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Cover Photograph: *Zenaida macroura* (Mourning Dove; visible on the center-right, partially hidden by a branch) nesting atop an active nest of *Dulus dominicus* (Palmchat; individual perched on a branch in the center of the photo) in a *Bucida buceras* (Gri Gri) tree in Santo Domingo, Dominican Republic. Photograph © Susannah Lerman.

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Mourning Dove Nest on a Palmchat Colony in Urban Santo Domingo, Dominican Republic

Susannah B. Lerman^{1,*}, David I. King¹, Wayne Arendt², María M. Paulino³, and Luis R. Paulino³

Abstract - We describe an observation of *Zenaida macroura* (Mourning Dove) nesting atop an active *Dulus dominicus* (Palmchat) nest in an urban park located in the Colonial Zone of Santo Domingo, Dominican Republic. To our knowledge, this is the first published observation of mutual nest placement and simultaneous nesting by these 2 species. We provide natural history information about both species, the possibility of a symbiotic relationship between them, and describe the implications for urban bird conservation.

Field Observations

On 22 February 2016 we observed a *Zenaida macroura* (L.) (Mourning Dove) nesting atop an active *Dulus dominicus* (L.) (Palmchat) nest. The nests were located in a broadleaf tree, *Bucida buceras* L. (Combretaceae; Gri Gri) at the “Ruinas de San Francisco” Natural Heritage site in the Colonial Zone of Santo Domingo, Dominican Republic. The Mourning Dove nest was about 12 m above the pavement, in the upper part of the ~1.25-m³ Palmchat nest; the diameter of the nest was ~1 m. The Mourning Dove was on the nest when first observed, and remained on the nest during the ~50-min period we were present, consistent with incubation or brooding of young nestlings <6–7 d old (Luther 1979). We observed a minimum of 18 Palmchats entering and exiting their nest, consistent with the semi-cooperative nesting habit of this species (Skutch 1961, Wetmore and Swales 1931). We observed the Mourning Dove on the nest during a later visit on 26 February 2016 (brief observation, ~2 min).

Discussion

Numerous species have been known to nest on and within, or in close proximity to, Palmchat colonies, and Palmchats appear to be tolerant of other birds nesting on their nests, which are sturdy and support multiple chambers. In Santo Domingo, Simón Guerrero (Universidad Autónoma de Santo Domingo, San Francisco de Macorís, Santo Domingo, pers. comm.) has observed *Quiscalus niger* Boddart (Greater Antillean Grackle) and *Columba livia* Gmelin (Rock Pigeon) nesting atop active Palmchat nests, and *Ploceus cucullatus* Statius Muller (Village Weaver) and

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Icterus dominicensis (L.) (Hispaniolan Oriole) attaching their nests to the fronds of palm trees (Arecaceae) harboring active Palmchat colonies. *Psittacara chloroptera* Souance (Hispaniolan Parakeet) has been observed excavating nesting cavities and nesting within active Palmchat nests (Simón Guerrero, pers. comm.). Elsewhere in the Dominican Republic, birds of prey such as the critically endangered *Buteo ridgwayi* Cory (Ridgway's Hawk) are known to nest atop Palmchat nests (Thorstrom et al. 2005, Woolaver et al. 2015). However, to our knowledge, this is the first published observation of a Mourning Dove nesting atop an active nest of a different species.

In the case of the Ridgway's Hawk, it seems likely the Palmchats would benefit from the presence of a larger predaceous bird to dissuade the approach of species that might depredate Palmchats, such as *Rattus* spp. (rats), *Epicrates striatus* J.G. Fischer (Hispaniolan Boa), and *Herpestes* sp. (mongoose) (Arendt 2000, 2006; Henderson et al. 1987). Although mongooses are mostly terrestrial, they are known to climb trees and have been observed as high as 3 m in trees (W.J. Arendt, pers. observ.). Mourning Doves are larger than Palmchats (31 cm/128 g versus 20 cm/48 g, respectively; Arendt 2004, Latta et al. 2010, Otis et al. 2008, Raffaele et al. 2010), and are known to dominate other species within urban bird communities due to their foraging and nesting efficiency and ability to outcompete smaller species with similar ecologies (Otis et al. 2008, Shochat et al. 2010). Thus, it is possible that the presence of nesting Mourning Doves could bolster the Palmchats' defense of their colony, especially because nesting Mourning Doves are known to drop to the ground and perform a behavior known as the "broken-wing feign" in a last-ditch effort to lure would-be predators away from the nest (Otis et al. 2008), a behavior potentially beneficial to the Palmchats, though this requires specific observations to claim a symbiotic relationship.

We observed no interactions during this admittedly short period; however, our sighting contrasts with some other reported instances of co-nesting interspecifics. For example, feral populations of Rock Pigeon have been observed using nests of other colonial species, e.g., *Myiopsitta monachus* Boddaert (Monk Parakeet) in Argentina (Nores 2009). In this case, Rock Pigeons exhibited interference competition with the Monk Parakeets by occupying nest cavities, precluding nesting opportunities for the latter.

Several species in the genus *Zenaida* are gregarious, seeming to prefer nesting in close proximity to intra- and interspecifics alike. As examples, in northeastern Brazil, *Zenaida auriculata* Des Murs (Eared Dove) nests in colonies numbering in the millions (Bucher 1982). Mourning Doves have also been documented nesting gregariously (Hopkins and Odum 1953), as well as amidst other species, often using defunct or inactive nests, e.g., *Turdus migratorius* (L.) (American Robin) and *Cyanocitta cristata* (L.) (Blue Jay) (McClure 1943); *Coereba flaveola* (L.) (Bananaquit) and *Loxigilla portoricensis* Daudin (Puerto Rican Bullfinch) (Rivera-Milán 1996); *Toxostoma rufum* (L.) (Brown Thrasher), *Passer domesticus* (L.) (House Sparrow), *Quiscalus quiscula* (L.) Common Grackle (Nice 1922); *T. curvirostre* Swainson (Curve-billed Thrasher) (Emlen and Ogden 1985); and *Mimus polyglottos* (L.) (Northern Mockingbird) and *Nycticorax nycticorax* (L.) (Black-crowned

Night-Heron) (Balát and Pozas 1981). Given the flimsy state of a typical Mourning Dove nest, building nests upon nests of other species or usurping other species nests, might suggest these other nests present a more sturdy and solid platform for nest building and occupancy. Alternatively, our observation might represent an opportunistic nesting by a Mourning Dove, a species that has demonstrated flexibility in its nesting locations and requirements. It is also well known that the Mourning Dove's congener, *Zenaida aurita* (Temminck) (Zenaida Dove), although catholic in its placement of nests, both in reference to habitat and substrate (Burger et al. 1989, 1991; Rivera–Milán 1996), tends to place its nests near nesting terns and other seabirds, which is thought to be an anti-depredation adaptation (Burger et al. 1991). Such behavior may be more prevalent in the Mourning Dove than is known.

In addition to contributing to the dialogue on the advantages and liabilities of co-nesting in general, this observation is of interest because of its implications for urban bird communities in the Dominican Republic and beyond. The broader objectives of the research were to explore urban habitat capacity in Santo Domingo. The fact that the Palmchat, an abundant species in the city, constructs nests that may be used by other species as nesting substrates suggests the potential for Palmchats to augment nesting opportunities, and thus habitat capacity, for other species. This notion is supported by the widespread use of Palmchat nests as substrates for the critically endangered Ridgway's Hawk (though it is not currently nesting in cities; Thorstrom et al. 2005, Woolaver et al. 2015), and the other species cited above. This augmentation is further suggested by a report of a Palmchat nesting on a concrete pole with no crossbars (J. Bauer, USDA Forest Service, International Institute of Tropical Forestry, Rio Piedras, PR, USA, pers. comm.), providing a potential nest site where none was previously available. Mourning Doves exhibit flexibility in nest locations; thus, this species can also enrich urban bird communities.

Despite the ubiquity of Palmchats in the Dominican Republic, surprisingly little information has been published about their natural history and conservation status, particularly with respect to increasing urbanization. Our observation represents progress in understanding the ecology of this endemic species, and its potential contribution to enriching urban bird communities in the country.

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