



## INTRODUCTION TO TROPICAL BIODIVERSITY September 27 - October 5, 2023

Workshop Participants and Guest Scientists  
Photo by Danilo

Participants: Ania, Tommie, Martha, Douglas, Marianne, Vince, Jan and Carolyn

Guest Scientists: Drs. Carol Simon and Howard Topoff

Canopy Guides: Igua Jimenez and Tino Sanchez

Prepared by Carol Simon and Howard Topoff



White Peacock Butterfly

Photo by

Carol

Eight participants arrived at the Canopy Lodge eager to learn everything they could about the biodiversity of the region. Our two scientists and local Canopy guide quickly made everyone feel welcomed. Folks came with special interests in butterflies and moths, birds, herps and more. We were a most enthusiastic group and we saw a lot!

We spent four nights at the Canopy Ledge, just below cloud forest elevations. And then we spent another four at the Canopy Tower, in the Panamanian lowlands. With very different habitats, and at different elevations, conditions were

optimal to see a great variety of insects and arachnids, plants, frogs, lizards, birds and mammals. Although we concentrated on every creature we saw, the dedicated birders were very happy with their avian viewing, thanks to our talented Canopy guides. We were usually in the field twice a day and added several night excursions. We also visited scientific and cultural centers such as the El Valle Market, the Miraflores Locks on the Panama Canal, the BioMuseo in Panama City, Herpetologist Mario Urriola's collections and the Amphibian Conservation Center, which houses the Panamanian Golden Frog, which exists only in captivity. A highlight of the trip was the daily presentations that our guest



scientists provided.



Carol

## Itinerary

September 27: Arrival and Orientation at Canopy Lodge, Lodge Grounds

September 28: Las Minas Road, Canopy Adventure, Mario Urriola Rescue Center and Herpetarium, night walk on Lodge grounds

September 29: Altos del Maria, night walk on Lodge grounds

September 30: Cerro Gaital, Candelario Trail, Frog Conservation Center, El Valle Market, night walk on Lodge grounds

October 1: Transfer to Canopy Tower, Biomuseo

October 2: Early morning on Canopy Tower deck, Plantation Road, Old Gamboa Resort

October 3: Early morning on Canopy Tower deck, Pipeline Road, Canal

October 4: Early morning on Canopy Tower deck, Gatun Lake Boat Ride, Old Gamboa Resort Sloth/Butterfly/Frog conservation center, Summitt Gardens, night walk.

October 5: Departures





BioMuseo, Panama City  
Photo by Carol

## **Presentations by our Guest Scientists**

Introduction to Tropical Rainforests

Tropical Botany

Butterflies

Primates of Latin America

Social Insects of the Rainforest

100 Years of the Panama Canal

Poisonous Amphibians and Venomous Reptiles

Bird Brains



Altos del Maria: Site of the Last Panamanian Golden Frogs Seen in the Wild  
Photo by Carol

## **BIRDS**



Keel-billed Toucan

Photo

by Howard

**Tinamous** - Tinamidae

Great Tinamou, *Tinamus major*

**Ducks, Swans, Geese** - Anatidae

Black-bellied Whistling Duck, *Dendrocygna autumnalis*

**Currasows, Guans, Chacalacas** - Cracidae

Gray-headed Chachalaca, *Ortalis cinereiceps*

**Pigeons, Doves** - Columbidae

Rock Pigeon, *Columba livia*

Scaled Pigeon, *Patagioenas speciosa*

Ruddy Ground-Dove, *Columbina talpacoti*

White-tipped Dove, *Leptotila verreauxi*

### **Cuckoos** - Cuculidae

Greater Ani, *Crotophaga major*

Smooth-billed Ani, *Crotophaga ani*

Little Cuckoo, *Coccyua minuta* Squirrel Cuckoo, *Piaya cayana*

### **Swifts** - Apodidae

Band-rumped Swift, *Chaetura spinicaudus*

Short-tailed Swift, *Chaetura brachyura*

Lesser Swallow-tailed Swift, *Panyptila cayennensis*

### **Hummingbirds** - Trachilidae

White-necked Jacobin, *Florisuga mellivora*

Rufous-breasted Hermit, *Glaucis hirsutus*

Green Hermit, *Phaethornis longirostris*

Long-billed Hermit, *Phaethornis longirostris*

Stripe-throated Hermit, *Phaethornis striigularis*

Garden Emerald, *Chlorostilbon assirnilis*

Bronze-tailed Plumeleteer, *Chalybura urochrysia*

Crowned Woodnymph, *Thalurania colombica*

Snowcap, *Microchera albocoronata*

Snowy-bellied Hummingbird, *Saucerottia edward*

Rufous-tailed Hummingbird, *Amazilia tzacatl*

Sapphire-throated Hummingbird, *Chrysuronia coeruleogularis*



Blue-chested Hummingbird, *Polyerata amabilis*

Violet-bellied Hummingbird, *Chlorestes julie*

**Limpkin** - Aramididae Limpkin, *Aramus guarauna*

**Plovers** - Charadriidae

Southern Lapwing, *Vanellus chilensis*

**Jacanas** - Jacanidae

Wattled Jacana, *Jacana jacana*

**Frigatebirds** - Fregatidae

Magnificent Frigatebird, *Fregata magnificens*

**Cormorants, Shags** - Phalacrocoracidae Neotropic

Cormorant, *Nannopterum brasilianum*

**Pelicans** - Pelecanidae

Brown Pelican, *Pelecanus occidentalis*

**Hérons, Bitterns** - Ardeida

Rufescent Tiger-Heron, *Tigrisoma lineatum*

Great Egret, *Ardea alba*

Little Blue Heron, *Egretta caerulea*

Cattle Egret, *Bubuicus ibis*

Green Heron, *Bubuicus virescens*

**New World Vultures** - Cathartidae

Black Vulture, *Coragyps atratus*

Turkey Vulture, *Cathartes aura*

Lesser Yellow-headed Vulture, *Cathartes burrovianus*

**Hawks, Eagles and Kites- Accipridae**

Shallow-tailed Kite, *Elanoides forficatus*  
Snail Kite, *Rostrhamus sociabilis*  
Great Black Hawk, *Buteogallus urubitinga*  
White hawk, *Pseudastur albicollis* Short-tailed Hawk, *Buteo brachyurus*

**Typical Owls** - Strigidea

Tropical Screech Owl, *Megascops choliba*

**Trogons** - Trogonidae

Slaty-tailed Trogon, *Trogon massena*  
White-tailed Trogon, *Trogon chionurus*  
Black-throated Trogon, *Trogon rufus*  
Collared Trogon, *Trogon collaris*

**Motmots** - Momotidae

Rufous Motmot, *Baryphthengus martii*

Broad-billed Motmot, *Electron platyrhynchum*

**Kingfishers** - Alcedinidae

Green Kingfisher, *Chloroceryle americana*

**Toucan - Barbets** - Ramphastidae

Northern Emerald-Toucanet, *Aulacorhynchus prasinus*  
Collared Aracari, *Pteroglossus torquatus*  
Keel-billed Toucan, *Ramphastos sulfuratus*

**Woodpeckers** - Picidae

Red-crowned Woodpecker, *Melanerpes rubricapillus*  
Lineated Woodpecker, *Dryocopus lineatus*  
Crimson-crested Woodpecker, *Campephilus melanoleucos*

**Falcons and Caracaras** - Falconidae

Crested Caracara, *Caracara plancus*

Yellow-headed Caracara, *Milvago chimachima*

Bat Falcon, *Falco ruficularis*

**Parrots - Psittacidae**

Orange-chinned Parakeet, *Brotogeris jugularis*

Brown-hooded Parrot, *Pyrilia haematotis*

Blue-headed Parrot, *Pionus menstruus*

Red-lored Amazon, *Amazona autumnalis* Mealy Parrot, *Amazona ochrocephala*

**Manakins - Pipridae**

Velveteen Manakin, *Lepidothrix coronata*

**Cotingas - Cotingidae**

Purple-throated Fruit Crow, *Querula purpurata*

**Blue Cotinga, *Cotinga nattererii***

**Becards, Tityras and Allies - Tityridae**

Northern Schiffornis, *Schiffornis veraepacis*

Masked Tityra, *Tityra semifasciata*

Cinnamon Becard, *Pachyramphus cinnamomeus*

**Royal Flycatchers, Tyrannidae**

Sulphur-rumped Flycatcher, *Myobius sulphureipygius*

Olive-striped Flycatcher, *Mionectes olivaceus*

Rufous-browed Tyrannulet, *Phylloscartes superciliaris*

Brown-capped Tyrannulet, *Ornithion brunneicapillus*

Mistletoe Tyrannulet, *Zimmerius parvus*

Rufous Mourner, *Rhytipterna holerythra*

Panama Flycatcher, *Myiarchus panamensis*

Great Crested Flycatcher, *Myiarchus crinitus*

Great Kiskadee, *Pitangus sulphuratus*

Rusty-margined Flycatcher, *Myiozetetes granadensis*

Social Flycatcher, *Myiozetetes similis*

Sulphur-bellied Flycatcher, *Myiodynastes luteiventris*

Tropical Kingbird, *Tyrannus melancholicus*

Brown-capped Tyrannulet, *Ornithion brunneicapillus*

Mistletoe Tyrannulet, *Zimmerius parvus*

Eastern Kingbird, *Tyrannus tyrannus*

Eastern Wood Pewee, *Contopus virens*

Black-crowned Antpitta, *Pittasoma michleri*

**Typical Antbirds** - Thamnophilidae

Black-crowned Antshrike, *Thamnophilus atrinucha*

Checker-throated Stipplethroat, *Epinecrophylla fulviventris*

Dot-winged Antwren, *Microrhopias quixensis*

Dull-mantled Antbird, *Hylophylax naeviodes*

Bicolored Antbird, *Gymnopithys bicolor*

**Ovenbirds & Woodcreepers** - Furnariidae

Plain-brown Woodcreeper, *Dendrocincia fuliginosa*

Cocoa Woodcreeper, *Xiphorhynchus susurrant*

Spotted Barbtail, *Premnoplex brunnescens*

**Vireos** - Vireonidae

Lesser Greenlet, *Pachysylvia decurtata* (HO)

Red-eyed Vireo, *Vireo olivaceus* Yellow-green Vireo, *Vireo attiloquus*

**Crows & Jays** - Corvidae Black-chested Jay, *Cyanocorax affinis*

**Swallows** - Hirundinidae

Bank Swallow, *Riparia riparia*

Mangrove Swallow, *Tachycineta albilinea*

Southern Rough-winged Swallow, *Stelgidopteryx ruficollis*

Gray-breasted Martin, *Progne chalybea*

Barn Swallow, *Hirundo rustica*

**Wrens** - Troglodytidae

House Wren, *Troglodytes aedon*

Rufous-breasted Wren, *Pheugopedius rutilus*

Bay Wren, *Cantorchilus nigricapillus*

**Thrushes** - Turdidae

Swainson's Thrush, *Catharus ustulatus*

Pale-vented Thrush, *Catharus obsoletus*

Clay-colored Thrush, *Turdus grayi*

**Goldfinches & Euphonias** - Fringillidae

White-vented Euphonia, *Euphonia minuta*  
Thick-billed Euphonia, *Euphonia laniirostris*  
Fulvous-vented Euphonia, *Euphonia fulvicrissa*  
Tawny-capped Euphonia, *Euphonia anneae*

### **Thrush-Tanager - Rhodinocichlidae**

Rosy Thrush-Tanager, *Rhodinocichia rosea*

### **New World Sparrows - Passerellidae**

Common Chlorospingus, *Chlorospingus flavopectus*

### **New World Orioles & Blackbirds - Icteridae**

Chestnut-headed Oropendula, *Psarocolius wagleri*

Orchard Oriole, *Icterus spurius*

Great-tailed Grackle, *Quiscalus mexicanus*

### **Wood Warblers - Parulidae**

Northern Waterthrush, *Parkesia noveboracensis*

Black-and-white Warbler, *Mniotilta varia*

Mourning Warbler, *Geothlypis philadelphia*

Blackburnian Warbler, *Setophaga fusca*

Buff-rumped Warbler, *Myiothlypis fulvicauda*

Chestnut-capped Warbler, *Basileuterus delatirii*

Canada Warbler, *Cardeliina canadensis*

### **Grosbeaks, Buntings & Allies - Cardinalidae**

Scarlet Tanager, *Piranga olivacea*

Dickcissel, *Spiza americana*

### **Mitrospringid Tanagers - Mitrospringidae**

Dusky-faced Tanager, *Mitrospringus cassinii*

### **Tanagers - Thraupidae**

Blue-gray Tanager, *Thraupis episcopus*

Palm Tanager, *Thraupis palmarum*



Golden-hooded Tanager, *Stilpnia larvata*  
Plain-colored Tanager, *Tangara inorata*  
Bay-headed Tanager, *Tangara gyro*  
Emerald Tanager, *Tangara florida*  
Silver-throated Tanager, *Tangara icterocephala*  
Green Honeycreeper, *Chlorophanes spiza*  
White-shouldered Tanager, *Loriotus luctuosus*  
Tawny-crested Tanager, *Tachyphonus delatrii*  
Flame-rumped Tanager, *Ramphocelus flammigerus*  
Crimson-backed Tanager, *Ramphocelus dimidiatus*  
Scarlet-thighed Dacnis, *Dacnis venusta*  
Blue Dacnis, *Dacnis cayana*  
Bananaquit, *Coereba flaveola*  
Yellow-faced Grassquit, *Tiaris olivaceous*  
Variable Seedeater, *Sporophila corvina*  
Buff-throated Saltator, *Saltator maximus*

## MAMMALS



Proboscis Bats  
Photo by Howard

**Opposums** - Didelphidae

Central American Woolly Opossum, *Caluromys derbianus*

**Anteaters** - Myrmecophagidae

Northern Tamandua, *Tamandua mexicana*

**Three-toed Sloths** - Bradypodidae

Brown-throated Three-toed Sloth, *Bradypus variegatus*

**Armadillos** - Dasypodidae

Nine-banded Armadillo, *Dasypus novemcinctus*

**Sac-winged Bats** - Emballonuridae

Proboscis Bat, *Rhynchonycteris naso*

Greater White-lined Bat, *Saccopteryx bilineata*

**Leaf-nosed Bats** - Phyllostomidae

Common Tent-making Bat, *Uroderma bilobatum*

**Tamarins, Capuchins & Squirrel Monkeys** - Callitrichidae

Geoffroy's Tamarin, *Sanguinus geoffroyi*

White-faced Capuchin, *Cebus capucinus*

**Night Monkeys** - Aotidae

Panamanian (Western) Night Monkey, *Aotus zonalis*

**Howler Monkeys** - Atelidae Mantled Howler, *Alouatta palliata*

**Squirrels** - Sciuridae

Red-tailed Squirrel, *Sciurus granatensis*

**Agoutis** - Dasyproctidae

Central American Agouti, *Dasyprocta punctata*

**Raccoons and Allies** - Procyonidae

White-nosed Coati, *Nasua narica*

Kinkajou, *Potos flavus*

## AMPHIBIANS AND REPTILES



South American Common Toad

Photo by

Howard

### **Toads** - Bufonidae

Forest Toad, *Rhinella alata*

South American Common Toad, *Rhinella alata*

Cane Toad, *Rhinella marina*

**Glass Frogs** - Centrolenidae

Plantation (Bare-hearted) Glass Frog - *Hyalinobatrachium colymbiphyllum*

Fleischmann's Glass Frog, *Hyalinobatrachium fleischmanni*

**Dart Poison Frogs** - Dendrobatidae

Rainforest (Striped) Rocket Frog, *Silverstoneia flotator*

Green-and-black Poison Frog, *Dendrobates auratus*

Talamancan Striped Frog, *Allobates talamancae* -

**Rain Frogs** - Eleutherodactylidae

Common Dink Frog, *Diasporus diastema* (HO)

**Treefrogs** - Hylidae

Hourglass Treefrog, *Dendropsophus ebractus* -

Foam Frogs - Leptodactylidae

Tungara Frog, *Engystomops pustulosus*

Savage's Thin-toed (Foam) Frog, *Leptodactylus savagei*

**True Frogs** - Ranidae

Brilliant Forest Frog, *Lithobates warszewitschii*

**Pond Turtles** - Emydidae

Meso-American Slider, *Trachemys venusta*

**Casque-headed Lizards** - Corytophanidae Common Basilisk, *Basiliscus basiliscus*

**Anoles** - Dactyloidae

Water Anole, *Anolis aquaticus*

Slender Anole, *Anolis limifrons*

Anole (No Common Name), *Anolis apletophallus*



**Hoplocercidae** - Clubtails & Wood Lizards

Dunn's Spiny-tailed Lizard, *Morunasaurus groi*

**Iguanas** - Iguanidae

Common Green Iguana, *Iguana iguana*

**Geckos** - Gekkonidae

Common House Gecko, *Hemidactylus frenatus*

**Geckos** - Phyllodactylidae

Turnip-tailed Gecko, *Thecadactylus rapicauda*

**Geckos** - Sphaerodactylidae

Yellow-headed Geckos, *Gonatodes albogularis*

**Whiptails and Tegus** - Teiidae

Giant Ameiva, *Ameiva praesignis*



Central American Ameiva, *Holcosus festivus*

**Colubrids** - Colubridae

Brown Vine Snake, *Oxybelis aenus*

**Crocodylians** - Crocodylidae

American Crocodile, *Crocodylus acutus*

Moving Through the Panama Canal

Carol

Photo by



A Happy Participant  
Photo by Carol  
We Had a Great Time!

