

Preliminary results of herpetofaunal survey work in the Rus Rus Region, Honduras: A proposed biological reserve

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THE existing system of biotic reserves in Honduras was established without survey work to determine the composition of flora and fauna for these reserves. Reserve designs should take biotic survey work into account to maximize biological diversity intended to be protected with the effort and cost involved in maintaining the reserve. During 2000 and 2001, we had the opportunity to conduct a preliminary survey of the amphibians and reptiles in the Rus Rus region, Departamento de Gracias a Dios, in the mosquitia of northeastern Honduras. The Honduran Mosquitia comprises one of the last great wilderness regions of Central America. It contains both terrestrial and marine ecosystems that are of regional, national, and global importance. It is part of a forest corridor which extends southward into Nicaragua, forming the largest tract of tropical forest remaining in Central America.

The Rus Rus region is a proposed biotic reserve that is expected to be officially established by Honduran law during the present year. At this time, we have no data on the size of this future reserve, but the Honduran government is taking into consideration the research that has been done, not only on the herpetofauna, but also that on the birds, mammals, and plants to determine the size, limits, category, and other aspects of the future reserve. Our preliminary survey work has established the presence of 71 species (69 documented by preserved specimens) of amphibians and reptiles in the proposed reserve.

The Rus Rus proposed biotic reserve lies entirely within the Lowland Moist Forest formation of Holdridge (1967). However, two

distinct types of forest occur in this region. Broadleaf forest occurs as gallery forest along the Río Rus Rus and its larger tributaries in the vicinity of the village of Rus Rus. The width of this gallery forest gradually increases as one proceeds northwest of the village towards the Río Tapalwás. At about the confluence of the Río Tapalwás with the Río Rus Rus (about 16 airline km NW of the village of Rus Rus), this broadleaf forest completely covers the landscape to the east, west, and north of that confluence. Thus, broadleaf forest entirely covers the northwestern portion of this projected reserve. Almost all of this broadleaf forest in the northwestern portion is in a pristine condition, transversed only by several foot trails used by game hunters from the village, and occasionally dotted with small areas of secondary forest. These patches of secondary forest are the result of the establishment of Nicaraguan refugee camps in the area during the 1980s. About 4,000 refugees lived for almost eight years near the confluence of the ríos Rus Rus and Tapalwás.

The other forest type in the projected reserve is open pine savanna. This pine savanna occurs on either side of the gallery forest along the Río Rus Rus southward of its confluence with the Río Tapalwás. Nearly treeless swamps also occur to the east, southeast, and southwest of the village of Rus Rus. These pine savannas are frequently burned during the dry season, although apparently not intentionally. People living in the village of Rus Rus claim that these fires are caused by lightning and lit cigarettes tossed from vehicles traveling the road connecting the village with Puerto Lempira to

the northeast and Awasbila to the west. The abundant grasses and sedges that prevail in the pine savannas provide ample fuel for these fires. Thus, all of the pine trees and logs lying on the ground in the pine savanna are fire scarred.

McCranie and Nicholson spent 10 days (8-17 October 2001) surveying the Rus Rus region. Castañeda also accompanied McCranie and Nicholson during 8-11 October. In addition, Castañeda has made three other trips totaling 30 days in the proposed reserve (21 November-5 December 2000; 26 June-1 July 2001; 2-7 October 2001). Also, Tomás Manzaneres, a resident of Rus Rus, collected several specimens of reptiles from August to October 2001. Specimens collected for this survey will be deposited in the reference collection of the Protected Areas and Wildlife Department of AFE-COHDEFOR, Tegucigalpa, and The National Museum of Natural History, Washington, D. C. We collected specimens very selectively (i.e., to document their presence), and most individuals seen of many species were left undisturbed.

Our collecting sites are outlined below:

1. Rus Rus village (14°43'N, 84°27'W) and vicinity; elevation 50-60 m.
2. Crique Curamaira (14°39'N, 84°26'W), a tributary of the Río Coco about 8 airline km SSE of Rus Rus village; elevation 50 m.
3. Crique Ibantara (14°47'N, 84°27'W), a tributary of the Río Rus Rus about 8 airline km N of Rus Rus village; elevation 70 m.
4. Bodega de Río Tapalwás (14°56'N, 84°32'W) and vicinity; about 20 airline km NW of Rus Rus village; elevation 140-200 m.
5. Crique Yulpruan (14°54'N, 84°31'W), a tributary of the Río Tapalwás about 2 airline km S of Bodega de Río Tapalwás; elevation 140 m.
6. Loma Pinto Quiath (14°57'N, 84°32'W) in foothills of Montañas de Colón about 3 airline km N of Bodega de Río Tapalwás; elevation 200 m.

A total of 69 species of amphibians and reptiles were collected during this survey work. A list of these species is provided below. Terms defining

habitat, diel activity, and abundance included in this list are: semifossorial (generally active under surface debris); terrestrial (active on the ground); arboreal (active on low vegetation); aquatic (active and feeding in water); diurnal (active during the day); nocturnal (active at night); common (found on a regular basis, many individuals can be seen); infrequent (unpredictable, few individuals seen); rare (rarely seen). These defining terms apply only to our experience in the Rus Rus region. See the Discussion for comments on two other species that we were unable to collect.

CLASS AMPHIBIA

ORDER GYMNOPIHONA

FAMILY CAECILIIDAE

Gymnopsis multiplicata Peters

Remarks: semifossorial; nocturnal; rare; found under logs in primary broadleaf forest.

Localities: Bodega de Río Tapalwás.

ORDER CAUDATA

FAMILY PLETHODONTIDAE

Bolitoglossa striatula (Noble)

Remarks: arboreal; nocturnal; common; numerous individuals seen in primary and lightly disturbed broadleaf forest.

Localities: Bodega de Río Tapalwás; Rus Rus.

ORDER ANURA

FAMILY BUFONIDAE

Bufo coccifer Cope

Remarks: terrestrial; nocturnal; rare; found in pine savanna.

Localities: Rus Rus.

Bufo haematiticus Cope

Remarks: terrestrial; nocturnal; rare; found underneath overhanging leaves of a small plant in primary broadleaf forest.

Localities: Bodega de Río Tapalwás.

Bufo marinus (Linnaeus)

Remarks: terrestrial; nocturnal/diurnal; common; found in pine savanna.

Localities: Rus Rus.

Bufo valliceps Wiegmann

Remarks: terrestrial; nocturnal/diurnal; common; found in primary broadleaf forest.

Localities: Bodega de Río Tapalwás; Loma Pinto Quiath.

FAMILY CENTROLENIDAE

Cochranella granulosa (Taylor)

Remarks: arboreal; nocturnal; rare; found along a slow-flowing stream in lightly disturbed broadleaf forest.

Localities: Rus Rus.

Cochranella spinosa (Taylor)

Remarks: arboreal; nocturnal; rare; found along a small river in primary broadleaf forest.

Localities: Bodega de Río Tapalwás.

Hyalinobatrachium fleischmanni (Boettger)

Remarks: arboreal; nocturnal; infrequent; found along a slow-flowing stream in lightly disturbed broadleaf forest.

Localities: Rus Rus.

FAMILY HYLIDAE

Agalychnis callidryas (Cope)

Remarks: arboreal; nocturnal; common; found in both primary and lightly disturbed broadleaf forest, a breeding congregation located in primary broadleaf forest in a swampy area in October.

Localities: Bodega de Río Tapalwás; Crique Yulpruan; Rus Rus.

Hyla ebraccata Cope

Remarks: arboreal; nocturnal; infrequent; found breeding in swampy area in primary broadleaf forest in October.

Localities: Crique Yulpruan.

Hyla microcephala Cope

Remarks: arboreal; nocturnal; infrequent; found breeding in October in highly disturbed swampy area in transition zone between pine savanna and broadleaf forest.

Localities: Rus Rus.

Scinax boulengeri (Cope)

Remarks: arboreal; nocturnal; infrequent; found breeding in October in highly disturbed swampy area in transition zone between pine savanna and broadleaf forest.

Localities: Rus Rus.

Scinax staufferi (Cope)

Remarks: arboreal; nocturnal; common; found breeding in October in disturbed swampy areas in pine savanna.

Localities: Rus Rus.

Smilisca baudinii (Duméril and Bibron)

Remarks: arboreal; nocturnal; rare; found along road through lightly disturbed broadleaf forest.

Localities: Rus Rus.

Smilisca phaeota (Cope)

Remarks: arboreal; nocturnal; infrequent; found breeding in October in highly disturbed swampy area in transition zone between pine savanna and broadleaf forest.

Localities: Rus Rus.

FAMILY LEPTODACTYLIDAE

Eleutherodactylus fitzingeri (Schmidt)

Remarks: terrestrial (or perched on vegetation less than 0.5 m above ground); nocturnal; common; found in primary and secondary broadleaf forest.

Localities: Bodega de Río Tapalwás; Crique Curamaira; Crique Yulpruan; Rus Rus.

Eleutherodactylus lauraster Savage, McCranie, and Espinal

Remarks: terrestrial; diurnal; infrequent; found in primary broadleaf forest.

Localities: Bodega de Río Tapalwás.

Eleutherodactylus noblei Barbour and Dunn

Remarks: terrestrial/arboreal; nocturnal/diurnal; infrequent; found in primary broadleaf forest.

Localities: Bodega de Río Tapalwás.

Eleutherodactylus ridens (Cope)

Remarks: arboreal; nocturnal; rare; found in lightly disturbed broadleaf forest.

Localities: Rus Rus.

Eleutherodactylus sp. 1

Remarks: arboreal; nocturnal; common; found in primary broadleaf forest; the identity of these specimens is under study.

Localities: Bodega de Río Tapalwás.

Eleutherodactylus sp. 2

Remarks: arboreal; nocturnal; common; found in primary broadleaf forest; the identity of these specimens is under study.

Localities: Bodega de Río Tapalwás; Crique Yulpruan.

Leptodactylus labialis (Cope)

Remarks: terrestrial; nocturnal/diurnal; common; found in and around swampy areas in pine savanna.

Localities: Rus Rus.

Leptodactylus pentadactylus (Laurenti)

Remarks: terrestrial; nocturnal; infrequent; found in lightly disturbed broadleaf forest.

Localities: Rus Rus.

FAMILY RANIDAE

Rana berlandieri Baird

Remarks: terrestrial; nocturnal; rare; found near highly disturbed swampy area in transition zone between pine savanna and broadleaf forest.

Localities: Rus Rus.

Rana vaillanti Brocchi

Remarks: terrestrial; nocturnal; common; found near streams in primary and lightly disturbed broadleaf forest and in swampy areas in pine savanna.

Localities: Crique Curamaira; Rus Rus.

CLASS REPTILIA

ORDER CROCODYLIA

FAMILY ALLIGATORIDAE

Caiman crocodilus (Linnaeus)

Remarks: aquatic; nocturnal; rare; found in river through lightly disturbed broadleaf forest.

Localities: Rus Rus.

ORDER TESTUDINES

FAMILY EMYDIDAE

Rhinoclemmys annulata Gray

Remarks: terrestrial; diurnal; rare; found in primary broadleaf forest.

Localities: Rus Rus.

FAMILY KINOSTERNIDAE

Kinosternon leucostomum (Duméril and Bibron)

Remarks: terrestrial/aquatic; nocturnal/diurnal; infrequent; found in a slow-flowing stream in lightly disturbed broadleaf forest and on forest floor in primary broadleaf forest.

Localities: Bodega de Río Tapalwás; Rus Rus.

Kinosternon scorpioides (Linnaeus)

Remarks: terrestrial/aquatic; nocturnal/diurnal; infrequent; found in and around large road puddles in pine savanna.

Localities: Rus Rus.

ORDER SQUAMATA

FAMILY GEKKONIDAE

Gonatodes albogularis (Duméril and Bibron)

Remarks: terrestrial/arboreal; diurnal; common; found around human dwellings in pine savanna.

Localities: Rus Rus.

Sphaerodactylus millepunctatus (Hallowell)

Remarks: arboreal; diurnal; rare; found around human dwellings in pine savanna.

Localities: Rus Rus.

FAMILY CORYTOPHANIDAE

Basiliscus vittatus Wiegmann

Remarks: terrestrial/arboreal; diurnal; common; occurs near streams and swampy areas in primary and secondary broadleaf forest and in pine savanna.

Localities: Crique Curamaira; Rus Rus.

Corytophanes cristatus (Merrem)

Remarks: arboreal; diurnal; common; found in primary and lightly disturbed broadleaf forest.

Localities: Bodega de Río Tapalwás; near confluence of Ríos Rus Rus and Tapalwás.

FAMILY PHRYNOSOMATIDAE

Sceloporus variabilis Wiegmann

Remarks: terrestrial/arboreal; diurnal; common; found in pine savanna.

Localities: Rus Rus.

FAMILY POLYCHROTIDAE

Norops biporcatus (Wiegmann)

Remarks: arboreal; diurnal; infrequent; found in primary and lightly disturbed broadleaf forest.



Bufo valliceps. All photographs © J.R. McCranie.



Scinax boulengeri



Norops biporcatus



Mabuya unimarginata



Dryadophis melanolomus



Xenodon rabdocephalus

Localities: Bodega de Río Tapalwás; Rus Rus.

Norops capito (Peters)

Remarks: arboreal; diurnal; common; found in primary broadleaf forest.

Localities: Bodega de Río Tapalwás.

Norops cupreus (Hallowell)

Remarks: arboreal; diurnal; common; found in primary and lightly disturbed broadleaf forest.

Localities: Bodega de Río Tapalwás; Rus Rus.

Norops humilis (Peters)

Remarks: terrestrial; diurnal; infrequent; found in primary broadleaf forest.

Localities: Bodega de Río Tapalwás.

Norops limifrons (Cope)

Remarks: arboreal; diurnal; common; found in primary and secondary broadleaf forest.

Localities: Bodega de Río Tapalwás; Crique Curamaira; Rus Rus.

Norops sericeus (Hallowell)

Remarks: arboreal; diurnal; common; found in pine savanna.

Localities: Rus Rus.

FAMILY SCINCIDAE

Mabuya unimarginata (Cope)

Remarks: terrestrial; diurnal; rare; found in pine savanna.

Localities: Rus Rus.

Sphenomorphus cherriei (Cope)

Remarks: terrestrial; diurnal; common; found in primary and secondary broadleaf forest and in pine savanna.

Localities: Bodega de Río Tapalwás; Rus Rus.

FAMILY TEIIDAE

Ameiva festiva (Lichtenstein)

Remarks: terrestrial; diurnal; infrequent; found in primary and lightly disturbed broadleaf forest.

Localities: Rus Rus.

Ameiva undulata (Wiegmann)

Remarks: terrestrial; diurnal; infrequent; found in pine savanna.

Localities: Rus Rus.

FAMILY BOIDAE

Boa constrictor Linnaeus

Remarks: terrestrial; nocturnal; rare; found in pine savanna.

Localities: Rus Rus.

Corallus annulatus (Cope)

Remarks: arboreal; nocturnal; rare; found in primary broadleaf forest.

Localities: Bodega de Río Tapalwás.

FAMILY COLUBRIDAE

Chironius grandisquamis (Peters)

Remarks: arboreal; diurnal; rare; found in primary broadleaf forest.

Localities: Bodega de Río Tapalwás.

Dendrophidion percarinatum (Cope)

Remarks: terrestrial; diurnal; rare; found in primary broadleaf forest.

Localities: Rus Rus.

Dryadophis melanolomus (Cope)

Remarks: terrestrial; diurnal; infrequent; found in lightly disturbed broadleaf forest.

Localities: Rus Rus.

Drymobius margaritiferus (Schlegel)

Remarks: terrestrial; diurnal; infrequent; found in lightly disturbed broadleaf forest and in pine savanna.

Localities: Rus Rus.

Erythrolamprus mimus (Cope)

Remarks: terrestrial; diurnal; rare; found in primary broadleaf forest.

Localities: Crique Ibantara.

Geophis hoffmanni (Peters)

Remarks: semifossorial; diurnal; rare; found under a log in primary broadleaf forest.

Localities: Bodega de Río Tapalwás.

Imantodes cenchoa (Linnaeus)

Remarks: arboreal; nocturnal; rare; found in lightly disturbed broadleaf forest.

Localities: near Crique Curamaira.

Leptodeira annulata (Linnaeus)

Remarks: arboreal/terrestrial; nocturnal; infrequent; found in pine savanna.

Localities: Rus Rus.

Leptophis mexicanus Duméril, Bibron, and Duméril

Remarks: arboreal; diurnal; infrequent; found in pine savanna.

Localities: Rus Rus.

Ninia sebae (Duméril, Bibron, and Duméril)

Remarks: semifossorial; diurnal; rare; found in pine savanna.

Localities: Rus Rus.

Oxybelis fulgidus (Daudin)

Remarks: arboreal; diurnal; rare; found along a stream in very narrow stretch of broadleaf forest.

Localities: near Rus Rus.

Pseustes poecilonotus (Günther)

Remarks: arboreal; diurnal; rare; found in primary broadleaf forest.

Localities: Rus Rus.

Spilotes pullatus (Linnaeus)

Remarks: terrestrial; diurnal; rare; found along a small stream in primary broadleaf forest.

Localities: near Crique Yulpruan.

Tantilla taeniata (Bocourt)

Remarks: semifossorial; diurnal; rare; found in pine savanna.

Localities: Rus Rus.

Tantillita lintoni (Smith)

Remarks: semifossorial; diurnal; rare; found under a log in primary broadleaf forest.

Localities: Loma Pinto Quiath.

Thamnophis proximus (Say)

Remarks: terrestrial; diurnal; rare; found in water-filled ditch in pine savanna.

Localities: Rus Rus.

Urotheca guentheri (Dunn)

Remarks: semifossorial; diurnal; rare; found under a log in primary broadleaf forest.

Localities: Loma Pinto Quiath.

Xenodon rabdocephalus (Wied-Neuwied)

Remarks: terrestrial; diurnal; rare; found in pine savanna.

Localities: Rus Rus.

FAMILY ELAPIDAE

Micrurus nigrocinctus (Girard)

Remarks: semifossorial; diurnal; rare; found in primary broadleaf forest and in pine savanna.

Localities: Rus Rus.

FAMILY VIPERIDAE

Bothriechis schlegelii (Berthold)

Remarks: arboreal; nocturnal; rare; found in primary broadleaf forest.

Localities: Bodega de Río Tapalwás.

Bothrops asper (Garman)

Remarks: terrestrial; nocturnal/diurnal; common; found in primary and secondary broadleaf forest and in pine savanna along edge of broadleaf forest.

Localities: Bodega de Río Tapalwás; Crique Curamaira; Rus Rus.

Porthidium ophryomegas (Bocourt)

Remarks: terrestrial; nocturnal/diurnal; common; found in pine savanna, including swamps.

Localities: Rus Rus.

DISCUSSION

We collected 26 species of amphibians and 43 species of reptiles from the Rus Rus proposed biotic reserve. In addition we saw, but could not collect, a specimen of *Oxybelis aeneus* (Wagler) in lightly disturbed broadleaf forest near Rus Rus village, and residents of that village are familiar with *Iguana iguana* (Linnaeus). The latter species is used as a food source by the people of the village (as was the case with the Nicaraguan refugees), and as a result is said to be rare in the area. McCranie & Wilson (2002) recorded 61 species of amphibians from the Lowland Moist Forest formation, thus the 26 species collected from the Rus Rus region represent 42.6% of that total (but see below). There are presently 133 species of reptiles known from this forest formation in Honduras (McCranie, unpubl. data), thus 33.8% of that total is known from the Rus Rus region. Castañeda (1998) reported 40 species of amphibians and reptiles from several areas near the community of Mocerón, about 30 airline km NE of Rus Rus. Four of these species

(*Thecadactylus rapicauda* [Houttuyn], *Cnemidophorus deppii* Wiegmann [as *Cnemidophorus* sp.], *Drymarchon corais* [Boie], and *Masticophis mentovarius* [Duméril, Bibron, & Duméril]) were not found in the Rus Rus region, but are likely to occur there. The Mocerón region also supports broadleaf forest and pine savanna like the Rus Rus region. Nicholson et al. (2000) stated that about 105 species of amphibians and reptiles were expected to occur in the nearby Parque Nacional Patuca. The total herpetofauna of the projected biotic reserve of Rus Rus should contain a similar number of species.

The identity of two species of *Eleutherodactylus* collected in this survey are still under study. At least one of these species has not previously been recorded in Honduras. In addition, the specimen of *Corallus annulatus* represents the first from the country with unequivocal locality data. This species was known previously from the country based on an adult female (and her captive born 14 offspring) that was shipped to the USA by a Honduran animal dealer.

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