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Dangerous Wild Animals Act (1976) review (2001) • Encounters with reptiles and amphibians during 1939-1945 • The herpetofauna of La Suerte Biological Field Station, Costa Rica • Escape reaction of *Sphenomorphus sabanus* • Nest temperatures of *Physignathus leusuerii* • Melanism in Lataste's Viper • Predation on a skink by *Physignathus lesueurii* • Occurrence of Common Frogs in ground water springs • Recent records of neotony in Smooth Newts

**THE HERPETOFAUNA OF LA SUERTE BIOLOGICAL FIELD STATION,
CARIARI, COSTA RICA; AN UPDATED FIELD LIST WITH NOTES ON
SPECIES RECORDED IN 1998**

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COSTA RICA lies at 12° latitude and 80° longitude in Central America. The country covers 19,730 square miles and has both an Atlantic and Pacific coastline. The Pacific features two peninsulas, de Nicoya in the North and de Osa to the South. The north of the country borders Nicaragua and the South, Panama. The inland mountain ranges stretch from the northwest across the middle of the country and proceed centrally down to Panama. These ranges form the 'backbone' of the country and include both active and dormant volcanoes. The country is divided into provinces that are characterised by tropical forest and volcanic geology. Each division has a varied topography, flora and fauna (for a review of general ecology and conservation see Janzen, 1983 and Boza, 1993). Costa Rica receives between 4,500 and 5,000 mm of rainfall annually in heavily forested lowland areas. The average temperature for lowland areas is generally 77°F (25°C) and at elevations above 7,500 feet (2,300 m) they are lower, around 60°F (15°C).

The Cariari region is located in Limon province, northeast of San José. La Suerte Biological Field Station is 45 minutes drive from Cariari and close to the banks of the Rio La Suerte River. The field station was originally a ranch with surrounding pasture that blends into marshes, swamps, primary and secondary rainforest. In 1987 the Molina family purchased the farm and converted it into a research station. Over the years cattle numbers were reduced and pasture land closed off. Much of the surrounding land belonging to La Suerte has been returned to forest cover during the Molina's ownership. Today the station offers field orientated courses for university students to participate in a variety of tropical and ecological studies.

The following report is an account of the herpetofauna to be found at La Suerte and observations recorded during an educational course in Tropical Herpetology. The course took place from 22 June - 20 July 1998. Encounters with amphibians and reptiles were mostly observational using VES surveys (as described by Crump & Scott, 1994) on marked trails within the forest. Other encounters were during random leaf litter sampling, line transects, surveys for projects, or visits to other areas in the province. Many nocturnal species were recorded during night walks in swamp and forest areas. Some specimens were observed within and around buildings. Many species were identified within the confinement of the La Suerte laboratory using Savage & Villa (1986) and then released at the site of capture. Other papers/keys used for identification were those of Taylor (see references) and Gunther (1987). Many of the animals found during the visit were encountered more than once. Species that were unidentified are not included in this report.

The La Suerte forests are classified as lowland tropical rainforest (Holdridge, 1967). These forests harbour a diverse and interesting variety of indigenous animals including three monkey species, Agouties, Keel-billed Toucans, White-crowned Parrots, Strawberry Poison-dart Frogs, Eyelash Palm Pitvipers, and Green Iguanas. The dry season in northeastern Costa Rica extends from January to late April. Rainfall during our stay was frequent and consisted of short bursts, usually in the afternoon. Occasionally full sunshine would last all day and for three separate days it rained for more than 24 hours. Temperatures varied daily from 24 (±2°C) to 31

($\pm 2^{\circ}\text{C}$) and humidity was fairly constant between 60-65% (max. 70% min. 40%).

SPECIES DESCRIPTIONS

REPTILIA

CROCODYLIA; Alligatoridae

Caiman crocodylus. Caiman (Linnaeus). The Caiman is distinguished from other Alligatoridae by the presence of a ridge between the eyelids. It also has a tubercle eyelid. The specimens seen were observed in the larger, more permanent swamp holes, although they are also common in pastures, pools, and some streams. Larger adults frequented permanent pools and may have had more dominant access to pool resources (Drews, 1990). Younger, smaller specimens observed in the permanent pools may have been nomadic. Juvenile Caimans were observed with adult specimens.

SERPENTES; Colubridae

Imantodes cenchoa, Blunt-headed Tree Snake (Linnaeus, 1758). All *Imantodes* species are characterised by an enlarged head and thin neck. They are an arboreal and nocturnal species that have very large bulging eyes. *Imantodes cenchoa* has dark dorsal body blotches and is distinguished from other *Imantodes* species by a row of enlarged vertebral scales.

Leptodiera annulata, Banded Cat-eyed Snake (Linnaeus, 1758). This Cat-eyed Snake has dark body blotches consisting of dark spots on a grey or brown background. Sometimes the blotches form a zig-zag mark down the centre of the back. A dark nape stripe is present.

Leptodiera septentrionalis, Cat-eyed Snake (Kennicott, 1859). Has a medium dark nape stripe which is connected to the first body blotch. The dorsal markings are not outlined by a lighter colour as with *L. annulata*.

Leptophis nebulosus, Oliver's Parrot Snake (Oliver, 1942). All the snakes in this genus are locally named 'Lora', meaning parrot snake. This

species is coloured by a tan stripe on the back, green side stripe, and black stripe through the eye. The prefrontal scale is continuous with the loreal scale. *L. nebulosus* is an arboreal snake with round pupils and a thin elongate head.

Oxybelis aeneus, Mexican Vine Snake (Wagler, 1824). This vine snake is brown or grey in life and has a coal black lining to its mouth. It has a prominent snout and slender body. Most specimens are small in size and have exceptionally long tails. *O. aeneus* commonly gapes its mouth and hisses repeatedly when captured. The specimen encountered was found at a perch height of approximately 1.5 m at 12:00 hrs. This height was predictable as the time of day can provide a guide to the vertical movements of this species (Henderson & Nickerson, 1977). Perch height is at lowest during morning and to its highest at sunset. This shift in height is probably to change location for a more favourable ambush when a site occupied has failed to yield prey.

Viperidae

Bothrops asper, Terciopelo (Garman, 1883). Has a pronounced canthus rostralis, velvet skin, and a wedge or lance shaped head. Each scale protrudes like an island/keel. Its markings consist of black triangles pointing up with tanned triangles. This species is abundant on banana plantations, is packed with venom, and is a possible danger to locals. It is also the most important and dangerous to humans in Costa Rica (Rojas et al., 1997). One specimen was brought to us by farmers from a local plantation.

Bothriechis schlegelii, Eyelash Palm Pit Viper (Berthold, 1846). The individuals we encountered were mostly of the yellow 'oropel' morph. Just one individual of the green morph was found. It was green with reddish brown spots. The snake is characterised by protruding scales above the eye that appear like an eyelash. It exhibits vertical pupils, keeled scales, and a prehensile tail.

Porthidium nasutum, Rainforest Hog-nosed Pitviper (Bocourt, 1868). This venomous snake has a dorsal pattern of dark spots or blotches on a

pale cream brown background. It is recognised by a nose scale formed by a fleshy rostral scale and a large supraocular plate projecting over each eye. Its colour and pattern are variable. The specimens encountered were small and no larger than 30-40 cm.

Corytophanidae

Basiliscus plumifrons, Plumed or Green Basilisk (Cope, 1876). Has a double crest on the head, a high crest on the back, and a separate crest on the tail. It is bright green with black and white cross bands on its back and nape of neck. Female specimens have a reduced crest and are generally smaller. When disturbed they run on their hind legs and even over water (Glasheen & McMahon, 1997). Most specimens were observed basking. They tend to prefer secondary scrub along water courses. Specimens found were usually on land although some individuals exploited island gravel bars in the midstream of the Rio La Suerte.

Basiliscus vittatus, Brown Basilisk (Wiegmann, 1828). Males have a single large crest on the head and no crest on the body or tail. Females have a reduced crest on the head. Both sexes are brown in body colour with yellow, paired dorsolateral stripes. Both sexes were commonly seen basking on south facing slopes and alongside pastures and roadsides. *Basiliscus vittatus* also runs on water.

Gekkonidae

Hemidactylus frenatus, Common House Gecko (Dumeril and Bibron, 1836). A medium sized, grey gecko with large toe-pads and a uniform colour. It has vertical pupils and elongate fleshy tubercles on the side of the tail. *Hemidactylus frenatus* is a nocturnal species although it is also found during the daytime and is mostly abundant on or in buildings where it is heard 'chirping'. It is an introduced species.

Lepidoblepharus xanthostigma, Costa Rican Scaly-eyed Gecko (Noble, 1916) - A tiny gecko

with reduced toe-pads and a variable pattern of black, brown or grey. It has a narrow snout and a tail that is rounded in cross section. *Lepidoblepharus xanthostigma* is a terrestrial species found under logs and boards. This species is both diurnally and nocturnally active.

Sphaerodactylus homolepis, Caribbean Least Gecko (Cope, 1886). Males of this small diurnal species are brown with a bright yellow reticulated pattern on the head. Females are black and grey banded and the young brown and grey. The toes of this species have paired scales and small toe-pads. The pupils are round and the snout pointed. *Sphaerodactylus homolepis* is insectivorous and most commonly found around buildings.

Thecadactylus rapicaudus, Turniptail Gecko (Houttuyn, 1782). This large dark brown lizard (9 inches total length) is sometimes mottled in pattern, otherwise being uniform. It exhibits a vertical pupil and large toe-pads with retractable claws hidden in a sheath on the tip of its toes. A nocturnal species.

Iguanidae

Iguana iguana, Green Iguana (Linnaeus, 1758). The Iguanas were observed alongside the Rio La Suerte basking high in bankside trees. They are large green lizards (3.5 ft) with crests of spines along the back. They prefer riparian habitats. Specimens had noticeable black bands on the tail. Males had rusty orange head and shoulders with a green dewlap. Juveniles were bright green and often very hard to spot amongst foliage.

Polychrotidae

Norops biporcatus, Neotropical Green Anole (Wiegmann, 1834). A large green anole with black cross bands and a yellow ring around the eye. The dewlap is an orange colour with fading white and blue streaks. *Norops biporcatus* is an arboreal canopy species.

Norops capito, Big Headed Anole (Peters, 1863). A large, short-snouted anole with a highly

variable colour and pattern. It is generally a green to brown colour but is sometimes either plain or lichenous in pattern. It is a predator of deeper parts of the forest, preferring small perches and low trunks. Both sexes have reduced toe-pads.

Norops carpenteri, Carpenter Anole (Echelle, Echelle & Fitch, 1971). This species was not seen at La Suerte before 1996. It is small, greenish with a banded tail and red dewlap. It is a forest anole preferring low perches of <2 m. Only four specimens have been found at La Suerte.

Norops humilis, Humble Anole (Peters, 1863). This small, brown, short legged anole has a deep pocket in the axillary region that often contains small orange mites. The relationship between the mites and the lizards is unclear. Specimens have a dark triangle between the eyes. Males have a reddish/orange dewlap with a yellow border. Most specimens were observed on low perches of <1.5 m. The lizard was common deep in the forest. Young were also observed and tended to be dark brown.

Norops limifrons, Border Anole (Cope, 1862) - Easily the most frequently seen anole at La Suerte. It is gracile and long legged with a nondescript grey tan colour. The throat is cream and the tail banded. Males have a small white dewlap with a yellow spot in the centre. Their perch height varies from 1.5 - 2.5 m. They are common around forest edges.

Norops oxylophus, Sharp Crested Anole (Cope, 1875). This is a large semi-aquatic anole, brown above with a pronounced yellow/cream lateral stripe. The dewlap is dull orange with a yellow border. *N. oxylophus* prefers perches close to water into which it will escape to avoid predators.

Norops pentaprion, Lichen Anole (Cope, 1862). A small grey anole with a bark-like pattern. This species is uncommon at La Suerte. The dewlap of the male is a plum red colour with faint blue streaks. It is an arboreal, trunk-inhabiting anole, with a perch height of >2 m.

Scincidae

Sphenomorphus cherriei, Brown Forest Skink (Cope, 1893). A small, brown, short legged skink with black lateral stripes, yellow anterior markings and cycloid scales. It is shiny in appearance and has a serpentine locomotion if harassed. Caudal autotomy is common in this species so care must be taken if handling is necessary. They occur mostly in leaf litter.

Teiidae

Ameiva festiva, Middle American Ameiva (Lichtenstein & von Martens, 1856). Most teiids are active diurnal foragers. This is a moderately large forest species. The pattern in young specimens exhibits a bright blue tail with a grey/brown body and black dorsal lateral fields outlined by a broken yellow line. The young also have a pronounced yellow mid-dorsal stripe from snout to tail and orange flecking in the shoulder region. Mature adults have no blue in the tail or yellow stripes. Most adults were found actively foraging on the forest floor or basking in patches of sunlight.

Ameiva quadrilineata, Four Lined Ameiva (Hallowell, 1861). These teiids have dorso and ventrolateral stripes which are broken or occur anteriorly. These stripes may be absent in the largest of adults and youngest of juveniles. Adults usually have a continuous ventrolateral stripe running the entire length of the body which is kept throughout life. The larger adults tend to have a dark brown colour with light lateral spots.

Xantusiidae

Lepidophyma flavimaculatum, Yellow Spotted Night Lizard (Dumeril, 1851). These secretive lizards are found on the forest floor. They have granular scales on the body with brown, sometimes black, markings. Tubercles are present along with a rectangular belly plate, enlarged head scales, and no movable eyelid. Yellow spots are present on the body, hence the name; *flavimaculatum*. Interestingly, some of the individuals were found under domestic bathing sinks located outside of dormitories.

TESTUDINATA; Kinosternidae

Kinosternon leucostomum, White Lipped Mud Turtle (Dumeril & Bibron, 1851). This turtle has an elongate domed carapace that is hinged on the plastron. It exhibits a pale yellow beak and smooth scutes. A single specimen was found on land but many are common in pasture, pools, and swamps.

AMPHIBIA

ANURA; Bufonidae

Bufo marinus, Giant/Cane Toad (Linnaeus, 1758). This large toad (max. 145 mm M, 175 mm F) is found mostly in the surrounding pastures and close to buildings with lighted areas (attracted by insects). It is the largest anuran in Costa Rica and has distinct large parotid glands and prominent cranial crests.

Dendrobatidae

Dendrobates auratus, Black and Green Poison-dart Frog (Girard, 1855) - This is a large (30 - 39 mm) poison-dart frog that has an irregular pattern of black and pastel green. This pattern is highly variable and surrounds the whole body. Some males were observed with a tadpole on their back. Both *Dendrobates* spp. feed on ants and it is known that their alkaloid toxicity is influenced by this dietary preference (Barnett, 1994; Daly et al, 1994). Further work by Daly et al (1994) discovered that the alkaloid precocinelline in *D. auratus* possibly originated from ingestion of small beetles and pyrrolizidine oximes from small millipedes.

Dendrobates pumilio, Strawberry Poison-dart frog (Schmidt, 1857). This was easily the most abundant frog at La Suerte. It has blue legs, a bright red body, and a smooth dorsum. Its hands and arms are small and are also blue. Females were observed carrying tadpoles on their backs, transporting them to bromeliads. After depositing the tadpole in the axil of a bromeliad she continues to feed the tadpole daily with infertile eggs laid at the tadpole pool. This kind of brood care can increase reproductive success in anurans (Townsend et al, 1984). Males are very

territorial (Crump, 1972) and were observed fighting and creating a 'buzzing' call.

Hylidae

Agalychnis callidryas, Red-eyed Tree Frog (Cope, 1862). Sometimes known as the 'Gaudy Leaf Frog', this nocturnal anuran is common in swamp areas. It is easily recognised by its bright red eyes, green dorsum, orange feet, white belly, and yellow bars running through a blue lateral region.

Agalychnis saltator, Misfit Leaf Frog (Taylor, 1955). Differs from *A. callidryas* in having a tomato-red eye, yellow to green dorsum, blue lateral wash, dark green transverse bars and no yellow bars. It is not as common as *A. callidryas* at La Suerte. This species breeds after heavy rains.

Hyla ebraccata, Hourglass Treefrog (Cope, 1874). A small brown tree frog, common in swamp areas. It has a bright enameloid yellow pattern only visible by day and well-developed toe pads.

Hyla rufitella, Canal Zone Treefrog (Forquette, 1961). This species is green with blue coloration in the groin and red webbing in between the toes. There are two morphs. The green morph has stripes and the lichenous morph black and white dots on its back.

Scinax eleachroa, (Cope). This tree frog has distinct green bones, a translucent venter, and a yellowish green dorsum. It is sometimes found in buildings and breeds in temporary pools. Tadpoles observed in swamps had a white venter, stripes on the tail and a band through the eye.

Smilisca spp.

S. baudinii (Dumeril & Bibron). Bar patterns on lips, new species to La Suerte. The specimen caught was a massive 90 mm long.

S. phaeota (Cope). A large brown frog with tubercles on the forearms.

S. puma (Cope). This was another new species to La Suerte. It has parallel bands on its back that connect, a small bar between the eyes, and turns white during the day.

Leptodactylidae

Eleutherodactylus bransfordi, Bransford's Robber Frog (Cope, 1886). A small brown diurnal/nocturnal frog with ridges on its back. It is distinguished by its indistinct/reduced toe-pads and red flash colouration.

Eleutherodactylus diastema, Caretta Robber or Tink Frog (Cope, 1876). A minute (males are 19 mm maximum), arboreal, and very difficult to find frog. It has a short 'tink' call, pointed snout, and is tanned/light brown on its back. Some individuals have a pink line on their back and most have a white to yellow venter.

Eleutherodactylus fitzingeri, Fitzinger's Robber Frog (Schmidt, 1857). A larger *Eleutherodactylus* species with long legs, making it a good leaper. It has highly variable markings and is solid gold sometimes with a cream stripe along its back. Numerous small pale yellow spots are present on the body. It is both nocturnal and diurnal and prefers shrub layer habitat.

Eleutherodactylus mimus, Tilaran Robber Frog (Taylor, 1955). A large frog (30 mm M, 50 mm F) found in the leaf litter layer. Has a dark mask through the eye, grey sides and a brown back. The individual was found during a random leaf litter survey.

Eleutherodactylus noblei, Nobles Robber Frog (Barbour & Dunn, 1926). A smaller, masked *eleutherodactylus* species with a bright yellow venter and a distinct longitudinal glandular ridge. It is a ground dwelling species.

Leptodactylus melanonotus, Sabinal Frog (Hallowell, 1861). A small brown frog, ridges on its back and a narrow pointed snout. Can be located in grassy pools by a high pitched, repeated, 'peep' but is very difficult to find due to its

burrowing activities.

Leptodactylus pentadactylus, Smoky Jungle or South American Bullfrog (Laurenti, 1768). A fairly large frog with a brown wood grain pattern, black and white lip area around the jaws, and red flash coloration on the back legs. It is a nocturnal species and can be spotted by torch-light with its distinctive red eye shine or heard by a loud 'whooping' call.

Note: Toe-pads are present in all *Eleutherodactylus* species found at La Suerte except *E. bransfordii*.

Ranidae

Rana vaillanti, Vaillant's Frog (Brocchi, 1977). This species has a green back dorsum, brown posterior, an angular snout and dorsal lateral folds. It is common in permanent water bodies and a widely distributed species in the wet tropical lowlands of Central America.

DISCUSSION

The herpetofauna of La Suerte has not previously been documented, but records of species found have been accumulated since the farm was converted to a field station. La Suerte is currently undergoing expansion and new land is being sought. The land surrounding La Suerte's current area is ecologically sound but its use is currently the subject of debate between parties with widely opposing interests.

The primary forest of La Suerte is joint leased with local farmers, and although no evidence was apparent, logging could nonetheless still occur. Logging activities undertaken in the past have not necessarily been agreed by both parties. Trees further off the main trails were noticeably marked for removal. Evidence in the literature suggests that minimal selective logging seems to have only modest effects on vertebrate animal diversity (Hartshorn & Whitmore, 1999). Although mobile animals migrate away from areas of active logging, they seem to return fairly



Agalychnis callidryas. La Suerte. Photograph by Paul Grant.



Eleutherodactylus biporcatus. Pitilla, Guanacaste Province, CR. Photograph by Peter Stafford.



Smilisca baudini. Adult female from Pitilla, Guanacaste Province, CR. Photograph by Peter Stafford.



Craugastor crocodylus. La Suerte. Photograph by Paul Grant.



Lepidophyma flavimaculatum. Volcán Santa María, CR. Photograph by Peter Stafford.



Batrachoseps schlegelii. Yellow morph or 'oropel'. La Suerte. Photograph by Paul Grant.

quickly once logging ceases and re-establish normal populations and guild structures within 3-8 years (Hartshorn & Whitmore, 1999). However, fragile amphibian communities with low or non-migratory habits would still potentially be affected. If selective logging began to occur more severely a thorough and detailed program to study its affects on amphibians would need to be implemented, perhaps beginning with comparisons of the varied habitats (primary, secondary, and pasture forest species). Heang et. al. (1996) used a 'before and after' comparison of species abundance to assess logging impacts, and further studies of this kind may provide better evidence on the effects of logging. Without a complete inventory of species present in the area, however, this may prove difficult. Perhaps when the number of new species records for the area begin a downward turn, this could then be implemented. Several recent studies of species richness have shown forest disturbance by selective logging and fragmentation to lower a range of vertebrate and invertebrate diversity within tropical forests (butterflies in southern Cameroon and Ecuadorian hummingbirds: (Hartshorn & Whitmore, 1999). This compromise of selective logging versus forest conservation and the search for an agreeable balance is a familiar occurrence in many tropical areas (Palmer, 2001) with illegal logging posing a threat to delicate habitats. Regular trail walking and monitoring at La Suerte could help prevent any unlawful logging.

The species observed during the visit do not constitute a definitive list. Some species that were usually found annually were not encountered. Perhaps this is because these particular species exist over a large area, at a low population density, or because of intense competition for food and living space, or even from constant attention by predators (Whitmore, 1990; Donnelly & Guyer, 1994). Successive years of these conditions may lead to local extinction of rare species, followed by later

re-invasion from adjacent forests when better conditions return. New or existing species that are not recorded annually and species that arrive or mysteriously disappear may be indicating variation in local distribution. Fluctuating species distributions due to mild changes in annual weather patterns and ecological-reproductive factors can affect anurans (Duellman, 1982). Humidity can restrict anuran species to particular lowland forest types depending on their reproductive mode (Duellman, 1982). If selective logging posed a problem to this stable humidity by canopy removal then it too would be a factor altering the habitat and influencing local distribution change.

Local attitudes toward animals were not always encouraging. Some expressed superstitious fears of *Thecadactylus rapicaudus* being responsible for unpleasant bites whilst workers slept. Captured animals such as a damaged *Boa constrictor* were brought to the station by locals who had kept them as pets. One local also proudly displayed an adult (approx. 7 ft) *B. constrictor* skin pinned on his garage. Education and integration of the local population with work at La Suerte could relieve some misconceptions about the herpetofauna they live with. Many young people were curious of activities at and around the station and could be involved, benefiting both the interested individual and the station.

With the current focus of attention on global amphibian declines (Blaustein & Wake, 1995; Alford & Richards, 1999) especially in tropical regions (Pounds & Crump, 1994), solutions to help distinguish natural fluctuations over local population declines are needed. Studies such as those of Lips (1998) and Stafford (1998) are valuable for establishing species presence and absence and if continued annually are a useful way of long term monitoring of populations. La Suerte field station intends to continue the survey work involving students to create long-term information on all its biota in its range of forests.

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ADDENDUM: Since the completion of this report, logging pressures have tragically increased heavily in the region of La Suerte and alteration of the environment has already occurred.

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Appendix 1.

THE AMPHIBIANS AND REPTILES OF FINCA LA SUERTE

AMPHIBIA

Anura

Bufonidae

*Bufo coniferus**

Bufo marinus

Dendrobatidae

Dendrobates auratus

Dendrobates pumilio

Phyllobates lugubris #

Hylidae

*Agalychnis calcarifer**

Agalychnis callidryas

Agalychnis saltator

Hyla ebraccata

Hyla phlebodes

Hyla rufitella

Scinax boulengeri

Scinax eleaochroa

Smilisca baudinii #

Smilisca phaeota

Smilisca puma #

Smilisca sordida

Leptodactylidae

*Eleutherodactylus biporcatus**

Eleutherodactylus bransfordi

Eleutherodactylus cerasinus

Eleutherodactylus cruentus

Eleutherodactylus diastema

Eleutherodactylus fitzingeri
Eleutherodactylus mimus
Eleutherodactylus noblei
Leptodactylus melanonotus
Leptodactylus pentadactylus

Ranidae

Rana vallanti

Gymnophiona

Caeciliidae

Gymnopsis multiplicata

Total Amphibia = 26 species

REPTILIA

Crocodylia

Alligatoridae

Caiman crocodylus

Crocodylidae

*Crocodylus acutus**

Testudinata

Kinosternidae

Kinosternon leucostomum

Emydidae

Rhinoclemmys annulata

Rhinoclemmys funerea

*Rhinoclemmys pulcherrima**

Serpentes

Boidae

Boa constrictor

*Corallus annulatus**

Colubridae

*Chironius grandisquamis**

Coniophanes fissidens

Enuliuss sclateri

Imantodes cenchoa

Imantodes inornatus

*Lampropeltis triangulum**

Leptodeira annulata

Leptodeira septentrionalis

*Leptophis depressirostris**

Leptophis nebulosus

Leptophis ahaetulla

*Mastigodryas melanolomus**

Ninia sebae

Ninia maculata

Oxybelis aeneus

*Oxybelis fulgidus**

Pseustes poecilonotus

Rhadinaea decorata

*Sibon annulata**

Sibon nebulata

Spilotes pullatus

Elapidae

*Micrurus alleni**

Micrurus nigrocinctus

Viperidae

Bothrops asper

Bothriechis schlegelii

Porthidium nasutum

Squamata

Anguidae

*Diploglossus monotropis**

Corytophanidae

Basiliscus plumifrons

Basiliscus vittatus

Corytophanes cristatus

Gekkonidae

Hemidactylus frenatus

Lepidoblepharus xanthostigma

Sphaerodactylus homolepis

Thecadactylus rapicaudus

Iguanidae

Iguana iguana

Polychrotidae

Norops biporcatus

Norops capito

*Norops carpenteri**

Norops humilis

Norops lemurinus

Norops limifrons

Norops oxylophus

Norops pentaprin

Scincidae

*Mabuya unimarginata**

Sphenomorphus cherriei

Teliidae

Ameiva festiva

Ameiva quadrilineata

Xantusiidae

Lepidophyma flavimaculatum

Total Reptilia = 56 species

* Indicates isolated report
unconfirmed by faculty.

Indicates new species record
(1998).

