

New and rare bird records from St Martin, West Indies

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Entre los meses de enero y marzo, en los años 2001, 2002 y 2003, realizamos prospecciones sobre las aves de St. Martin, en las Antillas Occidentales. Los mismos incluyeron áreas de hábitats terrestres así como humedales. Registramos unas 26 especies de aves nuevas para la isla, incluyendo cinco especies introducidas. Además, encontramos seis especies registradas hasta ahora apenas una vez en la isla, además de unas 28 especies consideradas raras o divagantes en la isla.

During January to March in 2001, 2002 and 2003, we surveyed bird populations on the island of St Martin, West Indies. Our intent was to uncover the general distribution and status of birds on the island. On St Martin, general bird surveys had not been undertaken since the mid-1970s, and prior to that, in the 1920s and 1950s^{9,13,23,24}.

St Martin is in the northern Lesser Antilles. Habitats on the island vary, the coast being surrounded by uplifted reefs, interspersed by small sandy shores. Moving inland, over transitional flatlands, the island possesses many shallow depressions in which salt ponds, lagoons and salt flats exist. Wetlands are surrounded typically by thorn scrub forest and scrub mangrove habitat. Covering approximately one-fifth of the island's lowland areas, wetlands provide important breeding and wintering sites, as well as critical stopovers for migrant waterbirds⁴. Lowland areas, characterised by thorn scrub, quickly give way to a steep montane interior, which is also generally covered by thorn scrub. Remnants of dry secondary forest occur in a few valleys. Most of the dry forests, however, have been cut for timber, firewood and grazing land.

Little is known of passerine populations and their distribution in the region. Many studies have been conducted in the Greater Antilles and Bahamas, as larger over-wintering populations occur in those areas^{11,12,25,26}. However, certain warbler species can be relatively common in suitable habitat in the Lesser Antilles⁹.

Methods

Terrestrial surveys

During 2001 we undertook irregular terrestrial bird surveys of several habitats on St Martin, including thorn scrub forest and mangrove scrub forest. These surveys consisted of observing the area for songbirds and recording species considered rare or vagrant to the island. No set time period was incorporated during these surveys.

In 2002, we commenced a standardised mist-netting and banding programme in a secondary dry forest at Lotterie Farm on Pic Paradis. Mist-nets were stationed at a density of three nets per 2-ha

area. Nets were 12-m long, 30-mm mesh, four-tier, tethered, nylon mist-nets. They were opened during the hours of greatest bird activity, 06h00–12h00. All birds were banded with uniquely numbered US Fish & Wildlife Service metal bands. The station was run for four consecutive days. Two four-day banding periods were run over two months; the first on 11–14 February and the second on 4–7 March 2002. Additionally, once during each four-day banding period, ourselves and others (see Acknowledgements) hiked the trails between mist-nets and recorded all bird species seen or heard.

During 2003, we continued the banding station in the secondary dry forest, but operated two additional banding stations, in thorn scrub below Pic Paradis, and in mangrove scrub habitat at Étang Poisson. We employed the same protocol used in 2002, with the exception that we banded for five days each period. Starting 5 January, each station was run for five consecutive days. The three sites were worked consecutively. The total mist-netting cycle was a 15-day period. Three 15-day periods were run during the period January–March (Table 1).

Area surveys were run concurrently with mist-net sites during the second and third periods in 2003. Surveys were conducted of the three major habitats on the island: 1) secondary dry forest, 2) thorn scrub forest and 3) mangrove scrub forest. Each transect was performed along pre-existing trails within the habitat type. These trails were the only breaks within otherwise unbroken tracts of

Table 1. Bird banding dates in three habitats during 2003 on St Martin, West Indies.

Period One:	Secondary dry forest: 5–9 January Thorn scrub forest: 10–14 January Scrub mangrove forest: 15–19 January
Period Two:	Secondary dry forest: 31 January–4 February Thorn scrub forest: 9–13 February Scrub mangrove forest: 16–20 February
Period Three:	Secondary dry forest: 1–5 March Thorn scrub forest: 1–5 March Scrub mangrove forest: 7–11 March

habitat. In secondary dry forest, these trails cross both riparian corridors and steep forested hillsides. Within thorn scrub, trails cross *Acacia tortuosa* scrub hillsides into semi-riparian thorn scrub drainages. In mangrove scrub forest, trails cross from pure Red Mangrove *Rhizophora mangle* stands into drier Buttonwood *Conocarpus erectus* stands in mangrove scrub. Ten points were established along each transect. Points were c.250 m apart to minimise the risk of double counting and five minutes were spent at each point. Area surveys commenced at 06h00. Data collected included all individuals seen or heard during the first three minutes and those individuals heard during the remaining two minutes. During data collection, birds flying over the site were recorded separately from individuals detected in vegetation, as flying birds may not have been associated with the habitat surrounding the station.

Wetland surveys

During 2001, 2002 and 2003, we visited 18 wetland areas on St Martin and counted all birds using these sites. Wetlands consisted of saltwater ponds, freshwater ponds, sand flats, salt flats, lagoons and inter-tidal areas. The surveys were completed weekly, from 7 February to 14 March 2001, 8 January–12 March 2002 and 5 January–8 March 2003. At each wetland, we chose an observation point with a view of the entire site. From these overlooks we recorded: (1) the total numbers of each species, (2) the total number of each species foraging, (3) the total number of each species roosting, and (4) the total number of each species nesting. Additionally, we recorded any downy young observed.

Results

Accounts are presented for all species not previously recorded on St Martin or where only one previous record was available. Photographs have been deposited at the Visual Resources for

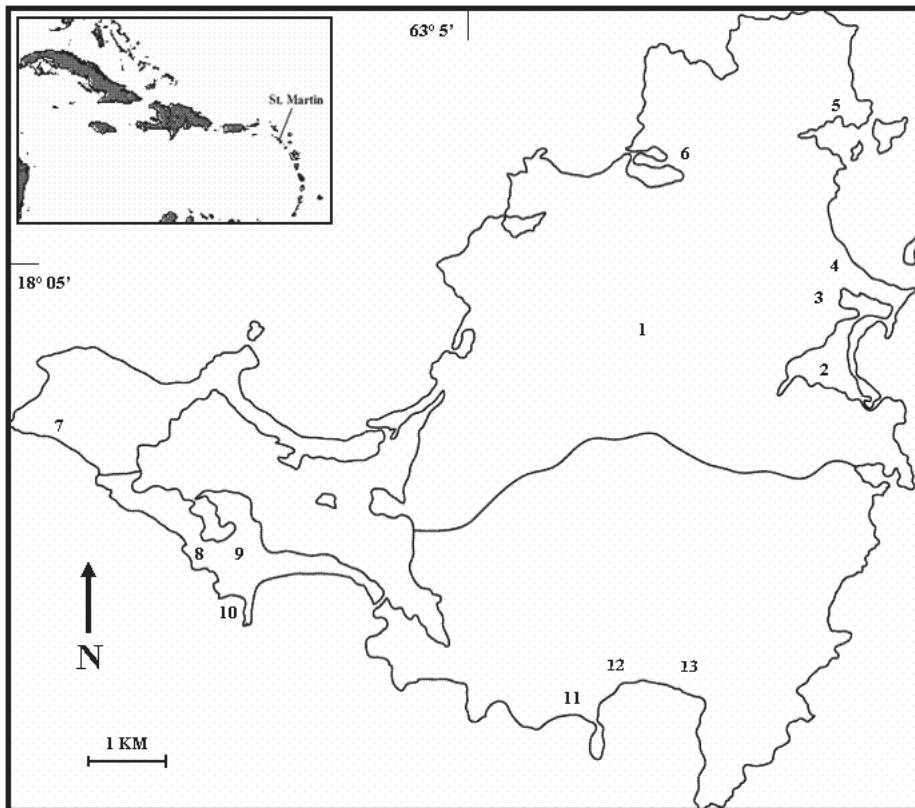


Figure 1. Map of St Martin with study areas. Inset map of Caribbean basin with relative location of St Martin. Numbers indicate the following localities. 1: Pic Paradis, 2: Étang Poisson, 3: Gallion Pond, 4: Orient Pond, 5: Cul-de-sac Pond, 6: Grand Case Pond, 7: Grand Étang, 8: Mullet Bay, 9: Maho Village, 10: Burgeaux Bay, 11: Little Bay Pond, 12: Fresh Pond, and 13: Great Salt Pond.

Table 2. Birds observed in January–March 2001–2003 including species considered rare or vagrants per current works^{3,10,18,23}.

Species	Date/year ¹	Location	Number observed
Tricoloured Heron <i>Egretta tricolor</i>	2002	Orient Pond	8
	2003	Orient Pond	7
	2003	Great Salt Pond	1
Blue-winged Teal <i>Anas discors</i>	2001	Little Bay Pond	8
	2002	Little Bay Pond	9
	2003	Little Bay Pond	35
Sora <i>Porzana carolina</i>	5 March 2001	Grand Étang	1
	25 February 2002	Orient Pond	1
	20 February 2003	Orient Pond	1
Caribbean Coot <i>Fulica caribaea</i>	8 February 2003	Fresh Pond	19
	8 February 2003	Little Bay Pond	7
American Oystercatcher <i>Haematopus palliatus</i>	14 March 2001	Great Salt Pond	1
	2001, 2003	Burgeaux Bay	2
	2002	Burgeaux Bay	3
	2001, 2002, 2003	Baie Rouge	2
	2001, 2002, 2003	Tintamarre Islet	2
Short-billed Dowitcher <i>Limnodromus griseus</i>	2001	Gallion Pond	3
	2002	Gallion Pond	4
	2003	Gallion Pond	58
Ring-billed Gull <i>Larus delawarensis</i>	14 February 2001	Great Salt Pond	4
	13 February 2002	Fresh Pond	2
	19 February 2002	Great Salt Pond	1
Herring Gull <i>Larus argentatus</i>	19 February 2003	Great Salt Pond	1
	14 February 2001	Great Salt Pond	2
	19 February 2002	Great Salt Pond	2
Lesser Black-backed Gull <i>Larus fuscus</i>	19 February 2003	Great Salt Pond	1
	2001	Great Salt Pond	3
	2002	Great Salt Pond	6
American Kestrel <i>Falco sparverius</i>	2003	Great Salt Pond, Fresh Pond	4
	14 January 2003	Island-wide	100
	2001, 2002, 2003	Island-wide	2
Merlin <i>Falco columbarius</i>	2001, 2002, 2003	Island-wide	2
Peregrine Falcon <i>Falco peregrinus</i>	14 January 2003	Island-wide	8
Yellow-billed Cuckoo <i>Coccyzus americanus</i>	14 January 2003	Pic Paradis	4
Mangrove Cuckoo <i>Coccyzus minor</i>	12 January 2003	Pic Paradis	7
Black-whiskered Vireo <i>Vireo altiloquus</i>	19 January 2003	Étang Poisson	1
	12 March 2003	Pic Paradis	10
Northern Parula <i>Parula americana</i>	2002	Pic Paradis	4
	2003	Pic Paradis	10
	5 January 2003	Mullet Bay	4
Cape May Warbler <i>Dendroica tigrina</i>	19 January 2003	Étang Poisson	3
	8 January 2003	Little Bay Pond	2
	10 March 2001	Maho	1
Black-throated Blue Warbler <i>Dendroica caerulescens</i>	25 February 2002	Maho	1
	15 February 2003	Maho	1
	11 February 2002	Pic Paradis	2
Black-throated Green Warbler <i>Dendroica virens</i>	2003	Pic Paradis	9
	29 April 2003	Pic Paradis	1
Prairie Warbler <i>Dendroica discolor</i>	12 February 2002	Pic Paradis	1
	2003	Pic Paradis	6
	2003	Étang Poisson	5
Blackpoll Warbler <i>Dendroica striata</i>	15 March 2001	Maho	1
	5 March 2002	Pic Paradis	1
Black-and-white Warbler <i>Mniotilta varia</i>	15 January 2002	Pic Paradis	10
	2003	Pic Paradis	9
American Redstart <i>Setophaga ruticilla</i>	2002	Pic Paradis	22
	2003	Pic Paradis	18
Ovenbird <i>Seiurus aurocapilla</i>	4 March 2002	Pic Paradis	1
	2003	Pic Paradis	2
Northern Waterthrush <i>Seiurus noveboracensis</i>	2003	Étang Poisson	9
	2003	Orient Pond	1
	2003	Cul-de-sac Pond	1
	2003	Little Bay Pond	1
	2003	Fresh Pond	1

Hooded Warbler <i>Wilsonia citrina</i>	2002	Pic Paradis	7
	2003	Pic Paradis	10
House Sparrow <i>Passer domesticus</i>	13 January 2001	Maho	1
	2002	French Quarter	25
	2002	Cul-de-sac	25
	2002	Marigot	25
	2003	Island-wide	200

¹Year is used if bird was seen on all dates that year, whereas specific dates are given if bird was only observed on one date.

Ornithology, The Academy of Natural Science, Philadelphia (VIREO), and relevant accession numbers are indicated. Additional records of birds considered rare or vagrants to the island^{3,10,18,23} are listed in Table 2.

Green-winged Teal *Anas crecca*

A pair was present on Fresh Pond on 8 January 2002, and was subsequently seen on all surveys in January–March 2002. During 2003, a pair was present at Little Bay Pond on 27 February. These are the first and second records for St Martin.

Mallard *Anas platyrhynchos*

On 11 March 2001, a female and two males were at Fresh Pond. These were considered wild, as their arrival coincided with that of hundreds of other ducks, including Ruddy Duck *Oxyura jamaicensis* and Blue-winged Teal *Anas discors*, during a late-winter wildfowl migration into the Lesser Antilles. This is the first record for St Martin.

Northern Shoveler *Anas clypeata*

An adult male was at Fresh Pond on 29 January 2002 and during all surveys in February–March 2002. Another adult male was at Fresh Pond on 8 January 2003, and subsequently on all surveys in January–March 2003. These are the first and second records on St Martin (VIREO v06/53/001).

American Wigeon *Anas americana*

A pair was present on Fresh Pond on 8 January 2002, and was observed during all January–March surveys in 2002. This is the first record on St Martin.

Ring-necked Duck *Aythya collaris*

On 29 January 2002, a female was at Fresh Pond, and was observed during all surveys in January–March 2002. During 2003, Ring-necked Ducks were observed in Little Bay Pond on all surveys, with a maximum of nine on 19 February (four males, five females). These are the first and second records on St Martin.

Lesser Scaup *Aythya affinis*

A male was at Little Bay Pond on 22 January 2002, and was observed on all surveys in February–March 2002. During 2003, a female was

observed at Fresh Pond on 19 January and during all subsequent surveys in January–March. Another female was at Grand Case Pond on 7 March. These are the first to third records on St Martin.

Red-breasted Merganser *Mergus serrator*

A first-winter at Étang Poisson on 15 January 2003 was observed throughout the rest of January, but was not seen in February–March. This is the first record for St Martin (VIREO v06/53/002).

American Coot *Fulica americana*

Twelve were at Fresh Pond on 8 January 2002. During 2002, we recorded a maximum of 21 on Fresh Pond on 29 January, with one at Great Salt Pond on 12 March. In 2003, the maximum was 28, at Little Bay Pond on 19 February, with eight at Fresh Pond on 13 February. Additionally, this species bred at Fresh Pond and Little Bay Pond. We did not observe the species in 2001, but we probably confused it with the similar Caribbean Coot *F. caribaea* that year. These are the first records on St Martin.

Great Black-backed Gull *Larus marinus*

A first-winter was at Grand Case Airport Pond on 12 January 2003 and during all subsequent surveys that year. This is the first record for St Martin (VIREO v06/53/003).

Forster's Tern *Sterna forsteri*

A first-winter was seen roosting and foraging among many Royal Terns *S. maxima* at Burgeaux Bay on 13–15 January 2001. This is the first record for St Martin.

Eurasian Collared-dove *Streptopelia decaocto*

Fifteen were observed on 14 January 2003, including five at Maho and ten at Gallion, and during all subsequent surveys. The species was observed copulating, at Maho in February 2003, although no chicks or nests were observed. This is the first record on St Martin (VIREO v06/53/004).

White-winged Dove *Zenaida asiatica*

On 14 January 2003, ten were observed at Cul-de-sac and two at Étang Poisson. These are the first records on St Martin.

Chuck-will's-widow *Caprimulgus carolinensis*

On 11 February 2002, a female was roosting in a mango tree *Mangifera indica* in secondary dry forest below Pic Paradis. We observed this bird regularly in February–March, roosting on the same branch. On 3 January 2003, a female was observed on the same branch as that in 2002. It was seen roosting on this branch during all daytime surveys in January–March. Another individual was observed foraging at night in Grand Case on 24 January 2003. These are the second and third records for St Martin (VIREO v06/53/005).

Tree Swallow *Tachycineta bicolor*

One was observed foraging above Orient Pond on 4 February 2003. There were no other hirundines available for comparison, nor was it observed again. This is the first record for St Martin.

Cliff Swallow *Petrochelidon pyrrhonota*

One was observed among several hundred Barn Swallows *Hirundo rustica* above a field at Cul-de-sac on 14 January 2003. This is the first record for St Martin.

Yellow-throated Vireo *Vireo flavifrons*

On 8 January 2003, one was observed in secondary dry forest at Pic Paradis. This is the first record for St Martin.

Magnolia Warbler *Dendroica magnolia*

Three records in secondary dry forest at Pic Paradis in 2003: two adult males seen on 31 January, a female on 2 February, and a female was banded on 1 March 2003. These are the second to fourth records for St Martin (VIREO v06/53/006).

Yellow-rumped Warbler *Dendroica coronata*

The first observation was at Little Bay Pond on 10 January 2003. Following a cold front along the eastern seaboard of the USA in late January, we made multiple observations as follows: a single at Étang Poisson and two at Mullet Bay Golf Course on 26 January, a total of 12 on 28 January 2003, when a single was at Pic Paradis in secondary dry forest, four in mangrove at Étang Poisson and seven in thorn scrub at Mullet Bay. Those at Mullet Bay were observed during all subsequent surveys in 2003. At Étang Poisson mangrove we had a maximum of ten on 19 February 2003, and a single was banded there on 16 February. These are the first records for St Martin (VIREO v06/53/007).

Prothonotary Warbler *Protonotaria citrea*

First observed on 16 January 2003, at Étang Poisson. Subsequently, we found small numbers in mangrove. We banded three at Étang Poisson (VIREO v06/53/008) and regularly observed single unringed birds there. None was observed in any

other habitat. There was only one previous record for the island.

Worm-eating Warbler *Helmitheros vermivorus*

On 31 January 2003 we observed a single in secondary dry forest at Pic Paradis. This is the second record for St Martin.

Louisiana Waterthrush *Seiurus motacilla*

A single was banded in secondary dry forest at Pic Paradis on 14 February 2002. This is the second record for St Martin.

Kentucky Warbler *Oporornis formosus*

We observed four on St Martin in 2003. On 6 January, an adult male was banded in secondary dry forest at Pic Paradis, with a second adult male banded there on 1 March and a second-year male on 5 March. An unringed adult male was observed on 5 March. These are the first records for St Martin (VIREO v06/53/009).

Common Yellowthroat *Geothlypis trichas*

An adult male was observed on 7 January 2003 in thorn scrub habitat below Pic Paradis. This is the second record for St Martin.

Indigo Bunting *Passerina cyanea*

We banded an adult male in thorn scrub forest below Pic Paradis on 11 January 2003. This is the first record for St Martin (VIREO v06/53/010).

Introduced species**Mute Swan** *Cygnus olor*

Two were introduced to Fresh Pond in January 2002. Both were regularly observed throughout St Martin in 2003, including at Great Salt Pond, Orient Pond and Grand Case Pond.

Mallard *Anas platyrhynchos*

Eight were introduced to Fresh Pond in January 2002. We observed two Mallards in 2003 at Fresh Pond, but these were not observed on any other ponds on the island.

Muscovy Duck *Cairina moschata*

Regularly observed at many ponds on St Martin during all surveys in 2001–2003, on Little Bay Pond, Fresh Pond, Great Salt Pond, Grand Case Airport Pond and Grand Case Pond. We observed numerous ducklings at Grand Case Pond during 2003.

Rose-ringed Parakeet *Psittacula krameri*

One was observed daily at Maho, Mullet Bay and Terre Basse in 2003. It was unringed.

Discussion

Status of birds in the West Indies is subject to constant reassessment. Breeding success in North America and subsequent population changes affect numbers of migrants reaching the Caribbean. Stability of habitat in both breeding and wintering ranges also affects bird populations in Caribbean. Additionally, winter storms in North America may force southward movements of birds into the region.

We report 18 new species for St Martin and six second island records. Additionally, we have noted the occurrence of a further 28 rare species and four introduced species. Given that the last major bird census of St Martin was in the early 1970s, such changes in status might be expected. North American ducks appear to be more common than previously and we noted the regular occurrence of six species during our surveys (Green-winged Teal, Blue-winged Teal, Northern Shoveler, Ring-necked Duck, Lesser Scaup and Ruddy Duck). Further, we noted the regular occurrence of wading species such as Tricoloured Heron *Egretta tricolor*, which was previously considered rare on the island.

We documented changes in status of many species of North American wood warblers in the wintering avifauna of St Martin. During the three years we noted 19 warbler species. Twelve of these occurred more than five times per annum. Of these 12, American Redstart *Setophaga ruticilla* was the most common, observed during area searches of secondary dry forest. Prairie Warbler *Dendroica discolor*, Northern Parula *Parula americana* and Hooded Warbler *Wilsonia citrina* were the most widespread, all occurring in several habitats. The regular occurrence of Black-throated Blue Warbler *Dendroica caerulescens*, Ovenbird *Seiurus aurocapilla* and Hooded Warbler is surprising, given that these species are considered vagrants to the Lesser Antilles^{3,10,18,23}.

The status of all three regularly occurring raptors on St Martin has changed. American Kestrel *Falco sparverius* has increased over the last 25 years and is now observed in all open habitats on the island. Once considered rare on St Martin^{3,10,18,23}, there are now c.100 birds present. Merlin *Falco columbarius*, however, appears to have declined. Once considered uncommon^{3,10,18,23}, the species was recorded just twice per annum. The reasons for this decline are unknown. Peregrine Falcon *Falco peregrinus* numbers have risen, as we witnessed an increase in numbers each year of our surveys. Populations in North America are increasing¹⁵ and numbers in the winter range are likely to reflect this.

Eurasian Collared-dove has reached St Martin in its push southward from North America. This species was observed on many islands of the Lesser Antilles during winter 2003, as far south as

Grenada²². Populations in Florida have adversely affected native North American species, due to direct competition for food resources and nesting habitat^{19,21}. We possess few data on the interactions between regional endemics and this species, and it is unknown how its arrival might affect local bird populations.

Many species observed during our research on St Martin were also observed by local birdwatchers on other islands in the Lesser Antilles. Notably, rare species found on several islands in the Lesser Antilles in 2003 included: Green-winged Teal (St Thomas, St Martin), Northern Shoveler (St Thomas, St Martin), Ring-necked Duck (St Croix, Guadeloupe, St Martin), Lesser Scaup (Guadeloupe, St Martin), Red-breasted Merganser (St Thomas, St Martin), Ruddy Duck (Guadeloupe, Barbados, St Martin), Eurasian Collared-dove (St Eustatius, Dominica, Grenada, St Martin), White-winged Dove (St Thomas, St Eustatius, St Martin), Yellow-rumped Warbler (St Thomas, Anguilla, Guadeloupe, St Martin) and Ovenbird (Guadeloupe, St Martin)²².

Research in the Lesser Antilles has increased knowledge of both the status and conservation requirements of overwintering and resident birds. Further research in all habitat types will inevitably produce a greater understanding of the island's avifauna. Habitats such as secondary dry forest at Pic Paradis and the mangrove at Étang Poisson should be afforded protection through appropriate legislative measures. Additionally, all wetlands should be protected against further development. Data provided by long-term monitoring efforts and habitat studies such as ours will assist land managers to effectively manage the island and its diverse habitats.

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