Atypical foraging habitat use by Piping Plovers (*Charadrius melodus*) in The Bahamas

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Photo: David Jones
Atypical foraging habitat use by Piping Plovers (*Charadrius melodus*) in The Bahamas

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Abstract Migratory birds often use different habitats on their wintering grounds than they do on their breeding grounds. The Piping Plover (*Charadrius melodus*) is a migratory shorebird with all populations listed as either Threatened or Endangered in the United States. This species winters in the southern United States, Mexico, and the West Indies. Although Piping Plovers typically use sand and mud flats and sand beaches as foraging and roosting habitats, in February 2016 we observed Piping Plovers foraging among the roots of red mangrove (*Rhizophora mangle*) and black mangrove (*Avicennia germinans*) and on rocky shores on Andros Island, The Bahamas. This behavior adds not only to our understanding of Piping Plover ecology, but also highlights the importance of conserving important habitats like wetlands as foraging sites for threatened shorebirds.

Keywords *Charadrius melodus*, mangroves, Piping Plover, wetlands

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Most of the population in The Bahamas is concentrated in the Joulter Cays and the Berry Islands, both groups of small islands north of Andros Island which have large expanses of sand flats and mud flats.

During the course of our surveys of Piping Plovers in The Bahamas, we found this species foraging in atypical habitats including mangrove wetlands in several locations in central Andros and a rocky shore habitat in northern Andros. On 1 February, at Young Sound, Central Andros (24°39’47”N, 77°45’08”W), 38 Piping Plovers were seen foraging in a mangrove wetland about 100 m west of open sandy shore habitat with exposed sand flats, and 32 were seen south of this location foraging on exposed mud flats interspersed with red mangroves (Rhizophora mangle) and black mangroves (Avicennia germinans). During low tide on 2 February, on a small island called Big Wood Cay (24°23’37”N, 77°44’53”W), a flock of 15 Piping Plovers was observed foraging among the pneumatophores of black mangroves and the prop roots of short red mangroves < 1 m tall (Fig. 1), as well as on open mud flats. On 4 February, 19 individuals were seen foraging in and around the pneumatophores of black mangroves and the prop roots of red mangroves at Kamalame Cay (24°51’2”N, 77°54’0”W; Fig. 2). Other plover species, such as Wilson’s Plover (Charadrius wilsonia) and Semipalmated Plover (C. semipalmatus), were seen roosting among the pneumatophores of the black mangroves around Kamalame Cay. Finally, on 5 February, at 0945, five Piping Plovers were seen foraging on a rocky shore in Mastic Point, North Andros (25°5’27”N, 77°59’8”W; Figs. 3 and 4). Low tide had been at 0743 and there were exposed sand flats just a few hundred meters south of the rocky shore location.

Foraging in mangrove wetlands may be beneficial to shorebirds like the Piping Plover; the tall pneumatophores of black mangroves and prop roots of red mangroves could provide cover and protection from aerial predators such as Peregrine Falcons (Falco peregrinus) and Merlins (F. columbarius) that could take advantage of avian prey exposed on open sand and mud flats. Piping Plovers may derive nutritional benefits from foraging on rocky shore substrate where invertebrate prey items are likely washed ashore by the tides.

These observations add to the growing evidence that mangrove wetlands are important foraging and roosting sites for many shorebirds wintering in the Caribbean. For example, Short-billed Dowitchers (Limnodromus griseus), Ruddy Turn...
stones (*Arenaria interpres*), Sanderlings (*Calidris alba*), Wilson’s Plovers, and Semipalmated Plovers have been observed foraging and roosting in this habitat along with Piping Plovers even when large areas of exposed mud and sand flats are available for the birds during low tide (SJ pers. obs.). Although these observations show Piping Plovers foraging in previously unidentified habitat in The Bahamas, more research is needed to better understand the ecology of this species on its wintering grounds.

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**Literature Cited**


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**Fig. 4.** Piping Plover foraging on rocky substrate in Mastic Point, North Andros, The Bahamas. Photograph by David Jones.

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