Lauren White (Oklahoma State University) was quick to find an *Anolis oculatus* exploiting the complex structural habitat on the grounds of the Sunset Bay Club.

TRAVELOGUE

Most by Land, Some by Sea: Photographing the Obscure in Dominica

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Photographs by the author except where noted.

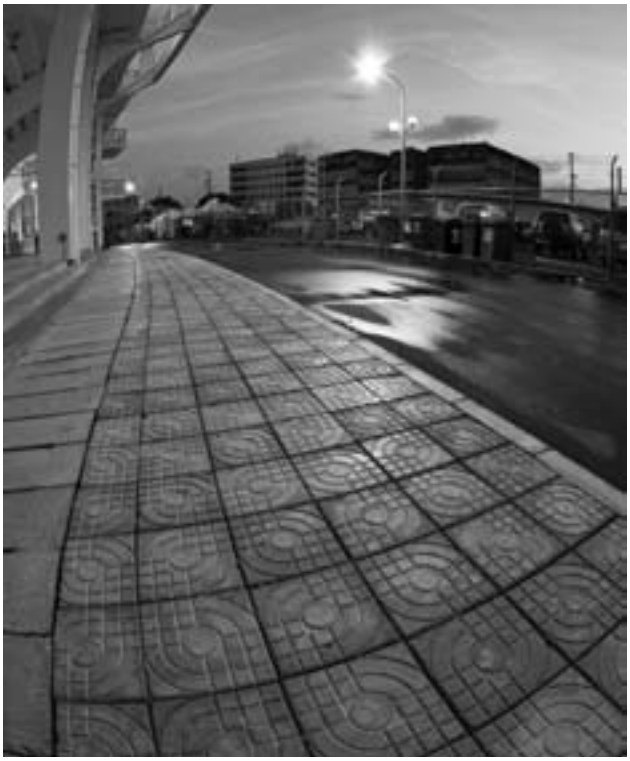
We go through life with all kinds of things covering our eyes. Although some are self-imposed, many can be attributed to outside sources. Time is a prime example, and I was never more aware of just how little was available than during a three-week trip to Dominica. Nine students from across the U.S. and Puerto Rico had been accepted to the Avila University Research Experiences for Undergraduates (REU) program. These National Science Foundation funded programs last about 10 weeks, and most are based in labs at U.S. universities. Needless to say, fieldwork on a tropical island was an attractive perk of the Avila program.

Spending the entire three weeks fixated on a subset of the fauna or even a single species, collecting data for projects that we were expected to complete and submit for publication, often interfered with commonplace activities like showers and sleep. It certainly got in the way of exploring one of the most well-regarded diving and ecotourism destinations in the West Indies. This issue of *IGUANA* includes several articles about the Dominican herpetofauna, and at the risk of offending those researchers with the dedication required to ignore much of what surrounds them, the following is devoted to aspects of the island experience that might otherwise have eluded my attention.

Our first day in paradise held several surprises. The most notable was that our accommodations at Sunset Bay were far more civilized than those that field biologists usually experience. Also, our immediate surroundings, a complex of ornamental plants in a well-maintained garden, provided a diverse assortment of cover and perching sites that was readily exploited by a number of Dominican lizards (along with occasional frogs and snakes). Amazingly, during my survey, I found that the hotel grounds were home to the highest herpetofaunal diversity we encountered on the island — no doubt facilitated by the hotel

This sunset at the Sunset Bay Club heralded our arrival.

High elevations, rugged topography, and hundreds of streams produce myriad waterfalls. Here, the students enjoy some downtime beneath Trafalgar Falls.



These pillars support the grandstands of Windsor Park Stadium in the capital of Roseau. Although usually host to cricket matches, we took a very rare night off to experience the national military band and a steel drum group playing everything from hip-hop to Mozart and the theme from Snow White. Such intensely developed areas are rare on Dominica, and are largely limited to the very centers of Roseau and the larger villages on the island.

Ruthie Carter studied microhabitat associations of frogs. Because we shared a need to cover much of the island, she became my travel partner. While searching for *Eleutherodactylus amplinympha* on Morne Macaque a kilometer above the ocean, she looks out over what would have been Freshwater Lake had the cloud forest not been, well, cloudy.

This dead bat had been hanging unnoticed from a branch during much of our stay; its discovery on our last day was attributable to the smell.

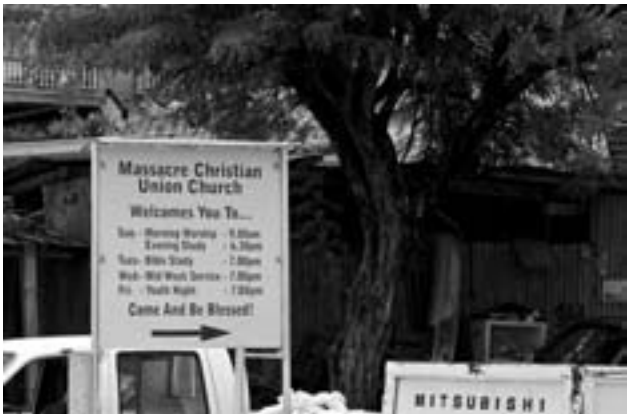
management and staff, who thoroughly enjoyed (or at least tolerated) the animals, not to mention putting up with us and our antics.

The area was densely planted with exotic vegetation, lacked a full tree canopy, and despite omnipresent humans and a great deal of concrete, we saw as many reptilian species here as at any other single place on the island. This situation is not unique, and is actually predicted by the intermediate disturbance hypothesis. For example, if you build a swimming pool in the middle of the forest, it will probably not prevent any of the previous inhabitants from living nearby. Meanwhile, however, aquatic species, which normally would not live in a dry forest, now have suitable habitat and may occupy a new niche that was previously unavailable, thus increasing the local diversity.

Of course, the risk exists that the magnitude, frequency, or type of disturbance may make an entire area uninhabitable for some or all of the species currently present. The seemingly optimal environment offered at Sunset Bay was certainly a local phenomenon. However, the ubiquity of *Iguana delicatissima* was approached only at another moderately altered environment at Champagne Bay (where we went snorkeling). The characteristics of habitats that promote diversity could exist or be emulated elsewhere, and conservation by coexistence with tolerant humans should not be overlooked as an option. This is particularly true in areas where patches of human habitation are smaller than the natural areas surrounding them, and invasive species are less of an issue. For those of us who do not live in a tropical paradise, "going herping" certainly should not be limited entirely to arduous treks through secluded areas — we might just encounter more animals and species near human habitation.

Less enchanting was getting around the island. On the drive from the airport on day one, we encountered a tourist who was forced off the road by an oncoming vehicle on a stretch of road reduced to barely one lane by the island's rugged topography. Although I was told that "traffic" on Dominica is not at all com-

PJ Muelleman (Truman State University) and a school of fish at Champagne Bay, a Dominican national marine sanctuary.



Named by the French for a 1674 killing of Carib Indians by the English, Massacre is a coastal town north of the capital Roseau. A member of our group commented on how this would read if "vandals" were to add an "s" after Christian…

parable to that on more developed islands, searching for appropriate field sites was occasionally problematic. My specific project involved traveling across much of the island at all elevations and times of day to evaluate the herpetofaunal diversity at eleven sites. These areas were characterized by varying degrees of human activity, and formed a gradient from natural forests to bustling towns. Considerable travel was involved, and our limited time frame and Dominica's lack of superhighways led to an appreciation for why local residents regularly ignore posted speed limits.

In many ways, Dominica has remained the island it was when Europeans first arrived. Intimidating mountain ranges and near total absence of intervening flatlands that precluded the development of extensive sugar plantations during the colonial era are largely responsible. The roads to several of our study sites, which were at elevations over 500 m, alternately revealed expansive ocean vistas and views of the extensive old-growth forests that still cover much of the island. In sharp contrast, the frogs, lizards, and snakes we sought were often quite miniscule. Being a bit of a camera nut who dabbles in underwater photography, I was well-equipped with a wide-angle lens for the vistas and a macro lens for the critters.

The blessings and curses of carrying a camera abound. Leaving behind this piece of steal-able, bulky, breakable, temperamental, and valuable scientific equipment is almost guaranteed to result in missed photographic opportunities — yet the burden is not unlike that of taking responsibility for a child in the field. Another curse is the almost inevitable reality that you'll have the wrong lens in place when faced with a fleeting image you wish to preserve. However, when properly wielded, a good camera allows you to record memories of one-time experiences like no other tool.

For example, we were walking under the majestic 20-m forest canopy along the trail to Kachibona Lake, and I had my fisheye lens attached when a small frog scampered across the path.

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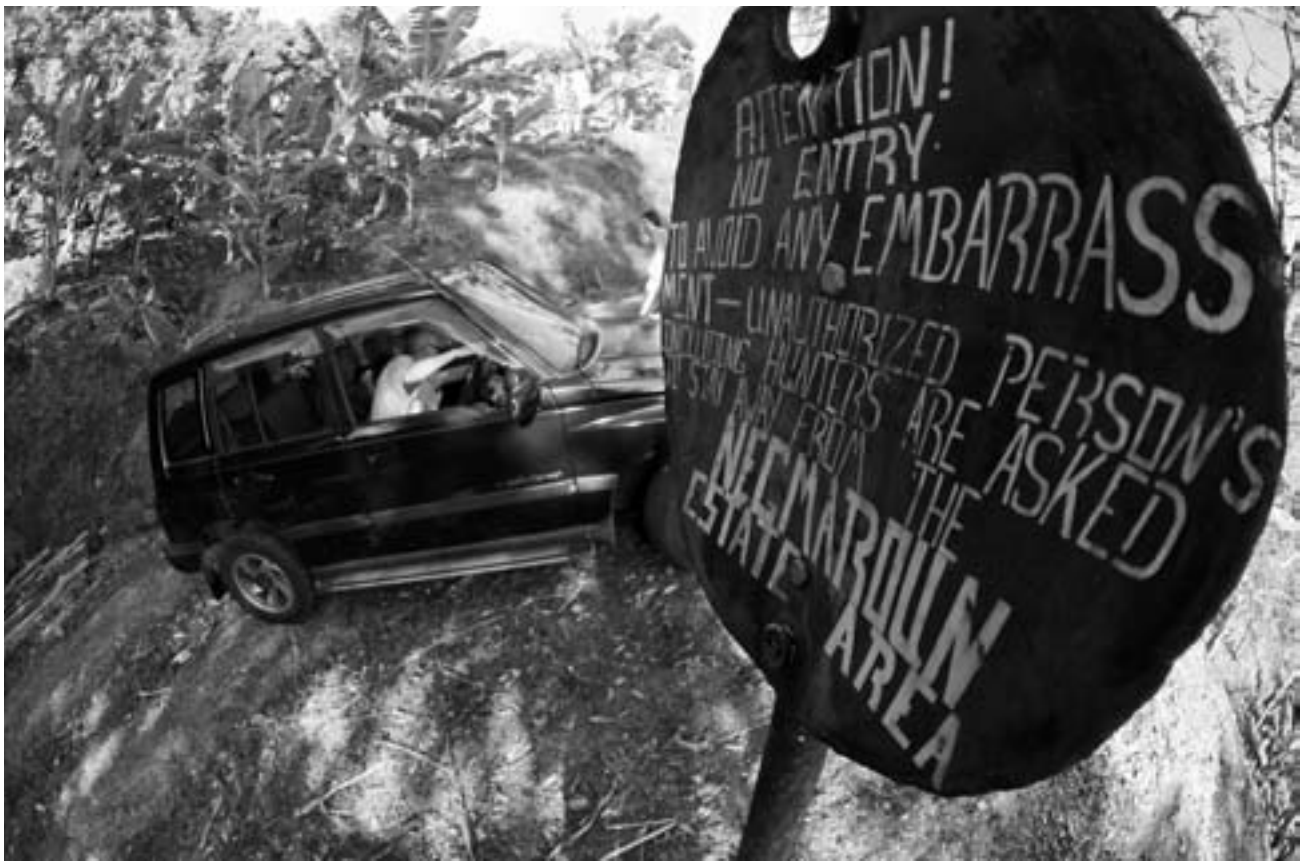
The sea and shore on the windward (eastern) coast of Dominica is framed by banana leaves. Although spared the ravages imposed on most islands by the sugar industry during the colonial era, banana plantations proliferated during the 20th century and, unlike sugar, these extend high into the mountains. However, with falling banana prices in recent years, forest is reclaiming some former plantations.



Turning around when we ran out of passable road was a common occurrence. This foreboding sign required us to back down 50 m of steeply pitched asphalt. The entrance we eventually used to access the trail to Kachibona Lake was just to our left, although we took another two days to discover it.

Few living things can make you feel smaller or younger than old-growth forests. This open semi-dry region was near the beginning of a treacherous three-hour hike to Kachibona Lake.

This lens has a viewing angle wider than a human eye, and distorts straight lines into curves (note the trees in wide angle shots). However, small objects can be emphasized against a large background, and thus given a context that a normal lens would not allow.

Much of my work was done at night, and operating a camera while dodging raindrops and attempting to take field notes became quite a challenge. Flashes operate just fine without ambient light, but that's not true for the autofocus feature. Thankfully, we had solutions strapped to our heads. Our nighttime activities were all conducted with headlamps. Usually, a colleague was available to shed enough light on a subject to give our cameras a chance to focus, but working alone required more appendages than the number typically allotted to people (admittedly, a tripod would have helped, but data collection almost invariably precluded its use). A solution was to frame a picture, then move my head away from the camera to angle the light on a subject just in front of the lens. Autofocus makes a distinctive noise when it stops "hunting" for the subject and finds a focal point. Depressing the shutter immediately after this happens without looking at the viewfinder is hardly a foolproof method, but was sometimes the only option. Fortunately, most of the animals we encountered at night were asleep or happily ensconced on a stable perch and could be readily approached. Some of these provided a wonderful excuse to take off the blinders we wore to anything not related to amphibians or reptiles. Unfortunately, many of these creatures were mobile, and some insect pictures were possible only because biological urges (sex and food) kept them from scuttling out of the frame. Because I too was fixated on frogs and lizards, I often needed a few moments to realize what I was seeing when encountering insects at night.

One of our first nocturnal hikes involved a narrow trail along a 45° slope in the midst of organic plastic-wrapped banana trees. What first seemed to be a walking stick a few feet from my head turned out to have considerably more than the usual number of legs and antennae. After counting more than 12 appendages, I eventually located two heads of animals engaged in an aerial ballet of significant sexual dexterity.

Cannibalism was another activity well suited to macro photography. After completing an uneventful survey along a trail behind the Syndicate Nature Centre, we again encountered an animal with too many legs. This time, however, only enough limbs to account for one and a half insects were present. A large

A Martinique Frog (*Eleutherodactylus martinicensis*) and Craig Berg's intimidating hands are only a few centimeters from the fisheye lens. This was taken without a flash, using only the patchy light filtering through the canopy.

This grasshopper is feasting on another of its species. The genders involved and what events led to this macabre spectacle are unknown. Sexual cannibalism is rare in insects outside of mantids, but is known to occur in crickets.

These walking sticks were engaged in midair coitus. The insect on top is hanging onto a leaf with two feet (top of frame), whereas the lower individual is hanging onto the head of the first.

grasshopper was cannibalizing another, and we arrived after most of one creature had been ingested by the other.

For those of us with a penchant for water, an investment in an underwater housing adds another weight-limit-grazing bag — but also can provide opportunities for tripling the difficulty of land-based photography (along with boatloads of fun). Considering Dominica's reputation for diving, I found myself carrying my total body weight in equipment, and had to resort to washing my limited clothing supply by swimming. When I could sneak in the two hours required to set up, dismantle, and clean the aluminum housing, I spent much of my time freediving with a snorkel.

The housing and external strobe are about the size and weight of a toddler, although they achieve near-neutral buoyancy in the ocean with the aid of foam floats and displaced water. Towing the bulk with flippers is not difficult. However, like approaching land animals with a camera, sea creatures capable of fleeing are far more inclined to do so when presented with a clunky light emitting black object. On land, the solution is to use zoom lenses that allow the photographer to capture a subject from a distance, but that's impractical underwater. Color is distorted by wavelengths of light absorbed by the water, and distant objects often have a drab, flat blue appearance. The solution is in the words of a war photographer named Robert Capa

A trumpetfish is camouflaged amid the limbs of a feather duster worm, blown back by the swells from which the feathers sift food particles. The polychaete worm is actually the more skittish of the two, and responds to any disturbance by quickly withdrawing into the mineralized cylinder it secretes.

(who, incidentally, died by stepping on a landmine): "If your pictures *aren't* good enough, *you're* not close enough." The need to be close to the target results in many shots of fish posteriors, and stalking anything that can move underwater will often include the childhood games of hide-and-seek or sit-and-wait. Wandering through a forest of spiky soft corals in the midst of an untouched rocky patch reef, I encountered a number of evocatively named creatures including Gold Spotted Snake Eels, Flying Gurnards, and Bearded Fire Worms.

Never more than a few inches long, blennies sit atop corals next to holes no larger than themselves, into which they all-too readily disappear.

A two-meter high starburst of soft coral rises above the ocean floor at night.

Dominica has much to offer a naturalist, not only in terms of diversity, but in sheer quantity of flora and fauna. A national park system is in place, and a mix of international and indigenous conservation efforts have established public education programs. However, new threats, such as an outbreak of the chytrid fungus among amphibian populations, are of increasing concern. Development on the scale of that on many other Caribbean islands is certainly within the realm of possibility. Economic needs may yet trump the "nature isle." However, the current level of coexistence between the flora and fauna and humans and their needs has resulted in a unique destination for those of us who enjoy a natural experience.

A "hairy" crustacean retreats under the swaying arms of a protective sea anemone.

"Boa" Bob Henderson demonstrated his snake-wrangling skills to the displeasure of this *Boa nebulosa*.

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One visible sign of the nation's commitment to conservation consists of educational signs posted along many of the major roads.

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