and temperatures down to 17°C, its resilience is remarkable. Its parents likely were able to provide enough food even in cold nights, and perhaps a little warmth even if briefly.

Most intriguing, however, is the fact that a bird as easily observable at daytime as the Common Potoo (once found) hid an unsuspected type of diurnal parental care. The nighttime behaviour of the Common Potoo was recently recorded in South-eastern Brazil with the aid of an infrared camera, providing a good view of the behaviours of brooding adults and their nestling, and quantifying behaviours mentioned in previous studies (Cestari *et al.* 2011). However, it is clear that diurnal observations of brooding potoos and their nestlings may still bring a few surprises (present paper). I predict that under circumstances similar to those described here, this type of parental protection will be found in other *Nyctibius* species as well.

The parental behaviour reported herein results from so called anecdotic, natural-history oriented observations, disregarded by most biologists but nevertheless the ones that draw attention to phenomena that latter may prove more widespread and/or common that previously thought (*e.g.,* Craig 2007, Faria 2007, Sazima 2009, Krajewski and Sazima 2010). Additionally, this information type has the potential to subsequently address valuable evolutionary and conservation questions (see Gans 1985, Greene 1986, 2005).

ACKNOWLEDGEMENTS

I am grateful to Milena Corbo and Arthur Macarrão for kindly showing me the brooding potoo; Hilton Silveira Pinto and Edilene Carneiro da Silva for the weather data; Giulia B. D'Angelo for a thoughtful remark; Marlies Sazima for helping in the field in spite of the rains, and loving support at home; the CNPq for earlier financial support.

REFERENCES

Burton, R. (1985). Bird behavior. New York: Alfred A. Knopf.

Cestari, C.; Guaraldo, A. C. and Gussoni, C. O. A. (2011). Nestling behavior and parental care of the Common Potoo *(Nyctibius*

griseus) in Southeastern Brazil. *The Wilson Journal of Ornithology,* 123:102-106.

Cohn-Haft, M. (1999). Family Nyctibiidae (potoos), p. 288-301. *In:* J. del Hoyo, A. Elliot and J. Sargatal (Eds.). *Handbook of the birds of the world.* Vol. 5. Barn-owls to hummingbirds. Barcelona: Lynx Edicions.

Craig, M. T. (2007). Facultative cleaning by the forcepsfish, *Forcipiger flavissimus* (Chaetodontidae). *Copeia,* 2007:459-461.

Faria, I. P. (2007). Peach-fronted Parakeet *(Aratinga aurea)* feeding on arboreal termites in the Brazilian Cerrado. *Revista Brasileira de Ornitologia,* 15:457-458.

ffrench, R. (1991). *A guide to the birds of Trinidad and Tobago.* 2nd ed. New York: Cornell University Press.

Gans, C. (1985). In praise of diversity, a keynote address, p. xi-xvi. *In:* G. Grigg, R. Shine and H. Ehmann (Eds.). *Biology of Australasian frogs and reptiles.* Sydney: Royal Zoological Society of New South Wales.

Greene, H. W. (1986). Natural history and evolutionary biology, p. 99-108. *In:* M. E. Feder and G. V. Lauder (Eds.). *Predator-prey relationships: perspectives and approaches from the study of lower vertebrates.* Chicago: University of Chicago Press.

Greene, H. W. (2005). Organisms in nature as a central focus for biology. *Trends in Ecology and Evolution,* 20:23-27.

Holyoak, D. T. (1999). Family Podargidae (Frogmouths), p. 266-287. *In:* J. del Hoyo, A. Elliot and J. Sargatal (Eds.). *Handbook of the birds of the world.* Vol. 5. Barn-owls to hummingbirds. Barcelona: Lynx Edicions.

Krajewski, J. P. and Sazima, I. (2010). Fish feed on faeces and vomits of New Zealand fur seals: marine mammals bring nutrients from open to inshore waters. *Marine Biodiversity Records,* 3(e81):1-3.

Lopes, L. E. and Anjos, L. (2005). Observações sobre a reprodução de *Nyctibius griseus* no campus da Universidade Estadual de Londrina, norte do Paraná. *Ararajuba,* 13:109-112.

Martin, P. and Bateson, P. (1986). *Measuring behaviour, an introductory guide.* Cambridge: Cambridge University Press.

Muir, A. and Butler, A. L. (1925). The nesting of *Nyctibius griseus* (Gmel.) in Trinidad. *Ibis,* 654-659+pls. XVI-XX.

Sazima, I. (2009). Anting behaviour with millipedes by the dendrocolaptid bird *Xiphocolaptes albicollis* in southeastern Brazil. *Biota Neotropica,* 9:249-252.

Sick, H. (1997). *Ornitologia brasileira, uma introdução.* Rio de Janeiro: Editora Nova Fronteira.

Skutch, A. (1970). Life history of the Common Potoo. *Living Bird,* 9:265-280.