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Nocturnal foraging by artificial light in three Caribbean bird species

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Photo: Carel P. de Haseth



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Abstract I discuss observations of opportunistic use of artificial light for feeding in the dark by the native White-tailed Nightjar (*Caprimulgus cayennensis*), the long-established Cattle Egret (*Bubulcus ibis*), and the introduced Carib Grackle (*Quiscalus lugubris*) in Curaçao, Dutch Caribbean. The observations demonstrate avian adaptability to anthropogenic ecosystem changes.

Keywords artificial light, avian adaptability, Dutch Caribbean, nocturnal foraging

Resumen Discuto las observaciones del uso oportunista de luz artificial para la alimentación nocturna por parte de una especie nativa, *Caprimulgus cayennensis*; una especie se ha establecida de modo natural, *Bubulcus ibis*; y *Quiscalus lugubris* que fue introducida en Curazao, en el Caribe holandés. Las observaciones demuestran la adaptabilidad de las aves a los cambios antropogénicos en los ecosistemas.

Palabras clave adaptabilidad de las aves, Caribe holandés, forrajeo nocturno, luz artificial

Résumé Sont présentées ici des observations de l'utilisation opportuniste de la lumière artificielle par une espèce autochtone, l'Engoulevent coré (*Caprimulgus cayennensis*); une espèce allochtone présente depuis longtemps, le Héron garde-boeufs (*Bubulcus ibis*); et une espèce introduite, le Quiscale merle (*Quiscalus lugubris*), à Curaçao, Antilles néerlandaises. Les observations démontrent l'adaptabilité de ces espèces aux modifications des écosystèmes par l'homme.

Mots-clés adaptabilité de l'avifaune, Antilles néerlandaises, lumière artificielle, recherche nocturne de nourriture

Worldwide, expanding urbanization has many negative effects on avifauna (Evans Ogden 1996, Rich and Longcore 2006), but also some potentially positive effects for certain species. One of these is that birds may learn to opportunistically exploit enhanced foraging opportunities provided by artificial light. Jackson (2003a) discusses such behavior as witnessed in Afro-tropical nightjars attracted to street lights in South Africa. Rutz (2006) documented this behavior in an urban-breeding Northern Goshawk (*Accipiter gentilis*) in Germany, Lebbin *et al.* (2007) in migrant parulids in the urban environment of New York, and Santos *et al.* (2010) in shorebirds in Portugal. Dwyer *et al.* (2013) documented foraging benefits for migratory Common Redshank (*Tringa totanus*) foraging at night in an industrial zone in Scotland. So far, similar behavior has not been documented for any Caribbean bird species. Here, I document and discuss such behavior for the Cattle Egret (*Bubulcus ibis*), White-tailed Nightjar (*Hydropsalis cayennensis*), and Carib Grackle (*Quiscalus lugubris*) observed in 2009 and 2012 in Curaçao, Dutch Caribbean.

On the nights of 21, 22, and 24 August 2012, I saw a single Cattle Egret feeding on crickets under a street light in the median

section of the road at the intersection of the Schottegatweg and Plutostraat, well past sunset at about 1930. This is highly unusual behavior as Cattle Egrets in Curaçao generally are on their roosts by sundown. It is likely that I observed the same individual on all three nights. The nearest roost for this long-established species (Prins *et al.* 2009) is about 1 km away in the fringing mangroves of Schottegat Bay.

On multiple nights during the period from 13 August to 5 September 2012, a single White-tailed Nightjar was observed using a parking spot floodlight at Girouette plantation, Curaçao, as a vantage point and hunting perch from which to pursue insects attracted to the light. The same behavior was seen under streetlights of a new subdivision at Janthiel. Based on more than 20 years of experience in Curaçao, this species, locally-known as the tapa kaminda (literally "cover the road"), typically uses rural roads, and street lights when present, as a preferred nocturnal hunting platform. The species is generally absent from heavily traveled rural roads, possibly because it avoids such roads or because of higher traffic casualties for birds using such roads. For Afro-tropical nightjars, which are also known to opportunistically make use of roads (Jackson 2003b) and street lights for nocturnal hunting (Jackson 2003a), road kill is a high source of mortality (Jackson 2002).

The Carib Grackle was introduced into the Dutch Caribbean in 1981 and has since become well established (Prins *et al.* 2009). I have often seen this species on the parking lot of the Denny's

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restaurant in Otrabanda, Curaçao, where it nests in introduced ornamental palms (Prins *et al.* 2009, A.O. Debrot pers. obs). On the evenings of 23 June 2009 and 16 August 2012, I observed this species foraging between the parked cars in search of food scraps on this well-lit parking lot as late as 2030.

In conclusion, I here document the opportunistic use of artificial light for feeding in the dark by both native and introduced bird species in the Dutch Caribbean. Two of the species are primarily diurnal and one is fully crepuscular/nocturnal. The observed behavior is a demonstration of avian adaptability to anthropogenic ecosystem changes. This behavior in the White-tailed Nightjar and Cattle Egret could possibly put them at greater risk of being killed by passing cars. Further studies into the costs and benefits of avian behavioral adaptation to human habitat modification in the Caribbean are recommended.

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