
NATURE NOTES

Observations Relating to Populations of the Giant Grasshopper *Tropidacris cristata* in Trinidad, West Indies.

Tropidacris cristata and the very similar *T. collaris* (Orthoptera: Romaleidae) are believed to be the largest grasshoppers in the world (Carbonell 1986). Of the two, only *T. cristata* is found in Trinidad. Earlier, I reported (Starr 1998) finding *T. collaris* in large numbers on Margarita Island, Venezuela in August 1997. In contrast, until the observations reported here I had never encountered *T. cristata* in any abundance in Trinidad. Although it is not a rare insect, I had never seen two individuals in one day and possibly not two in the same week, this despite a decade's residence in the area of the Northern Range.

The Botany Group of the Field Naturalists' Club toured the Irois Forest near the south-western corner of Trinidad on 20 October 2001. In the course of a two-hour walk, I noticed at least 20 of the grasshoppers, and others in the group also remarked on their abundance. According to our guide, local forester Wilbur Isaac, they are seasonally abundant in the area, and he believed that this was a regular occurrence about that time of year. The individuals that I noted were all mature females and males.

These observations are consistent with the working hypothesis that *T. cristata* has a regular seasonal breeding cycle in southern Trinidad, with very little or no breeding in northern Trinidad in most years. If this is the case, then the occasional individuals found in the north result from centripetal movement out of the breeding areas and are a genetic dead-end. The scarcity of individuals in the north may in itself account for the apparent absence of a breeding population, even if climatic and food conditions are suitable in some years.

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nus *Tropidacris* (Orthoptera, Acridoidea, Romaleidae, Romaleinae). *Proc. Acad. nat. Sci. Philadelphia*, 138:366-402.

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First Record of the Spectacled Caiman *Caiman c. crocodilus* for Chacachacare, Bocas Islands, Trinidad and Tobago.

The spectacled caiman *Caiman c. crocodilus* is a common resident of Trinidad and Tobago that occasionally wanders out to sea and has been reported as a waif in the easternmost Bocas Islands of Monos and Gaspar Grande (Murphy 1997). Here we document the first record from Chacachacare, the westernmost of Trinidad's Bocas Islands, where it has not been reported previously (Lall and Hayes 2000).

On 14 February 1999, we examined a freshly dead specimen 1.7m long on the beach at La Tinta, Chacachacare. It was positioned horizontal to the water's edge, suggesting that it had washed in after dying. The only visible wound was a deep (presumably non-fatal) gash on the left rear leg. Photographs clearly revealed the presence of a bony, transverse ridge just in front of the eyes which distinguish this species from two species of crocodiles (Murphy 1997). The identification was confirmed by H. E. A. Boos (pers. comm.).

Because Chacachacare is visited frequently by biologists who have not reported the spectacled caiman on any other occasion (e.g. 34 days by Hayes), it clearly is not resident on the island. Given the occurrence of this stray individual on the west side of the island, combined with the clockwise circulation of currents within the Gulf of Paria (Kenny and Bacon 1981), we conjecture that it may have originated from Venezuela. The only previous report of a crocodylian from Chacachacare was from "Bobby, a fisherman resident of Staubles Bay", who reported a dead Orinoco crocodile *Crocodylus intermedius* found "floating out of Boca Grande, north-west coast, Chacachacare Island in 1962-1964" (Medem

in Boos 1983:20). Given the difficulty in identifying crocodilians, we concur with Murphy (1997) that this record should be considered unreliable.

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**Dry Season Spawning in the Cascadu
Hoplosternum littorale.**

Hoplosternum littorale (Hancock 1828) is a neotropical armoured catfish belonging to the family Callichthyidae. The cascadu, as the fish is known locally, spawns in the rainy season, from June to November, with main spawning activity coinciding with the heaviest rainfall in July and August (Singh 1978). The nest ranges in size from 15 to 50cm in diameter and is about 6cm in height. Each nest can contain an egg mass with 2 000 to 22 000 eggs.

Six nests of the cascadu were observed during the period 19th to 22nd February 2002 in a pond at the Bam-

boo Grove Fish Farm, Valsayn. The nests were of mean diameter 21cm \pm 2.8 S.D. Four of the six nests contained egg masses with eggs numbering 232, 365, 2 467 and 3 281 respectively. The eggs were treated with antibiotic and antifungal agents and incubated following the method described by Ramnarine (2001). None of the eggs hatched, suggesting that the eggs were infertile. The egg masses were small since Singh (1978) reported that egg masses range in size from 2 000 to 22 000 eggs with a mean of 10 500.

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Rare Butterfly (*Helicopsis endemyon elegans*) Seen After 70 Years.

A butterfly, seen on 21 April, 2002, was tentatively identified as six tailed helicopsis (*Helicopsis endemyon elegans*). This was confirmed when a specimen was caught on 28 April, 2002 by Colin Barcant (grandnephew of Malcolm Barcant, the author of *The Butterflies of Trinidad and Tobago*). This butterfly has not been seen for about seventy years; indeed, Malcolm Barcant never saw it in the field, and the specimens in his collection were inherited from his friend Robert Dick. We were beginning to think it was either extinct or extremely localized, as we have been looking for it in its natural habitat, *Montrichardia* swamp areas, for a number of years. I caught additional specimens on 5 May, 2002 when the brood was still large and fresh.

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Predation on Birds by Snakes in Trinidad and Tobago.

Although many species of snakes routinely forage on birds, observations of such incidents are seldom observed and reported in the literature. In Trinidad and Tobago, at least 16 of the 46 snake species are known to take birds, yet few details are available on the circumstances regarding predation, such as the size of the snake, age of bird, time of day, foraging substrate, etc. (Murphy 1997; Boos 2001). Here ten incidents of snakes foraging on wild birds and three of snakes foraging on captive birds within Trinidad and Tobago are reported.

Macajuel *Boa c. constrictor*.—Hans Boos was called to a house on Collens Road, Maraval, Trinidad, where a man kept homing pigeons *Columba livia*. A medium-sized macajuel was found constricting an adult pigeon and in the process of eating it. About a third of the pigeon had been swallowed by the time Boos arrived.

One late afternoon in early 2002, Allan Rodriguez observed a small hummingbird, probably a little hermit *Phaethornis l. longuemareus*, foraging at a Balisier *Heliconia bihai* at the Asa Wright Nature Centre, Trinidad, when it was captured by a roughly 0.5m long macajuel that was coiled up within the plant's stem.

Cascabel Dormillon *Corallus ruschenbergerii*.—Hans Boos was called to a house near the Maraval Golf Course, Trinidad, where a small cascabel dormillon had entered a bird cage, where there was either a canary or a finch, and eaten the occupant. The snake was unable to escape because of the lump in its belly.

In the late 1990s, Allan Rodriguez observed a cascabel dormillon coiled up about 10m high in a bamboo *Bambusa vulgaris* patch at the Asa Wright Nature Centre, Trinidad. As adult crested oropendolas *Psarocolius decumanus insularis* arrived in the evening to roost, the snake successfully captured one.

Ratonel *Pseudoboa neuwiedii*.—At one time the Emperor Valley Zoo in Port of Spain, Trinidad, was losing finches from a flight cage. When the cage was thoroughly searched, Hans Boos found a ratonel in the cage. It was too big at that stage to get out of the mesh wire so it probably entered when small enough and was eating birds as it lived in the cage.

Machete *Chironius c. carinatus*.—On 18 June, 1986 at 17:30 hr, Victor Quesnel observed a machete coiled on top of a ruddy ground-dove *Columbina*

talpacoti rufipennis nest at Talparo, Trinidad. The snake had a large nestling in its mouth and one of the parents was actually standing on top of the snake with its tail spread.

Parrot Snake *Leptophis ahaetulla coeruleodorsus*.—On 27 February, 1994 at 11:00 hr, Graham White noted an irate copper-rumped hummingbird *Amazilia tobaci erythronota* about 10m high in a caribbean pine *Pinus caribaea* at Hollis Reservoir, Trinidad. The bird was scolding a c. 1m parrot snake that had grasped the head of a large nestling or recently fledged hummingbird. The wings were fluttering against the angle of the jaw. The nest from which it presumably came was on the same branch.

At about midday on 2 September, 2001, Brett Hayes found a c. 1m parrot snake crawling on the ground with a large nestling or fledgling palm tanager *Thraupis palmarum melanopectera* grasped by the head at La Baja Road, Maracas, Trinidad.

In November 2001, Allan Rodriguez observed an adult bananaquit *Coereba flaveola luteola* being eaten by a parrot snake about 1.5m above the ground in a small palm along Lalaja Trace, Trinidad. The bananaquit had a piece of plant material in its beak, suggesting that it was constructing a nest nearby.

Machete Couesse *Mastigodryas boddaerti dunnii*.—At Little Tobago Island on 25 March, 1995, students from Caribbean Union College pointed out to Floyd Hayes a c. 1m long machete couesse crawling on the ground with a large nestling or recently fledged blue-gray tanager *Thraupis episcopus berlepschi* grasped by the head. The snake quickly crawled out of view.

Green Vine Snake *Oxybelis fulgidus*.—While on Patos Island, off the south-east coast of Venezuela's Paria Peninsula, at about 17:30 hr on 4 August, 1962, Margaret French heard an adult tropical kingbird *Tyrannus melancholicus chloronotus* calling frantically and flapping wildly in a nearby tree. She noticed it was held by a c. 1m long green vine snake which was previously recorded from Patos but not from Trinidad and Tobago (Boos 1983; Murphy 1997; Boos 2001).

Liana Snake *Pseustes poecilonotus polylepis*.—In 1979, Edward Rooks observed a c. 1m long liana snake wrapped around an adult blue-gray tanager *Thraupis episcopus nesophila* about 5m above the ground at the Asa Wright Nature Centre, Trinidad.

At mid-morning on 2 January, 1983, Richard French was birding with Ian Lambie and Paul Christopher at Las Lapas Trace, Trinidad, when many small birds were

Table 1. Taxonomic summary of snakes (based on Boos 2001) preying on birds (based on French 1991; American Ornithologists' Union 1998) reported in this study.

Family	Species of snake predator	Family	Species of bird prey
Boidae	<i>Boa c. constrictor</i>	Columbidae Trochilidae	<i>Columba livia</i> <i>Phaethomis .longuemareus?</i>
Boidae	<i>Corallus ruschenbergeri</i>	Emberizidae? Icteridae	finch sp. <i>Psarocolius decumanus</i>
Colubridae	<i>Pseudoboa neuwiedii</i>	Emberizidae?	finch sp.
Colubridae	<i>Chironius c. carinatus</i>	Columbidae	<i>Columbina talpacoti</i>
Colubridae	<i>Leptophis ahaetulla</i> <i>coeruleodorsus</i>	Trochilidae	<i>Amazilia tobac</i>
Colubridae	<i>Mastigodryas boddaerti</i>	Coerebidae	<i>Coereba flaveola</i>
Colubridae	<i>Oxybelis fulgidus</i>	Thraupidae	<i>Thraupis palmarum</i>
Colubridae	<i>Pseustes poecilonotus polylepis</i>	Thraupidae	<i>Thraupis episcopus</i>
		Tyrannidae	<i>Tyrannus melancholicuss</i>
		Coerebidae	<i>Coereba flaveola</i>
		Thraupidae	<i>Thraupis episcopus</i>

seen scolding a large snake > 1m long, possibly a liana snake, at a bananaquit's nest situated c. 10m high in a tangle of vines. The snake was grasping a large fledgling by the head. It held the victim for over 15 min. until it stopped flapping, and then the other birds, including the presumed parents of the bananaquit, flew away. The coils of the snake strongly resembled a liana, a deception assisted by the snake's slow movements.

A taxonomic summary of predators and prey is provided in Table 1. Each snake species was previously known to include birds in their diet (Murphy 1997; Boos 2001). Of ten incidents of snakes eating wild birds, eight involved diurnally foraging snakes of five species in the nonvenomous family Colubridae, and two involved nocturnally foraging snakes of the non-venomous family Boidae (Table 1).

In five incidents involving wild birds, the prey consisted of large nestlings or recently fledged birds of the order Passeriformes, captured at their most vulnerable age by active, diurnally foraging snakes. Each of these bird species constructs cup-shaped or domed nests in trees and undergoes altricial development (French 1991). In a review of clutch size, nesting success and predation on nests of Neotropical birds, Skutch (1985:587) stated that snakes destroy more nests in tropical America than all other predators together; certainly they are the creatures that I have most often seen plundering nests. Skutch (1985) stated that non-venomous snakes, especially *Spilotes pullatus*, were the most common predators of eggs and nestlings in Costa Rica, but that twice he had observed the venomous viperid *Bothrops schlegelii* swallowing eggs.

In five incidents the prey involved adult birds in the wild; of these, one was foraging, one was arriving at a roost and another appeared to be gathering nesting material. These observations indicate that snakes readily capture adult birds, presumably by ambush.

Our three observations of snakes feeding on captive birds illustrate their willingness to enter a man-made structure when given the opportunity to capture easy prey. In two incidents the snake was a nocturnal foraging boid; in the third, the snake was a diurnally foraging colubrid.

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Notes on the Birds of Bequia, St. Vincent and the Grenadines, West Indies.

The Trinidad and Tobago Field Naturalists' Club visited Bequia, in St. Vincent and the Grenadines for six days in August of 1999. I took the opportunity to note the birds that were seen in Bequia and the Tobago Cays. While the observations were limited to the four-day visit, it is nevertheless useful to document the sightings as relatively little is known about the bird-life of the Grenadines as compared to the larger islands.

On Bequia, observations were made around Friendship Bay, and along the roads leading to Old Heg Turtle Sanctuary, Moon Hole and Petit Nevis. At the Tobago Cays, birds were recorded for a two-hour period at midday. Observations were also made at sea from the ferry operating between St. Vincent and Bequia and that from Bequia to Tobago Cays. Species names are presented in the order of American Ornithologists' Union as in Raffaele *et al.* (1998).

Overall 37 species were seen. Seabirds comprised the largest group with eleven species. Seven species of shorebirds were seen, most of them in water-filled pot-holes on the road to Moon Hole. Among the herons the tricoloured heron is considered very rare or vagrant in St. Vincent and the Grenadines (Raffaele *et al.* 1998). Three american

oystercatchers were seen, one on Bequia between Friendship Bay and the fishing depot opposite Petit Nevis, and two on the north-east side of Petit Nevis. Bond (1985) describes the oystercatchers as "perhaps" in the Grenadines and it is not listed for St. Vincent and the Grenadines by Raffaele *et al.* (1998), however recent sightings have been made at Bequia and Mayreau (Hayes *et al.* in preparation).

Several scaly-naped pigeons were sighted well out to sea and were proficient at moving between islands. At the Cays I observed one yellow warbler which was singing. There are resident populations of yellow warblers in the West Indies but they are not known to breed in St. Vincent or the Grenadines. The resident population may be a distinct species from North, Central and South American birds (Raffaele *et al.* 1998). It seems unlikely that an island as small as Tobago Cays could

Table 1. Birds observed on and around Bequia 5-9 August 1999.

Species Observed	Bequia	Tobago Cays	From boat
Masked booby			+
Brown booby	+		+
Red-footed booby			+
Brown pelican			+
Magnificent frigatebird	+	+	+
Little blue heron	+		+
Tricoloured heron			+
Cattle egret	+		
Green heron	+		
Yellow-crowned night-heron	+		
Semipalmated plover	+		
American oystercatcher	+		
Solitary sandpiper	+		
Spotted sandpiper	+		
Semipalmated sandpiper	+		
Least sandpiper	+		
Short-billed dowitcher	+		
Laughing gull	+	+	
Royal tern	+		+
Sandwich tern	+		
Common tern	+		
Bridled/Sooty tern	+		+
Brown noddy	+	+	+
Scaly-naped pigeon	+	+	+
Zenaida dove	+	+	
Common grounddove	+		
Antillian crested hummingbird	+	+	
Yellow-bellied elaenia	+		
Grey kingbird	+	+	
Caribbean martin	+	+	
Bare-eyed thrush	+		
Tropical mockingbird	+	+	
Yellow warbler	+	+	
Bananaquit	+	+	
Black-faced grassquit	+		
Carib grackle	+	+	
Shiny cowbird	+		

sustain a resident population of yellow warblers, but nor would I expect a migrant North American yellow warbler to be singing. I have never heard one singing in Trinidad. The only pelican seen was off Canouan.

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An Unusual Feeding Habitat of the Savannah Frog *Scinax rubra* (Laurenti).

At the Caroni Rice Project at 7:00 o'clock one morning, I noticed strange movements of panicles of guinea grass (*Panicum maximum*) along the border of a rice field. My attention thus attracted, I saw that several panicles hosted one or more frogs *Scinax rubra*

(Laurenti) (= *Oloolygon rubra*), engaged in a gymnastic routine. One panicle had four such participants. Looking closer, I noticed a cloud of small flies which seemed attracted to the flowers. It was these that the frogs were after. The frog would manoeuvre itself within striking distance of the flower and at intervals lunge upward, and outward, at a passing fly. A panicle is an insecure base for launching such an attack, and it jerked backwards in response. Landing was also a problem. Upon capturing, or missing its prey, the frog spread out its legs in an apparently desperate bid to catch onto a lower branch of the panicle as it fell. Surprisingly, it was quite adept at this. By 7:15 most of the frogs had climbed down the panicles, possibly in response to the sun which was getting quite hot, or perhaps the flies had left.

This species is described as a savannah frog (Murphy 1997) and thus the rice fields are their normal habitat, presumably with some of their normal predators. Since they were so conspicuous, I wonder how these frogs avoided being discovered by their own predators.

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