

A New Breeding Population of *Oxyura jamaicensis* (Ruddy Duck) on St. Martin, Lesser Antilles

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Abstract. -Ruddy Ducks, *Oxyura jamaicensis*, are expanding their range southward from the Greater Antilles and the Bahamas into the Lesser Antilles. Breeding of this species has now occurred on multiple islands in the Lesser Antilles. During wetland surveys on St. Martin in January 2001, a large group of over 250 Ruddy Ducks were observed in Fresh Pond and an additional three were observed at Little Bay Pond. Surveys during the winter months of 2002, revealed a single breeding pair with 5 ducklings in Fresh Pond. Surveys during the winter months of 2003 revealed multiple breeding pairs of this species in both Fresh Pond as well as in Little Bay Pond. This species, numbering over 500, is now a year-round resident and breeder on St. Martin.

Keywords: Ruddy Duck, *Oxyura jamaicensis*, breeding, St. Martin, Lesser Antilles, West Indies, Caribbean.

The Ruddy Duck (*Oxyura jamaicensis*) is a resident throughout the northern Caribbean. On New Providence of the Bahamas it is considered common whereas on the remaining Bahamian islands it is uncommon (Brudenelle-Bruce 1975). On Jamaica, Hispaniola, Cuba, and Puerto Rico the species is considered locally common (Raffaele 1989; Raffaele et al. 1998). In the Lesser Antilles, breeding has been reported from Isle Ronde in the Grenadines (Wells 1887; Bond 1958), Lauriston Pond on Carriacou (Wells 1902), and a small population of 40-50 pairs breeds on Lake Antoine on Grenada (E.B. Massiah pers. comm.). Historically, Ruddy Ducks bred on the Virgin Islands (Nichols 1943, Seaman 1993), but the bird is now considered a rare visitor to those islands (F. Hayes pers. comm.). The species is known to wander south into the Lesser Antilles, with records from St. Kitts, Antigua, Guadeloupe, St. Lucia, Barbados, and St. Vincent. Winter migrants from North America often augment local breeding populations in the region (Voous 1983, Bond 1985; Raffaele 1989; Evans 1990; Raffaele et al. 1998).

Breeding of the Ruddy Duck in the Bahamas and the Greater Antilles typically takes place from June to August. Nests are constructed over open water in emergent vegetation with females usually laying 4-12 eggs (Raffaele et al. 1998). The female will remain with the ducklings until they are full-sized and able to successfully forage on their own, although ducklings are often observed diving and foraging soon after birth (Bellrose 1976; Joyner 1977; Ehrlich et al. 1988). The males desert before hatching. The female and the ducklings are often accompanied by male ducks who are not parents. Ruddy Ducks are also known to be brood parasites of other duck species (Bellrose 1976; Joyner 1983; Lehman et al. 1988).

Reports of Ruddy Ducks from the Lesser Antillean region are increasing. They are rare but annual in Barbados (E.B. Massiah pers. comm.). During 2003, Ruddy Ducks were recorded breeding in Guadeloupe, where 10 ducklings were observed along with 32 adults in March 2003 at Gashet Reservoir (A. Levesque pers. comm.). These records provide evidence of an expanding breeding population.

There are no published accounts of Ruddy Ducks breeding on St. Martin previous to 2002. Danforth (1930), Voous (1954; 1955; 1983), and Hoogerwerf (1977) spent significant time on St. Martin throughout the past century but never reported any records of Ruddy Duck on the island.

During the winter months of January, February, and March 2001-2003, we completed weekly surveys of all wetland areas on St. Martin (Figure 1). These wetland areas consisted of ponds, lagoons, and intertidal areas. At each wetland area we located an observation point at which the entire pond could be observed with the exception of the Great Salt Pond, which due to its immense size was only surveyed in part. We recorded all birds in each wetland. Birds were recorded as roosting, foraging, nesting, or flying.

Each located nest was monitored until the chicks hatched. If adult birds were observed with chicks, we counted total chicks per adult, and noted the location within the wetland area in which they were

observed. We attempted to follow individual broods based on their location within the pond as well as by the total number of chicks and feathering status observed.

The first Ruddy Ducks observed on St. Martin were 250 individuals seen at Fresh Pond on 14 March 2001. An additional three were observed later in the day at Little Bay Pond. No ducklings were observed. The males and females both had streaking on the cheek, indicative of the nominate race *jamaicensis*, which is endemic to the West Indies (Raffaele et al. 1998). Clean cheeked birds of the North American race *rubida* were also seen. We estimated one-third of the birds were of the West Indian race, while two-thirds were of the North American race. This was the first record of Ruddy Duck for the island of St. Martin.

During 2002, we observed Ruddy Ducks at Fresh Pond and Little Bay Pond. High counts were 61 for Fresh Pond on 3 March 2002 and 152 for Little Bay Pond on 8 January 2002. The highest combined count for Fresh and Little Bay Ponds was 194 on 8 January 2002, which we assumed was the island population for 2002 (Table 1). We estimated that 75% of the population was of the West Indian race. Residents of the island reported to us that this was the most common duck species during the summer months, indicating that it was present year-round.

On 3 March 2002 and again on 12 March 2002, we observed Ruddy Duck ducklings on Fresh Pond. On 3 March, we observed five downy-feathered ducklings swimming with a pair of the West Indian race. On 12 March we observed five partly-feathered ducklings (Table 2). No ducklings were observed on Little Bay Pond.

During 2003, we observed Ruddy Ducks on both Fresh Pond and Little Bay Pond. High counts were 160 for Fresh Pond on 3 February 2003 and 333 for Little Bay Pond on 13 February 2003. The highest combined count for Fresh and Little Bay Ponds was 464 on 13 February 2003, which we assumed was the island population for 2003. We estimated that 90% of the population was of the West Indian race. Residents of the island again reported that it was the most abundant duck species observed on the ponds during the summer months.

In 2003, we noted five broods of Ruddy Duck ducklings. On 17 January, we observed a single downy feathered duckling in Little Bay Pond and five downy feathered ducklings on Fresh Pond. On 3 February, we observed a brood of five mostly feathered ducklings and a brood of three partly feathered ducklings on Fresh Pond. On 13 February, we observed a single downy feathered duckling on Fresh Pond. We assumed the brood of five ducklings observed on both 17 January and 3 February on Fresh Pond was the same brood based on location in the pond and the matured feather status. Based on these observations of ducklings, we are assuming there were at least four breeding pairs of Ruddy Ducks on St. Martin and most likely more based on the large numbers of adults of the West Indian race.

Records of the Ruddy Duck in the Bahamas and the Greater Antilles indicate a species whose population numbers are in decline. However, in the Lesser Antilles, notably St. Martin, we have observed an increase in the population of this species. Additionally, on St. Martin we have noted an increase in the ratio of West Indian to North American birds from 3:1 in 2001 to 9:1 in 2003. Weather factors in the continental United States, most notably large winter storms, directly affect the movements of North American ducks and the lower proportion of this race on St. Martin might be related to this. However, the total numbers of the West Indian race have increased from approximately 63 in 2001 to 146 in 2002 and 418 in 2003.

This increase in the West Indian race population may be due to the movements of birds from the Bahamas and the Greater Antilles to the Lesser Antilles or to a local population increase due to localized breeding. In the Bahamas and the Greater Antilles, Ruddy Ducks breed primarily in June-August (Raffaele et al. 1998). As we did not survey during the peak breeding period, many broods are likely unaccounted for. If there is a year-round breeding population on St. Martin, the large increase in the West Indian population to over 350 birds is most likely due to the recruitment of the previous year's ducklings into the local breeding population.

Habitat for Ruddy Ducks on St. Martin is decreasing. We observed Ruddy Ducks most often roosting in mangrove stands. Island-wide, there are 18 ponds, three of which contain mangrove stands. Mangroves are regularly removed from ponds for the development of houses and businesses along shorelines. It is estimated that over 90% of St. Martin's original mangroves have been removed (Howard 1989). However, in both 1999 and 2000, mangrove restoration projects were completed in Fresh Pond and Little Bay Pond. The reintroduction of mangroves into both of these ponds has been very successful, with full-sized trees now covering many parts of the margins in both ponds. The replanting occurred just

previous to the arrival of the Ruddy Ducks on St. Martin; whether the increase in mangrove cover and Ruddy Duck breeding activities are related is unknown.

Ruddy Duck populations and breeding attempts are increasing in the region. It is unknown if Ruddy Ducks parasitize nests of regional endemics West Indian Whistling Duck (*Dendrocygna arborea*), and White-cheeked Pintail (*Anas bahamensis*). As Ruddy Duck populations increase in the Lesser Antilles and birds begin breeding on additional islands in the region, local land managers should learn more about the parasitic nesting behaviors of Ruddy Ducks and their potential effects on regional endemics. The addition of mangroves to wetlands will provide protected roosting and nesting habitat for the Ruddy Duck. Furthermore, land managers should ensure adequate habitat for this regionally endemic subspecies.

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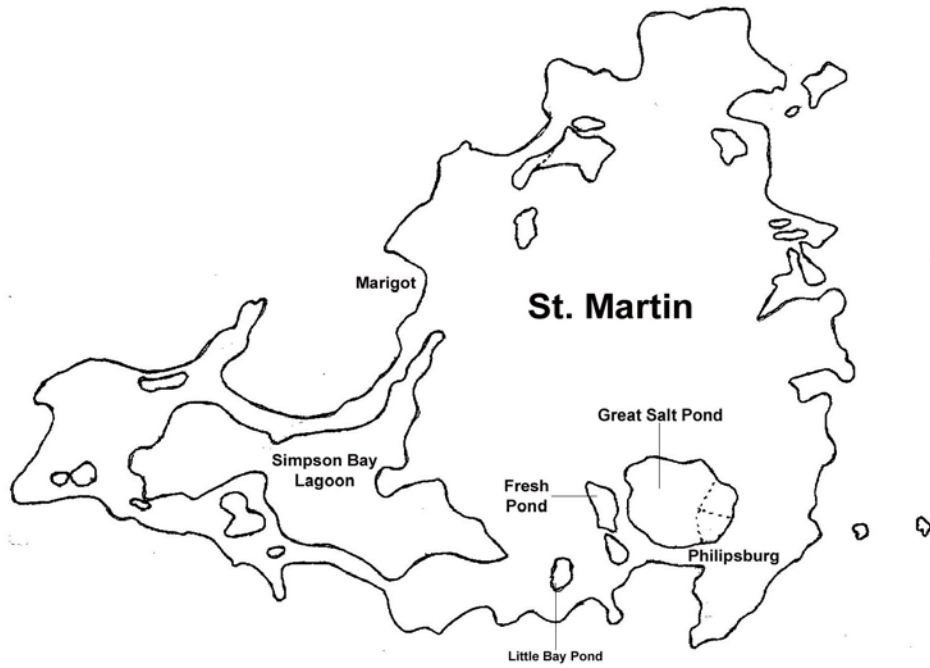
Table 1. Total Ruddy Ducks observed in Fresh Pond and Little Bay Pond during the winter months of 2001-2003.

2001	Fresh Pond	Little Bay Pond	2002	Fresh Pond	Little Bay Pond	2003	Fresh Pond	Little Bay Pond
-	-	-	8 January	43	152	5 January	92	21
-	-	-	15 January	11	86	10 January	92	48
-	-	-	22 January	19	90	17 January	119	89
-	-	-	29 January	49	73	22 January	123	84
7 February	0	0	7 February	58	24	29 January	82	115
14 February	0	0	13 February	29	62	3 February	160	101
21 February	0	0	19 February	47	88	13 February	131	333
28 February	0	0	25 February	39	111	19 February	86	175
7 March	0	0	3 March	61	106	27 February	62	216
14 March	250	3	12 March	40	95	8 March	104	87

Table 2. Total Ruddy Duck ducklings observed in Fresh Pond and Little Bay Pond during the winter months of 2002, and 2003.

Date	Fresh Pond	Feather Status	Little Bay Pond	Feather Status
3 March 2002	5	Downy-feathered		
12 March 2002	5	Partly-feathered		
17 January 2003	5	Downy-feathered	1	Downy-feathered
3 February 2003	5	Mostly- feathered		
3 February 2003	3	Partly-feathered		
13 February 2003	1	Downy-feathered		

Fig 1. Map of St. Martin indicating island territory capitols, major wetland areas, and ponds with Ruddy Duck populations.



Ruddy Duck (*Oxyura jamaicensis*). Taxonomy. Descriptive notes.Â Population of North America has been assigned separate subspecies *rubida*, though doubtfully valid. Monotypic. Distribution: Breeds in W North America from Alaska and Canada (British Columbia E to Manitoba) S to Baja California and C Mexico; also scattered in NE from Canadian border in Great Lakes region to the Carolinas, E USA; West Indies. Winters from SW British Columbia through S USA S to El Salvador. Escaped from captivity and became established in England, from where has spread to many other countries of Europe, N Africa and Middle East; eradication programme underway in some countries fo