

FLORA AND FAUNA OF THE EL VERDE FIELD STATION

By

ALEJO ESTRADA-PINTO  
ROSSER W. GARRISON  
DOUGLAS P. REAGAN  
ROBERT B. WAIDE  
CAROL P. ZUCCA



CENTER FOR ENERGY AND ENVIRONMENT RESEARCH  
UNIVERSITY OF PUERTO RICO — U.S. DEPARTMENT OF ENERGY

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### Introduction

The El Verde Station is located on the northwest slope of the Luquillo Mountains in northeastern Puerto Rico (latitude 18°19'N, longitude 65°45'W). The 150 ha research area is located on land under federal control and is occupied under a use agreement between the U.S. Department of Energy and the U.S. Forest Service. The Station is operated for the DOE by the Center for Energy and Environment Research. The history of ecosystem research at the site goes back to 1963 and the Rain Forest Project under the direction of Howard Odum. The research area ranges from 250 to 500 m above sea level and has a mean annual rainfall of 3.5 m (138 in) and mean monthly temperatures between 21-25°C (70-77°F).

The field station is within the 11,330 ha Luquillo Experimental Forest, which is congruent with the Caribbean National Forest. The area was declared a forest reserve in 1903 and has been managed by the U.S. Forest Service since 1917. The Luquillo Mountains reach an elevation of 1,075 m above sea level and serve as the headwaters for six major rivers. The forest contains four life zones (subtropical wet forest, subtropical rain forest, lower montane wet forest, lower montane rain forest) under the Holdridge system of classification. In addition to its designation as an Experimental Forest, the Caribbean National Forest is also a Biosphere Reserve and contains a Research Natural Area. A wealth of background information is available including a good understanding of the taxonomy of most plant and animal

groups, 80 years of climatic observations, 30 years of data on forest growth and composition changes, complete vegetation, soils, and geologic maps, and 20 years of intense study of the tabonuco forest around the field station.

### Floral and Faunal Diversity

Puerto Rico stands as the fulcrum between the east-west arm of the Greater Antilles and the north-south arm of the Lesser Antilles. The flora and fauna of the island contain elements of both regions. While the insular pattern of reduced richness of the biota is evident in Puerto Rico, the island still has 547 native species of trees, 13 species of bats, 249 species of birds, 41 species of reptiles, and 22 species of amphibians. The Caribbean National Forest contains 225 tree species, 82 vertebrate species, and a wide variety of invertebrates. During 20 years of field work at El Verde, there have been recorded 8 amphibians, 11 reptiles, 34 birds, 8 mammals, and over 2,100 species of invertebrates.

### How to Use This List

Major groups are listed below in different tables because of the complexity of some groups compared to others. Only those species occurring within the El Verde Research Area are included. For plants, only the more commonly occurring species are given. A more complete list can be found in Odum and Pigeon (1970).

For invertebrates, we give information on the principal strata where they occur: soil (SOI), litter (LIT = dead organic matter resting on the ground), understory (UND = from the litter to the bottom of the

completely closed canopy of mature trees), and canopy (CAN = the closed leaf layer made up by the crowns of mature trees). These characterizations are based both on sampling data and knowledge of the general habits of different groups. The list of invertebrates is by necessity incomplete, and we anticipate that many new taxa will be added in the future. In particular, the holometabolous species (from Neuroptera on) are numerous and difficult to identify and should contribute more to the list as their taxonomy becomes clearer.

Information on abundance is given for the better-studied vertebrates. Classification as rare or abundant is subjective where actual densities are not listed, and these categories may reflect different absolute abundances for different taxa.

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TABLE 1. The common plants at El Verde are listed below, with trees followed by shrubs. Scientific names are from Martorell et. al. (1981).

TREES

Phylum: Spermatophyta	Order: Sapindales
Class: Monocotyledones	Family: Sapindaceae
Order: Palmales	<u>Matayba domingensis</u>
Family: Palmaceae	
<u>Prestoea montana</u>	
	Order: Malvales
	Family: Elaeocarpaceae
	<u>Sloanea berteriana</u>
Class: Dicotyledones	Order: Violales
Subclass: Polypetalae	Family: Flacourtiaceae
Order: Urticales	<u>Casearia arborea</u>
Family: Moraceae	<u>Homalium racemosum</u>
<u>Cecropia peltata</u>	
	Order: Myrtales
Order: Magnoliales	Family: Combretaceae
Family: Lauraceae	<u>Buchenavia capitata</u>
<u>Nectandra sintensii</u>	
<u>Ocotea leucoxyton</u>	Family: Myrtaceae
<u>Ocotea moschata</u>	<u>Myrcia splendens</u>
Order: Leguminosae	Family: Melastomataceae
Family: Mimosaceae	<u>Miconia tetrandra</u>
<u>Inga fagifolia</u>	<u>Calycogonium squa-</u>
<u>Inga vera</u>	<u>mulosum</u>
Family: Fabaceae	Order: Umbelliflorae
<u>Ormosia krugii</u>	Family: Araliaceae
	<u>Didymopanax</u>
Order: Rutales	<u>morototoni</u>
Family: Rutaceae	
<u>Zanthoxylum</u>	Subclass: Sympetalae
<u>martinicense</u>	Order: Ebenales
	Family: Sapotaceae
Family: Burseraceae	<u>Manilkara bidentata</u>
<u>Dacryodes excelsa</u>	<u>Micropholis garcini-</u>
	<u>folia</u>
Family: Meliaceae	Order: Oleales
<u>Guarea guidonia</u>	Family: Oleaceae
	<u>Linociera domingensis</u>
Order: Euphorbiales	
Family: Euphorbiaceae	Order: Solanales
<u>Alchorneopsis</u>	Family: Bignoniaceae
<u>floribunda</u>	<u>Tabebuia heterophylla</u>
<u>Croton poecilanthus</u>	
<u>Sapium laurocerasus</u>	

SHRUBS DOMINANT IN OPEN AREAS

Phylum: Spermatophyta  
Class: Dicotyledones  
Subclass: Sympetalae  
Order: Rubiales  
Family: Rubiaceae  
Palicourea crocea  
Psychotria berteriana

Phylum: Pteridophyta  
Class: Filicinae  
Order: Eufilicales  
Family: Cyatheaceae  
Alsophila bryophila  
Cyathea arborea  
Cyathea aquilina

SHRUBS DOMINANT IN SHADY AREAS (WITH A CLOSED CANOPY)

Phylum; Spermatophyta  
Class: Dicotyledones  
Subclass: Polypetalae  
Order: Piperales  
Family: Piperaceae  
Piper aduncum  
Piper tuberculatum  
Pothomorphe peltata

Order: Urticales  
Family: Urticaceae  
Urera baccifera  
Urera caracasana

Order: Sapindales  
Family: Anacardiaceae  
Comocladia glabra

Order: Myrtales  
Family: Melastomataceae  
Miconia prasina  
Miconia tetrandra  
Miconia racemosa

Table 2. Foraging status of invertebrate taxa in the rain forest at El Verde.

Taxon	Foraging location
ARACHNIDA	
Amblypygi	
Phrynidae	
<u>Phrynus palmatus*</u>	LIT, UND
Scorpionida	
Buthidae (1 sp.)	LIT, UND
Pseudoscorpionida	
Menthidae	
<u>Menthus sp.*</u>	LIT
Ideoroncidae (1 sp.)*	LIT
Opiliones	
Gonyleptidae (1 sp.)*	LIT
Acarina (about 30 spp.)*	SOI, LIT, UND
Araneida	
Theraphosidae	
<u>Cyrtopholis portoricae</u>	UND
Dipluridae	
<u>Accola spinosa*</u>	LIT
Barychelidae (1 sp.)	LIT
Uloboridae	
<u>Miagrammopes ciliatus*</u>	UND
Pholcidae	
<u>Micromerys dalei*</u>	UND
<u>Modisimus montanus</u>	LIT
<u>M. signatus*</u>	UND
Theridiidae (about 3 spp.)	LIT, UND
Araneidae	
<u>Leucauge regnyi*</u>	UND, CAN
(2 other spp.)	UND, CAN
Mimetidae	
<u>Mimetus portoricensis</u>	UND
Clubionidae (2 spp.)	LIT
Anyphaenidae	
<u>Wulfilia coamoana*</u>	LIT, UND
<u>W. macropalpus*</u>	LIT, UND
Ctenidae	
<u>Oligoctenus ottleyi*</u>	LIT
Sparassidae	
<u>Olios antiguensis*</u>	UND
<u>Stasina portoricensis*</u>	UND
(2 other spp.)	LIT, UND
Thomiscidae	
<u>Epicadus mutchleri*</u>	UND, CAN
Salticidae (2 or more spp.)	UND
Lyssomanidae (1 sp.)	UND



Taxon	Foraging location
<b>CHILOPODA</b>	
Geophilomorpha	
Henicopidae (1 sp.)	LIT
Oryidae (1 sp.)	LIT
Scolopendromorpha	
Cryptopidae (1 sp.)	LIT
Scolopendridae	
<u>Scolopendra alternans*</u>	LIT, UND, CAN
<b>DIPLOPODA</b>	
Glomeridesmida	
<u>Glomeridesmus marmoreus*</u>	LIT
Polydesmida	
Cryptodesmidae	
<u>Liomus obscurus</u>	LIT, UND
<u>Docodesmus maldonadai*</u>	LIT
Leptodesmidae	
<u>Ricodesmus stejneri*</u>	LIT
Spirobolida	
Spirobolellidae	
<u>Microspirobolus richmondi</u>	LIT
Cambalida	
Epinannolenidae	
<u>Epinannolene trinidadensis</u>	LIT
Chordeumida	
Stemmiulidae	
<u>Prostemmiulus heatwolus*</u>	LIT
Polyzonida	
Siphonophoridae	
<u>Siphonophora portoricensis</u>	LIT
<b>CRUSTACEA</b>	
Podocopa (1 sp?)*	SOI, LIT
Subclass Copopoda(1 sp.?)*	SOI, LIT
Isopoda	
Oniscidae	
<u>Philocia richmondi*</u>	LIT
(1 other sp.)	LIT
Decapoda	
Potamonidae	
<u>Epilobocera situatifrons*</u>	LIT
<b>INSECTA</b>	
Collembola	
Sminthuridae	
<u>Ptenothrix</u> sp.	SOI, LIT
<u>Sphyratheca</u> sp.	SOI, LIT
(1 other sp.)	SOI, LIT
Entomobryidae	

Taxon	Foraging location
<u>Dicranocentropa</u> sp.*	SOI, LIT
<u>Dicranocentruga</u> (2 spp.)*	SOI, LIT, UND
(4 other spp.)	SOI, LIT
Isotomidae (2 spp.)	SOI, LIT
Poduridae (1 sp.)	SOI, LIT
Microcoryphia	
Machilidae (1 sp.)	UND
Odonata	
Coenagrionidae (1 sp.)	UND
Aeshnidae (3 spp.)	UND, CAN
Libellulidae (2 spp.)	UND, CAN
Blattodea	
Blattellidae	
<u>Aglaopteryx</u> <u>facies</u> *	LIT, UND
<u>Cariblattea</u> <u>hebardii</u> *	LIT, UND
<u>C. suave</u> *	LIT, UND
<u>Epilampra</u> <u>wheeleri</u> *	LIT, UND
<u>Neoblattella</u> <u>borinquensis</u>	LIT, UND
<u>N. vomer</u> *	LIT, UND
<u>Plectoptera</u> <u>infulata</u> *	LIT, UND
<u>Pseudosymploce</u> <u>personata</u> *	LIT, UND
P. n. sp.	LIT, UND
(about 6 other spp.)	LIT, UND
Orthoptera	
Tettigoniidae	
<u>Anaulocomera</u> <u>laticauda</u> *	UND, CAN
<u>Microcentrum</u> <u>triangulatum</u>	UND, CAN
<u>Turpilia</u> <u>rugosa</u> *	UND, CAN
(4 other spp.)	UND, CAN
Gryllacrididae	
<u>Abelona</u> sp.*	LIT, UND
Gryllidae	
<u>Amphiacusta</u> <u>caraibea</u> *	LIT
<u>Anaxipha</u> sp.*	UND, CAN
<u>Anurogryllus</u> <u>muticus</u> *	LIT
<u>Cyrtoxipha</u> <u>gundlachi</u>	UND, CAN
<u>Laurepa</u> <u>krugii</u> *	UND, CAN
<u>Orocharis</u> <u>terebrans</u> *	UND, CAN
<u>O. vaginalis</u>	UND, CAN
<u>Orocharis</u> spp.	
(at least 4 others)*	LIT, UND
(at least 3 other spp.)	LIT, UND
Phasmatodea	
Phasmatidae	
<u>Lamponius</u> <u>portoricensis</u> *	UND, CAN
(about 4 other spp.)	UND, CAN

Taxon	Foraging location
Mantodea	
Mantidae (1 sp.)	UND, CAN
Isoptera	
Termitidae	
<u>Nasutitermes costalis</u> *	UND, CAN
<u>Nasutitermes</u> (2 other spp)	UND, CAN
Kalotermitidae	
<u>Glyptotermes pubescens</u>	UND, CAN
Dermaptera	
Carcinophoridae (1 sp.)	LIT, UND, CAN?
Labiidae (1 sp.)	LIT, UND, CAN?
Embioptera	
Teratembiiidae (1 sp.)	UND, CAN
Psocoptera	
Polypsocidae (1 sp.)*	LIT, UND, CAN
Epipsocidae (3 spp.)*	LIT, UND, CAN
Psocidae (2 spp.)*	LIT, UND, CAN
Pseudocaeciliidae (2 spp.)	LIT, UND
Ptylopsocidae (1 sp.)	LIT, UND, CAN
Lepidopsocidae (1 sp.)	LIT, UND, CAN
Pachytroctidae (1 sp.)	LIT, UND, CAN
Liposcelidae (1 sp.)*	LIT
Myopsocidae (1 sp.)	LIT, UND, CAN?
Thysanoptera	
Phloeothripidae	
(at least 2 spp.)*	LIT, UND, CAN
Thripidae (8 species?)	LIT, UND, CAN
Hemiptera	
Veliidae (2 spp.)	nr. water surface
Schizopteridae (1 sp.)	LIT
Dipsocoridae	LIT
Enicocephalidae (1 sp.)	LIT, UND
Phymatidae (1 sp.)	UND
Miridae (16 spp.)	UND, CAN
Reduviidae	
? <u>Ploiaria</u> sp.*	UND
(2 other spp.)	UND
Nabidae (1 sp.)	UND
Lygaeidae (4 spp.)	UND, CAN
Coreidae (1 sp.)	UND, CAN
Aradidae (1 sp.)	LIT
Saldidae (1 sp.)	shores of streams
Cydnidae (1 sp.)	LIT
Pentatomidae (6 spp.)	UND, CAN
Homoptera	
Cicadidae	
<u>Boreonca aguadilla</u> *	CAN

Taxon	Foraging location
Membracidae (2 spp.)	CAN
Cicadellidae	
<u>Sibovea coffeacola*</u>	UND,
<u>Xestocephalus maculatus*</u>	LIT, UND
(at least 15 other spp.)	LIT, UND
Cixiidae	
<u>Bothriocera undata*</u>	UND, CAN
<u>Pintalia alta*</u>	UND, CAN
<u>P. supralta*</u>	UND, CAN
<u>P. nemaculata*</u>	UND, CAN
<u>P. martorelli</u>	UND, CAN
<u>P. osborni*</u>	UND, CAN
(3 other spp.)	UND, CAN
Delphacidae	
<u>Ugvyops occidentalis*</u>	UND, CAN
(6 other spp.)	UND, CAN
Derbidae	
<u>Dysmia maculata*</u>	UND, CAN
<u>Dawnaria sordidulum*</u>	UND, CAN
(5 other spp.)	UND, CAN
Achilidae	
<u>Catonia cinera*</u>	UND, CAN
<u>C. dorsovittata*</u>	UND, CAN
<u>C. arida*</u>	UND, CAN
(1 other sp.)	UND, CAN
Tropiduchidae	
<u>Ladella stali*</u>	UND, CAN
(2 other spp.)	UND, CAN
Flatidae	
<u>Petrusa torus</u>	UND, CAN
<u>Melormenis magna*</u>	UND, CAN
(9 other spp.)	UND, CAN
Acanalonidae (2 spp.)	UND, CAN
Kinnaridae (1 sp.)	UND, CAN
Psyllidae (5 spp.)	UND, CAN
Diaspididae (1 spp.)	LIT,
Aphididae (1 sp.)	UND,
Neuroptera	
Coniopterygidae (1 sp.)	UND
Mantispidae (2 spp.)	UND
Hemerobiidae (1 sp.)	UND
Chrysopidae (4 spp.)	UND
Ascalaphidae (1 sp.)	UND
Coleoptera	
Carabidae (1 sp.)	LIT
Histeridae (1 sp.)	LIT
Silphidae (1 sp.)	SOI, LIT
Ptiliidae (at least 2 spp)	LIT, UND, CAN

Taxon	Foraging location
Staphylinidae (about 7 spp.)*	LIT, UND
Pselaphidae (about 4 spp.)*	LIT
Scydmaenidae (1 sp.)	LIT
Cantharidae (1 sp.)	UND, CAN
Lampyridae	
<u>Photinus</u> sp.* (about 6 other spp.)	LIT, UND, CAN LIT, UND, CAN
Lycidae (about 4 spp.)	LIT, UND, CAN
Dermestidae (1 sp.)	LIT
Ostomatidae (1 sp.)	UND, CAN
Cleridae (1 sp.)	UND
Elateridae	
<u>Pyrophorus</u> <u>luminosus</u> (4 other spp.)	LIT, UND LIT, UND
Throscidae (1 sp.)	UND
Dascillidae (at least 3 spp.)	UND
Ptilodactylidae (at least 5 spp.)	LIT, UND
Rhizophagidae (1 sp.)	LIT
Cryptophagidae (1 sp.)	LIT
Cucujidae (at least 3 spp.)	LIT, UND
Phalacridae (1 sp.)	UND
Coccinellidae (at least 3 spp.)	LIT, UND
Euglenidae (at least 2 spp.)	UND, CAN
Colydiidae (1 sp.)	LIT, UND
Oedemeridae (1 sp.)	UND
Mordellidae (1 sp.)	UND, CAN
Tenebrionidae (1 sp.)	LIT, UND
Melandryidae (1 sp.)	UND
Anobiidae (2 spp.)	
Passalidae (1 sp.)	LIT, UND
Scarabaeidae (10 spp.)	LIT, UND
Cerambycidae (14 spp.)	LIT, UND, CAN
Chrysomelidae (at least 3 spp.)	LIT, UND, CAN
Brentidae (1 sp.)	UND
Curculionidae (at least 9 spp.)	LIT, UND, CAN
Platypodidae (1 sp.)	UND, CAN
Scolytidae (at least 8 spp.)*	LIT, UND, CAN
Lepidoptera	
Pieridae	
<u>Dismorphia</u> <u>spio</u> * (5 other spp.)	UND UND, CAN

Taxon	Foraging location
Papilionidae (1 sp.)	UND, CAN
Satyridae (1 sp.)	UND
Heliconiidae (1 sp.)	UND
Nymphalidae (about 10 spp.)	UND, CAN
Lycaenidae (about 2 spp.)	CAN
Hesperiidae (about 5 spp.)	UND, CAN
Sphingidae (9 spp.)	UND, CAN
Ctenuchidae (7 spp.)	UND
Nolidae (1 sp.)	UND
Arctiidae (8 spp.)	UND
Noctuidae (60 spp.)*	UND
Pericopidae (2 spp.)	UND
Notodontidae (4 spp.)	UND
Geometridae (23 spp.)	UND
Megalopygidae	
<u>Megalopyge krugii*</u>	UND
Pyralidae	
<u>Desmia tages*</u>	UND
<u>Margaronia elegans*</u>	UND
<u>Sparagmia gigantalis*</u>	UND
(at least 60 other spp.)	UND
Thyrididae (3 spp.)	UND
Pterophoridae (5 spp.)	UND
Alucitidae (1 sp.)	UND
Olethreutidae (2 spp.)	UND
Tortricidae (2 spp.)	UND
Cossidae (1 sp.)*	UND
Gelechiidae (at least 1 sp.)	UND, CAN
Ethmiidae (at least 1 sp.)	UND
Gracillariidae (at least 1 sp.)	UND, CAN
Acrolophidae (9 spp.)*	UND
Tineidae (at least 1 sp.)	UND
Diptera	
Tipulidae (38 spp.)*	LIT, UND
Psychodidae (27 spp.)*	LIT, UND
Culicidae (9 spp.)	UND, CAN
Ceratopogonidae (34 spp.)	
Chironomidae (51 spp.)**	LIT, UND, CAN
Simuliidae (2 spp.)	UND
Mycetophilidae (28 spp.)*	LIT, UND, CAN
Sciaridae (33 spp.)*	LIT, UND, CAN
Scatopsidae (2 spp.)	LIT, UND, CAN
Cecidomyiidae (30 spp.)	LIT, UND, CAN

Taxon	Foraging location
Stratiomyidae (6 spp.)*	LIT, UND
Tabanidae (1 sp.)	UND
Empididae (6 spp.)	UND
Dolichopodidae (16 spp.)*	UND
Phoridae (65 spp.)*	LIT, UND, CAN
Pipunculidae (1 sp.)	CAN
Syrphidae (5 spp.)	UND, CAN
Micropezidae (4 spp.)	LIT, UND
Otitidae (2 spp.)	LIT, UND
Tephritidae (1 sp.)	UND
Sepsidae (1 sp.)	UND
Lauxaniidae (6 spp.)	UND, CAN
Lonchaeidae (2 spp.)	UND
Sphaeroceridae (4 spp.)	LIT, UND
Milichiidae (2 spp.)	UND
Curtonotidae (1 sp.)	UND, CAN
Drosophilidae (8 spp.)*	LIT, UND
Chloropidae (2 spp.)	UND, CAN
Odiiniidae (1 sp.)	LIT, UND, CAN
Agromyzidae (1 sp.)	UND
Clusiidae (3 spp.)	LIT, UND
Neriidae (3 spp.)	UND
Anthomyiidae (12 spp.)*	LIT, UND
Streblidae (1 sp.)	UND, CAN
Sarcophagidae (14 spp.)	LIT, UND
Calliphoridae (1 sp.)*	LIT, UND
Tachinidae (at least 20 spp)	UND, CAN
Hymenoptera	
Ichneumanidae (4 spp.)	UND, CAN
Brachonidae (8 spp.)	UND, CAN
Mymaridae (13 spp.)*	UND, CAN
Trichogrammatidae (3 spp.)	UND, CAN
Eulophidae (14 spp.)*	UND, CAN
Encyrtidae (7 spp.)	UND, CAN
Eupelmidae (1 sp.)	UND, CAN
Agaonidae (1 sp.)	UND, CAN
Torymidae (1 sp.)	UND, CAN
Cynipidae (4 spp.)	UND, CAN
Ceraphronidae (11 spp.)	UND, CAN
Diapriidae (12 spp.)	UND, CAN
Scelionidae (17 spp.)*	LIT, UND, CAN

Taxon	Foraging location
Platygastridae (9 spp.)	
Bethylidae (4 spp.)	UND, CAN
Dryinidae (1 sp.)	UND, CAN
Formicidae	LIT, UND, CAN
<u>Iridomyrmex melleus</u> *	LIT, UND, CAN
<u>Myrmelachista ramulorum</u> *	UND, CAN
<u>Pheidole moerens</u> *	LIT, UND
(19 other species)	LIT, UND, CAN
Scoliidae (1 sp.)	LIT, UND
Pompilidae (1 sp.)	UND
Vespidae	
<u>Mischocyttarus cubensis</u> *	UND
<u>Polistes crinitus</u> *	UND
Sphecidae (3 spp.)	UND
Halictidae (2 spp.)	UND
Apidae	
<u>Apis mellifera</u> *	UND, CAN
<u>Xylocopa brasilianorum</u> *	UND
ONYCHOPHORA (phylum)	
Peripatidae	
<u>Peripatus juanensis</u>	LIT
CLITELLATA	
Oligochaeta	
Megascolecidae	
<u>Pheretina hawayana</u> *	SOI
GASTROPODA	
Stylommatophora	
Fructicolidae (2 spp.)	UND?
Camaenidae	
<u>Caracolus caracolla</u> *	UND
(3 other spp.)	UND
Sagdidae	
<u>Platysuccinea portoricensis</u>	UND
(1 other sp.)	UND?
Bulimulidae (1 sp.)	UND?
Urocoptidae (2 spp.)	UND?
Clausiliidae	
<u>Nenia tridens</u> *	UND?
Subulinidae (1 sp.)	UND?
Haplotremidae (2 spp.)	UND?
Oleaciniidae (3 spp.)	UND?
Limacidae (1 sp.)	UND?
Succineidae (1 sp.)	UND?



Taxon	Foraging location
Soleolifera	
Veronicellidae (1 sp.)	UND?
Archaeogastropoda	
Neritidae (1 sp.)	UND?
Helicinidae (2 spp.)	UND?
Mesagastropoda	
Cyclophoridae	
<u>Megalostroma croceum*</u>	LIT
(1 other sp.)	LIT?
Pomatilidae (2 spp.)	LIT?
ADENOPHORA (many species)*	SOI, LIT, UND, CAN?
SECERNENTEA (many species)*	SOI, LIT, UND, CAN

\*major components of food web based on abundance and/or size.

Table 3. Vertebrates recorded from the El Verde Study Area.

Name	Status
Class: Amphibia <sup>1</sup>	
Order: Salientia	
Family: Bufonidae	
Giant Toad ( <u>Bufo marinus</u> )	
Family: Leptodactylidae	
Coqui ( <u>Eleutherodactylus coqui</u> )	abundant (40,000/ha) <sup>2</sup>
Mottled Coqui ( <u>E. eneidae</u> )	
Tree-hole Coqui ( <u>E. hedricki</u> )	
Forest Coqui ( <u>E. portoricensis</u> )	
Ground Coqui ( <u>E. richmondi</u> )	
Wrinkled Coqui ( <u>E. wightmanae</u> )	
White-lipped Frog ( <u>Leptodactylus albilabris</u> )	
Class: Reptilia <sup>1</sup>	
Order: Squamata	
Suborder: Lacertilia	
Family: Gekkonidae	
Upland Gecko ( <u>Sphaerodactylus klauberi</u> )	
Common Dwarf Gecko ( <u>S. macrolepis</u> )	
Family: Iguanidae	
Lagartijo Verde ( <u>Anolis evermanni</u> )	
Puerto Rican Giant Anole ( <u>A. cuvieri</u> )	
Yellow-bearded Anole ( <u>A. gundlachi</u> )	abundant (2,000/ha) <sup>3</sup>
Pigmy Anole ( <u>A. occultus</u> )	rare
Lagartijo Manchado ( <u>A. stratulus</u> )	abundant (25,000/ha)
Family: Anguidae	
Culebra de Cuatro Patas ( <u>Diploglossus pleei</u> )	
Family: Amphisbaenidae	
Culebra Ciega ( <u>Amphisbaena caeca</u> )	
Suborder: Serpentes	
Family: Boidae	
Puerto Rican Tree Boa ( <u>Epicrates inornatus</u> ) <sup>4</sup>	rare
Family: Colubridae	
Ground Snake ( <u>Alsophis portoricensis</u> )	
Class: Aves <sup>5</sup>	
Order: Falconiformes	
Family: Accipitridae	
Red-tailed Hawk ( <u>Buteo jamaicensis</u> )	
Broad-winged Hawk ( <u>Buteo platypterus</u> )	
Sharp-shinned Hawk ( <u>Accipiter striatus</u> )	rare
Order: Columbiformes	
Family: Columbidae	
Red-necked Pigeon ( <u>Columba squamosa</u> )	abundant
Zenaida Dove ( <u>Zenaida aurita</u> )	
Ruddy Quail-Dove ( <u>Geotrygon montana</u> )	

Name	Status
Order: Psittaciformes	
Family: Psittacidae	
Puerto Rican Parrot ( <u>Amazona vittata</u> ) <sup>4,6</sup>	rare
Order: Cuculiformes	
Family: Cuculidae	
Puerto Rican Lizard Cuckoo ( <u>Saurothera vieilloti</u> )	
Order: Strigiformes	
Family: Strigidae	
Puerto Rican Screech Owl ( <u>Otus nudipes</u> )	
Order: Apodiformes	
Family: Trochilidae	
Puerto Rican Emerald ( <u>Chlorostilbon maugaeus</u> )	
Green Mango ( <u>Anthracothorax viridis</u> )	rare
Order: Coraciiformes	
Family: Todidae	
Puerto Rican Tody ( <u>Todus mexicanus</u> )	abundant
Order: Piciformes	
Family: Picidae	
Puerto Rican Woodpecker ( <u>Melanerpes portoricensis</u> )	
Order: Passeriformes	
Family: Tyrannidae	
Stolid Flycatcher ( <u>Myiarchus stolidus</u> )	rare
Loggerhead Kingbird ( <u>Tyrannus caudifasciatus</u> ) <sup>6</sup>	rare
Family: Mimidae	
Pearly-eyed Thrasher ( <u>Margarops fuscatus</u> )	
Family: Turdidae	
Red-legged Thrush ( <u>Mimocichla plumbea</u> )	
Family: Vireonidae	
Puerto Rican Vireo ( <u>Vireo latimeri</u> )	rare
Black-whiskered Vireo ( <u>V. altiloquus</u> ) <sup>7</sup>	abundant
Family: Parulidae	
Black and White Warbler ( <u>Mniotilta varia</u> ) <sup>8</sup>	
Parula Warbler ( <u>Parula americana</u> ) <sup>8</sup>	
Cape May Warbler ( <u>Dendroica tigrina</u> ) <sup>6,8</sup>	
Black-throated Blue Warbler ( <u>D. caerulescens</u> ) <sup>8</sup>	
Prairie Warbler ( <u>D. discolor</u> ) <sup>8</sup>	
Elfin Woods Warbler ( <u>D. angelae</u> ) <sup>4</sup>	rare
Ovenbird ( <u>Seiurus aurocapillus</u> ) <sup>8</sup>	
Louisiana Waterthrush ( <u>Seiurus noveboracensis</u> ) <sup>8</sup>	
American Redstart ( <u>Setophaga ruticilla</u> ) <sup>6,8</sup>	
Family: Coerebidae	
Bananaquit ( <u>Coereba flaveola</u> )	abundant
Family: Thraupidae	
Blue-hooded Euphonia ( <u>Euphonia musica</u> )	rare
Stripe-headed Tanager ( <u>Spindalis zena</u> )	
Puerto Rican Tanager ( <u>Nesospingus speculiferus</u> )	abundant
Family: Icteridae	
Black-cowled Oriole ( <u>Icterus dominicensis</u> )	rare
Family: Fringillidae	
Puerto Rican Bullfinch ( <u>Loxigilla portoricensis</u> )	

Name	Status
Class: Mammalia <sup>1</sup>	
Order: Chiroptera	
Family: Phyllostomatidae	
Greater Antillean Long-tongued Bat ( <u>Monophyllus redmani</u> )	
Fruit Bat ( <u>Artibeus jamaicensis</u> )	abundant
Red Fruit Bat ( <u>Stenoderma rufum</u> )	
Brown Flower Bat ( <u>Erophylla bombifrons</u> )	
Order: Rodentia	
Family: Muridae	
Roof Rat ( <u>Rattus rattus</u> )	abundant
Order: Carnivora	
Family: Viverridae	
Small Indian Mongoose ( <u>Herpestes auropunctatus</u> )	

<sup>1</sup> Common and scientific names from Philibosian and Yntema (1977)

<sup>2</sup> Woolbright and Stewart (personal communication 1982)

<sup>3</sup> Turner and Gist (1970)

<sup>4</sup> Listed as endangered (U.S. and Puerto Rico)

<sup>5</sup> Common and scientific names from Bond (1971)

<sup>6</sup> Recher (1970)

<sup>7</sup> Summer resident

<sup>8</sup> Winter resident

