First nesting records of the Puerto Rican Nightjar and Antillean Nighthawk in a montane forest of western Puerto Rico

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ABSTRACT. I report the first nesting records for the Puerto Rican Nightjar (Caprimulgus noctitherus) and Antillean Nighthawk (Chordeiles gundlachii) in Maricao Forest, a montane rain forest of western Puerto Rico. The nightjar nested in leaf litter at the edge of a trail parallel to a eucalyptus plantation (Eucalyptus robusta), at an elevation of 620 m. The nighthawk nested on rocky substrate of a trail in the southern slopes of the forest at an elevation of 460 m. These are the highest elevation nesting records reported for these species in Puerto Rico. The nightjar had a clutch of two eggs and the nighthawk one egg; all eggs hatched successfully. The nightjar had an incubation period of 19 d, consistent with the 18–20 d previously reported.

Key words: Antillean Nighthawk, caprimulgids, Maricao Forest, nesting, Puerto Rican Nightjar, Puerto Rico

The Puerto Rican Nightjar (Caprimulgus noctitherus) and Antillean Nighthawk (Chordeiles gundlachii) are the only breeding caprimulgids in Puerto Rico. The distribution of the endangered Puerto Rican Nightjar (hereafter nightjar) is limited to coastal dry limestone and lower cordillera forests of southwest Puerto Rico (Vilella and Zwank 1993; Oberle 2000). Approximately 1400–2000 nightjar pairs are estimated to be distributed among three main populations. These populations are found in the Susúa-Maricao Forests, Guánica Forest (east and west of the Guánica Bay) and the Guayanilla-Peñuelas Hills (Vilella and Zwank 1993). Nightjars were detected for the first time in 1990 in the Parguera Hills and in 1992 in Sierra Bermeja, 10 and 20 km west of the western section of the Guánica Forest, respectively (Vilella and Zwank 1993). The nightjar breeding season extends from February to July, with a peak from April through June (Vilella 1995).

The Antillean Nighthawk (hereafter nighthawk) is a seasonal breeding resident and is more widespread in Puerto Rico. It is found in open areas throughout the coast, foraging in towns, agricultural fields, pastures, and coastal to mid-elevation limestone and cordillera forests (Kepler and Kepler 1973; Raffaele et al. 1998; Oberle 2000). Nighthawks breed from May to July (Raffaele et al. 1998). Here I report first nesting records of the nightjar and nighthawk in Maricao Forest in western Puerto Rico.

On 25 April 2004, two field assistants found a nesting caprimulgid with one egg while conducting a point-count census of the Elfin Woods Warbler (Dendroica angelae) along a trail in the eastern section of Maricao Forest in western Puerto Rico. During a nest check on 7 May 2004, I accidentally flushed a male Puerto Rican Nightjar from two eggs in leaf litter approximately 40 cm from the trail’s edge. It was a male because only males have a white throat band and portion of the outer tail feathers (Raffaele et al. 1998). The nightjar flushed from the
eggs when I approached to within 5 m from the nest. It flew silently to a tree and perched on a branch 9 m from the eggs. It stood motionless and did not return to the eggs until 15 min after I had retired to a distance of 50 m and remained hidden. The trail ran parallel to a eucalyptus plantation and was 4.6 m wide at the nesting site. Egg dimensions were 26.3 mm × 20.3 mm and 25.5 mm × 19.7 mm. The eggs were buffy-brown covered with numerous dark brown speckles. I recorded longitude and latitude at the site with a handheld Global Positioning System (Garmin 12 model GPS) and elevation with a Sun pocket altimeter. Nest location coordinates were 18°07'N, 66°56'W and elevation was 620 m.

I visited the nightjar nest again on 14 May 2004. The male nightjar flushed when approached to a distance of approximately 1 m. It landed on the trail 5 m away from the eggs and engaged in a distraction display. The nightjar spread its tail and wing feathers, opened its bill, but produced no vocalization. Shortly afterwards it flew again and landed on the trail about 7 m from the eggs. It stood motionless and produced a soft “whip” call once. On closer inspection I noticed many egg-tooth marks on the surface of both eggs, evidence that the hatching process had begun. I walked away from the nest and hid until the male covered the eggs.

An early morning visit on 15 May (07:00) to the nesting site revealed two recently hatched cinnamon downy nestlings. I estimated a hatching period of 19 d (26 April to 14 May). I stood briefly in the area and waited hidden until the male covered and brooded the nestlings. I visited the nest site one last time on 17 May 2004 and noticed the male nightjar and nestlings had wandered away from the edge of the trail into the eucalyptus plantation. I made no attempt to approach or intervene in any way with the adult and nestling nightjars.

My diurnal visits to the nest site confirmed the male nightjar was primarily responsible for parental duties during daylight hours. The male nightjar always incubated and brooded facing east.

On 20 May 2004, I found an Antillean Nighthawk incubating one egg (28.1 mm × 27.7 mm) on the rocky substrate of a trail in the southern slope of the Maricao Forest. Nest location coordinates were 18°08'N, 66°59'W, and elevation was 460 m. The nighthawk flushed from the egg when I was at an approximate distance of 8 m. It landed on the trail some 15 m away from the egg and stood quietly and motionless. I withdrew and remained hidden until the nighthawk returned to incubate the egg.

I returned to the nesting site on 5 June 2004 and flushed the nighthawk. The nighthawk landed in the trail floor 12 m from its original position. It engaged in a distraction display similar to the one performed by the nightjar and consistent with other caprimulgids (Grampa 1967). I found eggshell halves in the nesting site, typical of a hatching event. I searched the area thoroughly but could not find the nestling.

Maricao Forest is at the upper limit of the nightjar’s distribution in Puerto Rico, and habitats within this forest seem marginal. Vilella and Zwank (1993) determined that nightjar densities decreased considerably with elevation in sampled areas of Susúa and Maricao Forests. Only two nightjars were heard in a eucalyptus plantation in the eastern section of the Maricao Forest. The nightjar’s nesting site reported here was at the highest elevation ever recorded and within the same area previously sampled by Vilella and Zwank (1993). The location of the nightjar nest at the edge of a eucalyptus plantation is not unusual. Some tree plantations within the Guánica forest are appropriate nightjar nesting habitat (Vilella 1995).

The fact that the male nightjar performed parental duties during the daylight hours is in agreement with previous observations. Vilella (1995) reported that female nightjars never incubated during the day. In fact, male nightjars incubate considerably more (68%) than females, a reversal of the incubating pattern for many caprimulgids. The eggs’ appearance fit previous descriptions (Kepler and Kepler 1973; Vilella 1995). The incubation period was 19 d, consistent with the 18–20 d previously reported (Vilella 1995). However, chicks hatched less than 24 h apart in this study, which differs from the hatching on successive days reported by Vilella (1995). Apparently full incubation started with the second egg.

The nighthawk distribution in southwestern Puerto Rico extends from coastal up to lower cordilleran forests (Kepler and Kepler 1973). The nighthawk’s nesting site reported in this study is the highest elevation record for this
species in Puerto Rico and the first for the Maricao Forest. The nighthawk's nesting site in gravel substrate, a scrape in the open, and clutch size of one egg are consistent with previous reports (Kepler and Kepler 1973; Oberle 2000).

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