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# Sampling Migratory Birds and Other Observations on Providenciales Islands B.W.I.

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## Introduction

I began banding migratory birds on Providenciales, Turks, and Caicos Islands in November 1978. Thereafter I banded every year from about October to May. At the same time I recorded observations of all species. This paper is a report of banding results and observations with notes on distribution of rare or uncommon species for the period December 1978 to May 1986. Nomenclature is from the A.O.U. Checklist 1983.

No other banding has been conducted in the Turks and Caicos Islands. Little about species composition has been published and this is the first major and only scientific publication to date on the birds of these islands. An unpublished dissertation, "Ornithogeography of the southern Bahamas," by Donald Buden lists many of the species found. An article entitled "Birds of the Turks and Caicos Islands" by David J. Sanderson appeared in a local magazine, *Turks and Caicos Current*, in December 1982. The accompanying species list contained birds found in Grand Turk and used my species list for Providenciales.

## Physiography, Climate and Vegetation

The Turks and Caicos Islands lie southeast of the North American continent and geographically are part of the Bahamas archipelago (Figure 1). There are six main islands and many small cays in the group. Except for Grand Turk, the capital, the islands are sparsely populated. Providenciales, encompassing about 10,000 ha., is one of the smaller islands. It has a maximum elevation of 32 m but is mostly flat. Rainfall, about 64 cm per year, occurs mostly in the summer months May to November. The average temperature is about 26 C (80 F) in winter and about 37 C (100 F) in summer.

The vegetation is mainly stunted trees and shrubs; trees over 7 m are rare, most are about 3 m. The environment is arid but more luxuriant vegetation occurs in solution holes which support trees such as Shortleaf Fig (*Ficus citrifolia*). A coastal strand supports many Silvertop Palms (*Coccothrinax argentata*) which give way to acacias (*Acacia farnesiana*) in the arid coastal woodland. Inland, rolling hills form an arid limestone forest of mixed trees such as Lignum Vitae (*Guaiacum sanctum*). Mangroves (*Rhizophora mangle*) are common at the edge of shallow salinas and

along parts of the leeward shore. Land development, and the consequent rise in population, has increased at a slow pace since the beginning in 1967. At the present time, about 25 acres of land is developed each year and habitat destruction is widespread, particularly in the salinas where dredging has opened up channels to the sea and the shallow feeding grounds of many migratory waders have been destroyed.

## Methods

I used two mist nets of 70 denier nylon with a mesh size of 1.7 cm, 12 cm long and 2.1 high with four shelves. The rocky substrate defied penetration so I used the surrounding vegetation by hanging loops directly on branches or extending them with string to a tree. Sometimes I used two wooden poles 3 m high by bracing them with rocks and tying them to a tree at the top.

During the first three years I experimented by hanging nets in different habitats.

By 1980 I was using both nets where the rate (and the convenience) was greatest: a semi-cultivated garden in the limestone forest. Here, open grassy areas were interspersed with native trees 2-4 m high, small shrubs, and introduced species of tropical plants. A solution hole nearby contained a large Shortleaf Fig and acacias dominated the surrounding trees. About 18 m away from one net I placed 3 shallow bowls of water. Occasionally I hung a net about 1400 m away near a solution hole containing water; however, the capture rate in the garden remained higher. I kept an almost constant watch on one net but checked both nets every hour in the cool of the morning and every half hour as the temperature rose.

I recorded the length of culmen, wing, tarsus and tail, and when possible, age and sex. To insure proper identification and for later reference, I photographed every species banded.

## Results

Table 1 summarizes the number and species of migrants banded according to season from November 1978 to May 1986. It shows the Cape May Warbler to be the most common with the Indigo Bunting next. Both species are pre-

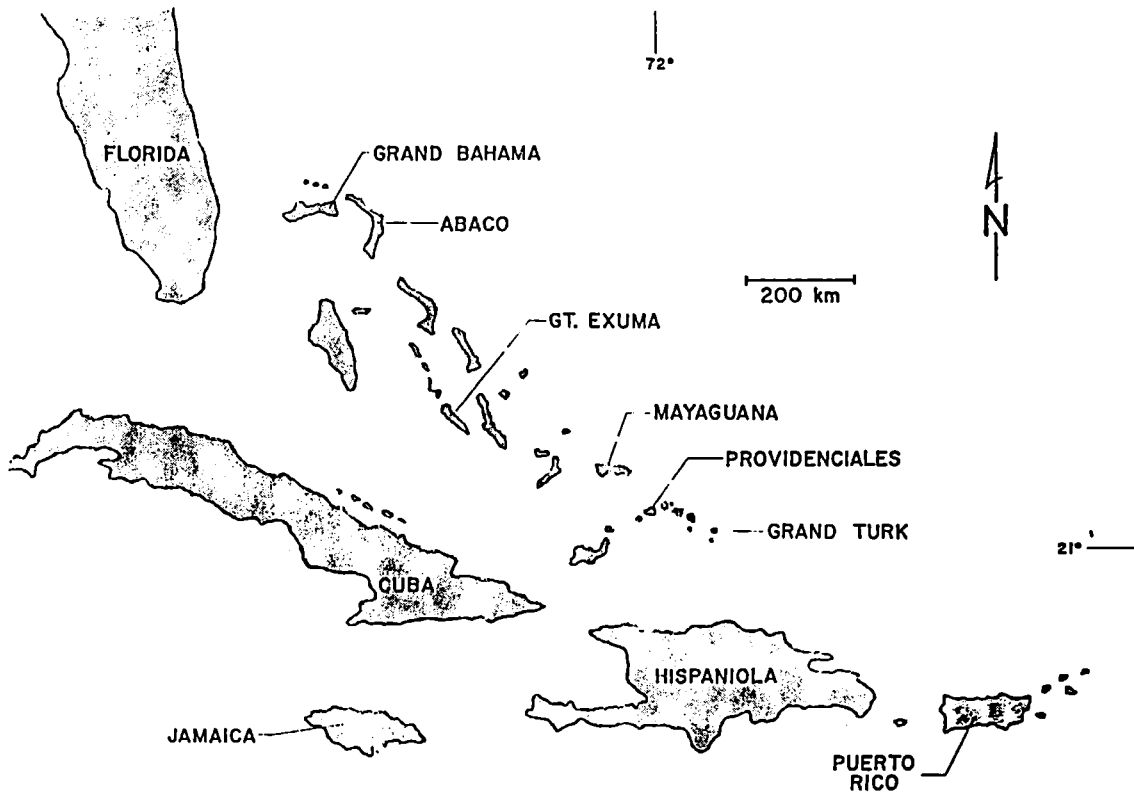
**Table 1. Seasonal summary of banded birds 1978–1986**

Species	78-79	79-80	80-81	81-82	82-83	83-84	84-85	85-86	Total
Yellow-billed Cuckoo <i>Coccyzus americana</i>							1	1	2
Mangrove Cuckoo <i>Coccyzus minor</i>						3		3	6
Yellow-bellied Sapsucker <i>Sphyrapicus varius</i>		1					1	2	3
Gray Kingbird <i>Tyrannus dominicensis</i>			1			5		1	7
Eastern Wood Peewee <i>Contopus virens</i>								1	1
Gray-cheeked Thrush <i>Hylocichla minima</i>							1		1
Blue-gray Gnatcatcher <i>Poliptila caerulea</i>	1	1					1	1	4
Gray Catbird <i>Dumetella carolinensis</i>		1	6	1		9		6	23
White-eyed Vireo <i>Vireo griseus</i>	1		2				2	1	6
Yellow-throated Vireo <i>Vireo flavifrons</i>			1		2		2		5
Black-whiskered Vireo <i>Vireo altiloquus</i>		6	2		4	26	9	8	55
Red-eyed Vireo <i>Vireo olivaceus</i>							5	2	7
Black-and-white Warbler <i>Mniotilta varia</i>	3	1	3	3	2	3	5	2	22
Prothonotary Warbler <i>Protonotaria citrea</i>	1	1	1						3
Worm-eating Warbler <i>Helmitheros vermivorus</i>	3	2	3			1	1	1	11
Tennessee Warbler <i>Vermivora peregrina</i>		1				2		2	5
Blue-winged Warbler <i>Vermivora pinus</i>			1				1		2
Nashville Warbler <i>Vermivora ruficapilla</i>				1					1
Parula Warbler <i>Parula americana</i>	2	2	6	3	1	9	3	5	31
Yellow Warbler <i>Dendroica petechia</i>	1		1	1	1	1			5
Magnolia Warbler <i>Dendroica magnolia</i>	3		2		1	2	2		10
Cape May Warbler <i>Dendroica tigrina</i>	12	24	5	12	8	22	23	10	116
Black-throated Blue Warbler <i>Dendroica caerulescens</i>	1	5	2	1	1	1			11
Black-throated Green Warbler <i>Dendroica virens</i>		2		1					3
Yellow-throated Warbler <i>Dendroica dominica</i>			1		4	2	1	4	12
Blackpoll Warbler <i>Dendroica striata</i>			1	1			5	2	9
Blackburnian Warbler <i>Dendroica fusca</i>							1		1
Prairie Warbler <i>Dendroica discolor</i>	2	1	5		3	2	4	3	20

**Table 1. Continued**

Palm Warbler <i>Dendroica palmarum</i>	7	2	4		5	1	3		22
Yellow-rumped Warbler <i>Dendroica coronata</i>			6	1	1			1	9
Ovenbird <i>Seiurus aurocapillus</i>	17	7	5		6		5	2	42
Northern Waterthrush <i>Seiurus noveboracensis</i>	4	4	2				3		13
Kentucky Warbler <i>Oporonis formosis</i>			1					1	2
Common Yellowthroat <i>Geothlysis trichas</i>			2						2
Hooded Warbler <i>Wilsonia citrina</i>				4		1			5
American Redstart <i>Setophaga ruticilla</i>	3	3	7	4	1	4	5	3	30
Rose-breasted Grosbeak <i>Pheucticus ludovicianus</i>		1		1			1		3
Indigo Bunting <i>Passerina cyanea</i>	4	10	6	10		13	19	41	103
Painted Bunting <i>Passerina ciris</i>								1	1
Blue Grosbeak <i>Guiraca caerulea</i>							1		1

**Figure 1. Map of the West Indies.**



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sent in numbers almost every year. The Cape May Warbler is found mostly in acacia trees where it finds insects in the small leaves. Indigo Buntings spend most of the time in tall grasses where they forage for small seeds.

With the exception of the Gray Kingbird and the Black-whiskered Vireo, all migrants banded are North American. The Yellow Warbler, Mangrove Cuckoo and Blue-gray Gnatcatcher could be either migrants or residents.

Table 2 shows male-female relationship of captured birds. The Cape May Warbler shows a 1:1 ratio, but 40% of Indigo Buntings are female. Early-late dates (Table 3) shows many late dates as later records than Brudenell-Bruce. Of the 40 species listed, I consider 25 to be migrants passing through, 10 as winter residents, 3 as uncertain, and 2 as summer residents.

Several rare and uncommon birds were captured which have not been seen in the Turks and Caicos Islands before as follows:

*Gray-cheeked Thrush.* Captured October 1984, this species winters in South America and migrates primarily through the Bahamas and the Greater Antilles. Bond lists it as a rare transient, Brudenell-Bruce as a rare passage migrant, and Faaborg and Terborgh found it uncommon. Chandler S. Robbins found this thrush to be common in the Dominican Republic in January and February 1984. This is the first observation for the Turks and Caicos Islands.

*Red-eyed Vireo.* Besides breeding in South America, North American migrants regularly pass through the Bahamas and Cuba southbound. Bond finds it a rare transient; Brudenell-Bruce, an uncommon passage migrant; and Faaborg and Terborgh, a rare transient. I did not see these vireos until 1984-85 when I banded 5. They are usually found with Black-whiskered Vireos in spring. This is a first record for the Turks and Caicos Islands

*Prothonotary Warbler.* Winters in South America and usually migrates through the western Caribbean and the West Indies. Brudenell-Bruce lists it as an uncommon passage migrant and Faaborg and Terborgh as an uncommon winter resident in the western Greater Antilles. The A.O.U. does not mention the Bahamas for this species. I have only banded three but have not seen any in recent years.

*Blue-winged Warbler.* Winters in Central America and migrates through the Bahamas. Found by Bond to be rare residents or transients, by Brudenell-Bruce as rare passage migrants, and Faaborg and Terborgh as rare transients.

*Nashville Warbler.* Wintering in the Bahamas, Cuba, and Jamaica, Bond finds it a vagrant and Brudenell-Bruce a rare passage migrant. I have banded only one, in the spring of 1982. This is a first record for the Turks and Caicos Islands.

*Blackburnian Warbler.* Winters in South America and migrates through the Bahamas, the Greater Antilles (not Jamaica) and Central America. Bond finds it a rare transient, Brudenell-Bruce, a rare autumn passage migrant; and Faaborg and Terborgh, an uncommon transient. I banded one in spring 1982 but have observed some almost every year during spring migration. This is a first record for the Turks and Caicos Islands.

*Kentucky Warbler.* Winters in Central America and migrates through the Bahamas and the Greater Antilles. It is considered by Bond as a rare transient, by Brudenell-Bruce as a rare passage migrant, and by Faaborg and Terborgh as a rare transient. I have banded two and find them uncommon.

*Hooded Warbler.* Winters in South America and migrates through the Bahamas, Bermuda, and the western Caribbean. Bond considers it a rare transient; Brudenell-Bruce, an uncommon passage migrant; and Faaborg and Terborgh a rare winter resident. I find it a rare winter resident in the Turks and Caicos Islands.

*Blue Grosbeak.* Breeds in Central America and migrates through the Bahamas and the Greater Antilles. Bond declares it a rare transient and winter resident, Brudenell-Bruce lists it as an uncommon passage migrant, and Faaborg and Terborgh a rare winter resident. I usually see Blue Grosbeaks during spring migration but have banded only one.

*Painted Bunting.* Winters in Central America and the Northern Bahamas, also Cuba and Jamaica. Brudenell-Bruce finds it a fairly common passage migrant and Faaborg and Terborgh an uncommon winter resident. I have banded only two. This is a first record for the Turks and Caicos Islands.

## Observations

Since 1978 I have observed and banded 147 species of birds on Providenciales. Of these, 47 are residents, 90 are migrants, 7 are summer breeding residents, and 3 are introduced. The Mangrove Cuckoo, Yellow Warbler and Blue-gray Gnatcatcher are banded as migrants as it is impossible to tell the difference between the migrant and resident species.

Of the total observations, 12 are first records for the Turks and Caicos Islands as follows:

Pied-billed Grebe (*Podilymbus podiceps*). I saw this species on 12-22-85. It breeds throughout the West Indies.

Redhead (*Aythya americana*). I recorded this species on 1-4-86. It regularly winters in the West Indies.

Ring-necked Duck (*Aythya collaris*). I recorded this species on 4-11-86. In winters in the West Indies.

Hudsonian Godwit (*Limosa haemastica*). Observed 4-11-86. Winters in South America but does not usually migrate through the Bahamas. Listed by Brudenell-Bruce as an accidental.

Bee Hummingbird (*Mellisuga helenae*). Female, observed 2-12-86. Known only from Cuba. I have had various reports from locals of this species but did not see it myself until this year.

Hairy Woodpecker (*Picoides villosus*). Female, observed 4-13-86. Usually breeds in the Bahamas.

Eastern Kingbird (*Tyrannus tyrannus*). Observed 4-15-84. Winters from Columbia south to northern Chili and northern Argentina. Migrates through the Bahamas, Central America and Cuba. Brudenell-Bruce lists it as uncommon and Faaborg and Terborgh find it rare in western Greater Antilles.

Bay-breasted Warbler (*Dendroica caftanea*). Male, observed 5-3-81. Brudenell-Bruce lists this warbler as a rare passage migrant. It winters in Central America and usually migrates through the western Caribbean.

Audubon's Warbler (*Dendroica aububoni*). Male, observed 3-23-85. The A.O.U. treats this species as synonymous with the Yellow-rumped Warbler. The bird I saw was in full breeding plumage with distinct yellow throat, crown and flank spots. It was accompanied by an individual of paler gray without distinct spots. It remained in the area for three days.

European Starling (*Sturnus vulgaris*). Observed 11-10-84. Starlings winter in the Bahamas but Brudenell-Bruce considers them uncommon winter visitors.

Glossy Ibis (*Plegadis falcinellus*). Observed 11-15-85. Winters casually in the Bahamas and considered an uncommon passage migrant by Brudenell-Bruce. Bond declares it rare in the Bahamas. I have had unconfirmed reports of this species from Grand Turk over the years.

Black Noddy (*Anous minutus*). I saw two on 5-24-84. Said to breed in the Caribbean region, it occurs in the West Indies on migration. No records by Bond or Brudenell-Bruce.

Unidentified flycatcher. Observed 5-20-86. Caught by a cat; observation was at close hand until the bird was released. Upper parts glossy black without wingbars; underparts paler. A distinct cinnamon cap reaching to the nape and throat. About 120 mm long.

## Song

I have heard the Prairie Warbler, the Black-throated Green Warbler, Yellow Warbler, Indigo Bunting, and Yellowthroat singing in April. Black-whiskered Vireos call constantly after arrival as does the Gray Kingbird. The White-eyed Vireo sings all winter and I have seen much interspecific competition between it and the Thick-billed Vireo, a resident, during the winter. The Parula Warbler was heard singing for the first time this year.

**Table 2. Male-female ratios of banded birds.**

Species	Female	Male	Unknown
Black-and-white Warbler	7	5	5
Parula Warbler	11	20	
Yellow Warbler	3	2	
Cape May Warbler	58	58	
Black-throated Blue Warbler	5	6	
Black-throated Green Warbler	2	1	
Blackpoll Warbler	5	4	
Prairie Warbler	7	13	
Yellow-rumped Warbler	3	2	4
Hooded Warbler	4	1	
American Redstart	22	8	
Rose-breasted Grosbeak	1	2	
Indigo Bunting	69	28	6
Blackburnian Warbler	0	1	

**Table 3. Early-late dates.**

Species	Arrive	Depart	Status
Yellow-billed Cuckoo	*10-20	* 5-22	m
Mangrove Cuckoo	12-10	5-17	u
Yellow-bellied Sapsucker	11-12	* 5-3	m
Gray Kingbird	3-6	11-16	sr
Eastern Wood Peewee	11-3		m
Gray-cheeked Thrush	10-30		m
Blue-gray Gnatcatcher	12-6	* 5-22	u
Gray Catbird	11-4	* 4-4	m
White-eyed Vireo	10-31	* 3-15	wr
Yellow-throated Vireo	11-2	3-19	m
Black-whiskered Vireo	* 3-24		sr
Red-eyed Vireo	5-8	*11-6	m
Black-and-white Warbler	10-26	5-10	m
Prothonotary Warbler	12-19	4-20	m
Worm-eating Warbler	10-15	5-1	m
Blue-winged Warbler	12-5	* 3-16	m
Tennessee Warbler	4-1	* 5-14	m
Nashville Warbler	12-28	3-31	m
Parula Warbler	10-26	* 5-20	wr
Yellow Warbler	11-2	5-24	u
Magnolia Warbler	10-26	* 5-25	m
Cape May Warbler	10-28	* 5-18	m
Black-throated Blue Warbler	11-1	* 5-20	m
Black-throated Green Warbler	11-27	* 5-26	m
Yellow-throated Warbler	11-2	3-22	m
Blackpoll Warbler	10-26	* 5-18	m
Blackburnian Warbler	4-25	5-3	m
Prairie Warbler	10-30	5-9	m
Palm Warbler	11-1	* 4-21	wr
Yellow-rumped Warbler	11-20	4-25	wr
Ovenbird	1-25	* 4-22	wr
Northern Waterthrush	12-8	5-18	wr
Kentucky Warbler	12-30	* 4-27	m
Common Yellowthroat	11-3	5-21	m
Hooded Warbler	11-1	4-10	wr
American Redstart	1-31	5-18	wr
Rose-breasted Grosbeak	3-14		m
Indigo Bunting	10-25	4-29	wr
Painted Bunting	12-20	4-22	wr
Blue Grosbeak	3-25	5-5	m

## Acknowledgements

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(Eastern)