medium-sized anoles may be distinguished in the field by differences in dewlap color and the presence or absence of a white labial stripe (Schwartz and Henderson, 1991). Antillean anoles are often distinguished by color rather than scalation, especially in the hues and tints of the male dewlap (Schwartz, 1969). Differences in scalation between *A. chlorocyanus* and *A. coelestinus* are primarily modal, but differences in the size, shape, and color of dewlap scales are distinctive (Williams, 1965), although some female and small male *A. chlorocyanus* have the pigmented dewlap scales most commonly associated with *A. coelestinus.*

While investigating male agonistic behavior patterns in Barahona, we encountered some individuals that could not be attributed confidently to either species. As a result, we examined 35 green anoles from Barahona and compared them to 22 *Anolis c. chlorocyanus* from Neiba, Provincia de Baoruco (the nearest North Island population from which we had access to an adequate sample), and to 31 *A. c. coelestinus* from the slopes of the Sierra de Baoruco south of Barahona. The two species are clearly allopatric at these two sites. Comparative data are summarized in Table 1. Of the 35 green anoles from Barahona, eight were *A. c. clorocyanus* and 13 were *A. c. coelestinus,* but 14 had intermediate characteristics indicative of hybrids.

We also observed behavioral evidence indicative of hybridization. On 12 June 1993 near the Hotel Guarocuya in Barahona, we videotaped attempted breeding behavior between a male *Anolis coelestinus* and a female *A. chlorocyanus*. We introduced the tethered female *A. chlorocyanus* to a resident male *A. coelestinus.* Within one minute the male advanced to investigate the female and attempted to mount her. This first encounter lasted approximately 40 sec. The male then retreated up the tree and repositioned himself. We reintroduced the same tethered female to the same male approximately 5 min later. The female responded for about 1 min to the male's advances. The male subsequently succeeded in mounting her, although copulation was not observed. The entire encounter lasted approximately 2.5 min.

Although our data are insufficient to declare with certainty that hybrids exist between these species, 13 of 35 individuals in the zone of contact possessed distinctly intermediate characteristics, This evidence, combined with the lack of hesitation shown in the one interspecific interaction we witnessed, led us to conclude that hybridization occurs. Viability of the purported hybrids apparently is quite high; individuals with intermediate characteristics were among the most aggressive in our studies of male agonistic behavior.

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Appendix 1

Specimens examined are in the Bobby Witcher Memorial Collection (BWMC) at Avila College, Kansas City, Missouri 64145 USA: *Anolis c. chlorocyanus* from Neiba, Provincia de Baoruco, República Dominicana (BWMC 02469,03727-9,03734-44, 05378-84); *A. c. coelestinus* from the eastern slopes of the Sierra de Baoruco, Provincia de Barahona, República Dominicana (BWMC 03076-7,03656-73,05268, 05270,05274,05276-7, 05280, 05282-3, 05285-6, 05290); and green anoles from in and near Barahona, Provincia de Barahona, República Dominicana (BWMC 03073-5,04022,04206-11, 04643-4, 04659, 05359-73, 05385-9, 05465, and one specimen being kept alive at Avila College).

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Records of Bat Ectoparasites from the Luquillo Experimental Forest of Puerto Rico

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During the course of ecological research in the Luquillo Experimental Forest (LEF) of Puerto Rico, we collected ectoparasites from seven species of bats: *Artibeus jamaicensis jamaicensis, Brachyphylla cavernarum intermedia, Eptesicus fuscus wetmorei, Erophylla sezekorni sezekorni, Monophyllus redmani portoricensis, Pteronotus parnellii portorlcensis,* and *Stenoderma rufum darioi.* Herein, we report ectoparasites infesting these bats and provide comments on host-parasite associations.

Bats were captured in mist nets from various locations within the LEF during the dry (March) and rainy (June–August) seasons of 1988 and 1989. Within 20 minutes of capture, wing and tail membranes, pelage, ears, and face were examined for the presence of arthropods. Ectoparasites were removed and placed in vials containing 70%. ethyl alcohol; a separate vial stored all ectoparasites from each bat. Hosts were then banded and subsequently released.

TABLE 1. Ectoparasites of bats from Puerto Rico.

Host	Ectoparasite	Family
Artibeus jamaicensis	*Megistopoda aranea*[1,3,7,c]	Streblidae
	Paralabidocarpus foxi[1]	Labidocarpidae
	Paralabidocarpus artibei[4,c]	Labidocarpidae
	Periglischrus iheringi[1,2,3,5,7,c]	Spinturnicidae
	Periglischrus vargasi[1,2,c]	Spinturnicidae
	Spelaeorhynchus praecursor[1,3,6,7,C]	Spelaeorhynchidae
	Aspidoptera phyllostomatus[7,a,c]	Streblidae
	Trichobius intermedius[1,7,c]	Streblidae
	Trichobius robynae[1]	Streblidae
Brachyphylla cavernarum	*Lawrenceocarpus micropilus*[1,4]	Labidocarpidae
	Lawrenceocarpus puertoricensis[1]	Labidcarpidae
	Radfordiella oudemansi[1,3]	Macronyssidae
	Trichobius truncatus[1,3,7,c]	Streblidae
	Periglischrus cubanus[7,a,b,c]	Spinturnicidae
Eptesicus fuscus	*Spinturnix bakeri*[7,c]	Spinturnicidae
Erophylla sezekorni	*Trichobius robynae*[1]	Streblidae
	Trichobius truncatus[3]	Streblidae
	Ornithodorus viguerasi[3]	Argasidae
	Ornithodoros sp.[7,c]	Argasidae
	Periglischrus cubanus[7,a,c]	Spinturnicidae
Monophyllus redmani	*Spelaeorhynchus monophylli*[1,2,3,6,7,c]	Spelaeorhynchidae
	Trichobius cernyi[7,c]	Streblidae
	Trichobius robynae[1,7,c]	Streblidae
	Trichobius truncatus[1,3]	Streblidae
	Trichobius sp. (near sparsus Kessel)[2,C]	Streblidae
	Nycterophilia parnelli[7,a,c]	Streblidae
	PerigIischrus vargasi[7,a,c]	Spinturnicidae
Stenoderma rufum	*Paralabidocarpus artibei*[1,4,c]	Labidocarpidae
	Paralabidocarpus foxi[1,c]	Labidocarpidae
	Paralabidocarpus stenodermi[1,c]	Labidocarpidae
	Periglischrus iheringi[1,2,3,7,c]	Spinturnicidae
Pteronotus parnellii	*Cameronieta thomasi*[7a,c]	Spinturnicidae

1 = Webb and Loomis, 1977; 2 = Tamsitt and Valdivieso, 1970; 3 = Tamsitt and Fox, 1970a; 4 = Tamsitt and Fox, 1970b; 5 = Rudnick, 1960; 6 = Fain et al., 1967; 7 = this study; a = new record for Puerto Rico; b = new host record; c = known from the Luquillo Experimental Forest,

The primary arthropod groups sampled in this study, spincturnicid wing-mites, spelaeorhynchid ear-mites, argasid ticks, and streblid bat-flies, can be easily seen and collected while examining the bat host. Other ectoparasites may occur on these bats, but were undetected by our sampling protocol,

We collected spincturnicid wing-mites from all the bat species (Table 1), *Periglischrus cubanus* is reported in Puerto Rico for the first time, infesting *Brachyphylla cavernarum* and *Erophylla sezekorni.* This mite was originally described from several species of bats (including *B. nana)* in Cuba (Dusbabek, 1968). *Periglischrus vargasi* infests several species of glossophagine bats, and has been reported from *Monophyllus cubanus (=redmani)* in Cuba (Dusbabek, 1968). This is the first report of an association between *P. vargasi* and *M. redmani* in Puerto Rico. *Cameronieta thomasi,* also a spincturnicid wing-mite, was collected from *Pteronotus parnellii. Cameronieta* was first established as a morphologically distinct group from *Periglischrus* by Machado-Allison (1965). This genus appears to be host specific on *Pteronotus* and *Mormoops,* and the association was used to support separation of mormoopid bats from phyllostomids (Smith, 1972). This is the first record of an association between *C. thomasi* and *P. parnellii* in Puerto Rico.

Mites of the family Spelaeorhynchidae were taken from the ears of *Artibeus jamaicensis* (n = 28) and *M. redmani* (n = 9). Unfortunately, all these mites were damaged during removal. The mouthparts of spelaeorhynchids are embedded deeply in the skin, and it is necessary to cut part of the ear to remove them intact. Two species were observed in this study—*Spelaeorhynchus* precursor on *A. jamaicensis,* and *S. mon-*

ophylli on *M. redmani.* These two mites are described and illustrated by Fain et al. (1967).

Argasid ticks *(Ornithodoros* sp.) were collected from *E. sezekorni.* These specimens may be *O. viguerasi,* a taxon first reported on Puerto Rico from *E. bombifrons (=sezekorni)* by Tamsitt and Fox (1970a).

Streblid batflies were collected from *A. jamaicensis, M. redmani,* and *B. cavernarum.* Of those infesting A. *jamaicensis,* both *Megistopoda aranea* and *Aspidoptera phyllostomatis* are well-known ectoparasites of this host throughout its range. In contrast, associations between *Trichobius intermedius* and *A. jamaicensis* are known only from the Caribbean and Central America (Peterson and Hurka, 1974), including Puerto Rico (Webb and Loomis, 1977). *Trichobius truncatus* was found infesting *B. cavernarum,* This association has also been reported by Tamsitt and Fox (1970a), *Trichobius cernyi* was known previously only from Cuba, and is reported for the first time associated with *M. redmani,* The primary host of *Nycterophilia parnelli* is *Pteronotus parnellii.* Although this mormoopid bat is present in Puerto Rico, it was seldom captured during our study, The association of *N. parnelli* on *M. redmani* is a new record for Puerto Rico and may, in this instance, indicate roost sharing between two bat species.

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Biomasa de *Thalassia testudinum* en Punta Gavilán y Santa Cecilia, Quintana Roo, México

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El pasto marino más estudiado en el mar Caribe es *Thalassia testudinum* (Banks ex König 1805) que ha recibido mucha atencion desde el punto de vista biológico (Johnson y Williams, 1982) así como en su ecología y distribución (Fourqurean et al., 1992). En el Caribe Mexicano, la biomasa se ha determinado en la parte norte de Quintana Roo (Nugent et al., 1978; Gallegos et al., 1993), pero no en la zona sur del estado. El objetivo de este trabajo fue determiner la biomasa de *Thalassia testudinum* en dos lugares selectos en la parte sur de Quintana Roo, México.

Se obtuvieron muestras bimensualmente desde febrero a diciembre de 1992 en Punta Gavilán (PG) y Santa Cecilia (SC), al sur de Quintana Roo (18°00'N, 87°45'W y 18°30'N, 88°00'W), Utilizando un cuadrante de 0.1 m^2 se recolectaron muestras al azar a profundidades menores de 1.5 m, dentro de la laguna arrecifal. Todo el material vegetal contenido en el cuadrante fue cortado al nivel del sedimento y se fijó con formol al 4% diluído con agua de mar. En PG se recolectó una muestra y dos réplicas en SC una muestra. Después de eliminar las epífitas y los carbonatos se determinó la biomasa en peso seco ($g \cdot ps \cdot m^{-2}$) (Nugent et al., 1978).