

# NEWS FROM THE FIELD

## Central and South America

### Development of the Community Baboon Sanctuary in Belize: An Experiment in Grass Roots Conservation

by Robert H. Horwich and Jon Lyon

We are now conducting a small but significant experiment in wildlife conservation in rural Belize in the Bermudian Landing area on the Belize River. This unusual experiment has been to create a sanctuary on private lands with community support. It is not a sanctuary in the traditional or legal sense, but one which is based on and depends on private individuals as well as community government. Private landowners have voluntarily pledged to use their lands in accordance with a management plan which will benefit the black howler monkey and other wildlife, as well as the river and its forests. In turn, the program will benefit the landowners by reducing erosion, conserving the water table, and allowing more rapid replacement of the forest and its nutrients following slash-and-burn agriculture. This program, while limited and tailored specifically to the local area, has unlimited possibilities for similar situations in other areas of the world for other wildlife, archeological, or historical situations which could come under partial or total community control and management.

Before 1970, the black howler monkey, *Alouatta pigra*, was considered a subspecies of *A. palliata* which ranges throughout Central America. A study of skull characteristics exhibited two distinct populations of howlers (Smith, 1970). Further behavioral observations have confirmed these species differences (Horwich, 1983a; Horwich and Johnson, 1986). A recent survey of *A. pigra* noted a shrinking of the original range given

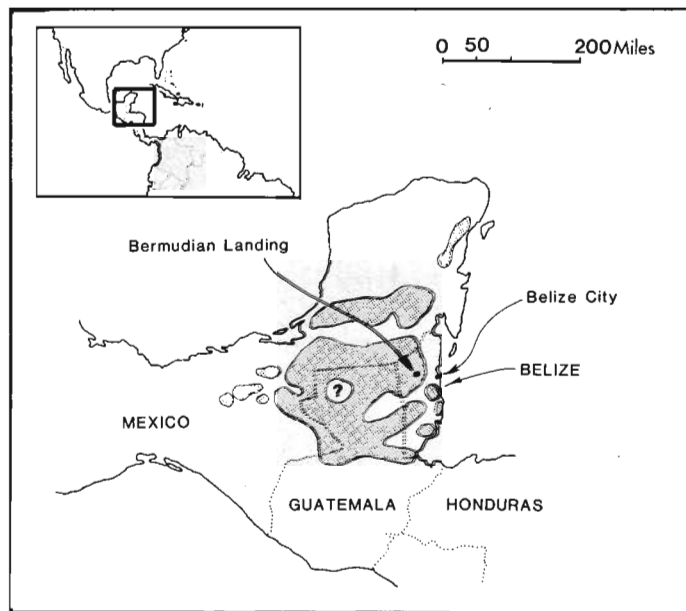


Fig. 1. The probable range of the *Alouatta pigra* in Central America. Its current range has been reduced to island populations which are continually shrinking in many areas (map by S. D. Nash from Horwich and Johnson, 1986).



Fig. 2. Riverine forest habitat of *Alouatta pigra* showing various successional stages (photo by R. Horwich).

by Smith (1970) as a result of habitat destruction, to isolated populations in forest islands often occurring along rivers in southern Mexico, northern Guatemala, and Belize (Horwich and Johnson, 1984, 1986; Fig. 1). Smith (1970) stated that *A. pigra* seemed to be more specific to tropical rainforest areas while *A. palliata* was more generalized and could utilize secondary forests and thus displace *A. pigra* due to habitat destruction. However, recent observations on *A. pigra* habitat in the Bermudian Landing area indicate that the species ranges through all successional stages of riverine forest, including areas of secondary growth (Fig. 2).

Belize, and particularly the area around Bermudian Landing along the Belize River, has long had high howler populations, and was the site of a film, "Amate — the Great Fig Tree," filmed by Richard Foster, and earlier studies of howlers (Bolin, 1981; Horwich, 1983a, 1983b; Horwich and Gebhard, 1983, 1986). With rapid habitat destruction through much of its range, especially in Mexico, we targeted Bermudian Landing as an area for conservation based on the high howler population, its continuity with other howler areas, and the favorable disposition the local Creole people showed toward the howlers, which are locally called baboons. Although the land is all privately owned or is being leased for eventual purchase from the Government of Belize, slash-and-burn agriculture is proceeding at a slow enough rate to allow for mutual use of the forest by howlers and humans. This may be due to high nutrients and rapid regeneration, as noted in similar *cohune* forests (Arnason and Lambert, 1982; Arnason *et al.*, 1984).

In 1983, we approached the villagers and Village Council members of Bermudian Landing with the idea of beginning a sanctuary for the howler, using their private lands. We circulated a petition and secured signatures of 16 landowners and all seven council members. In 1984, we received permission to proceed from the Ministry of Natural Resources through the Chief Forest Officer, and support from the area representative. The following year, with financial support from WWF-U.S., we introduced the issue at a village meeting. We explained our plan and stressed the voluntary nature of the project as well as the conservation benefits to the land and to Belize. The voluntary nature of the

plan especially excited these rural landowners, who understand the importance and inherent independence of owning their own land.

In 1985, we mapped almost eight km<sup>2</sup> closest to Bermudian Landing and drew up individual land management plans for each landowner. These included requests to retain strips of forests along the river, between property boundaries, surrounding milpas, and as aerial pathways across large cut milpas. Our long-term goal is to retain a skeletal corridor system of forests for the howlers and other wildlife. We then approached the landowners with the help of a local Belizean, and obtained signed witnessed pledges from all 11 landowners (Fig. 3). These pledges read: "I, \_\_\_\_\_, a landowner in the Bermudian Landing vicinity, voluntarily pledge to accept the following management plan regarding my land and my farming practices, to enhance the environment of the baboon on my land. I understand that this pledge is not legally binding but I will nevertheless attempt to live up to its stipulations. If I cannot do so, I will inform the Village Council of Bermudian Landing or any biologist working on the Community Baboon Sanctuary, to attempt to make my farming practices work in harmony with the needs of the baboon and other wildlife." In our conversations with the landowners, we stressed such proper land use practices as preventing riverbank erosion, using trees that are food for both cattle and howlers, and the more rapid nutrient recycling due to quicker reforestation during the fallow time.

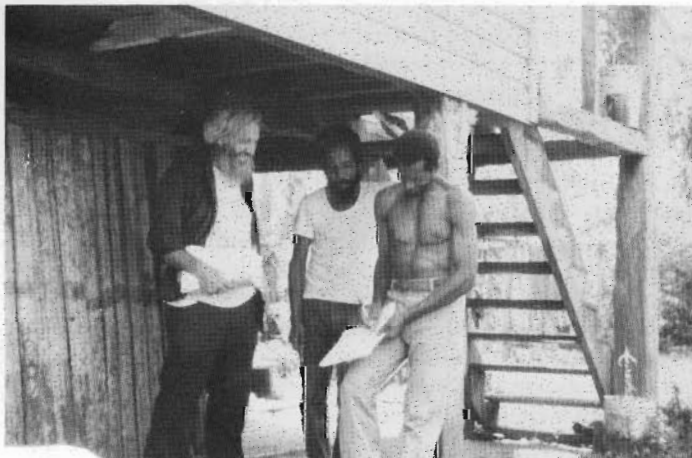


Fig. 3. The author, R. Horwich, with Fallett Young obtaining a voluntary conservation pledge from a landowner in Double Head Cabbage (photo by R. Horwich).

In 1986, with additional funds from WWF-U.S. and under the auspices of the Belize Audubon Society, using aerial photographs, we mapped an additional 39 km<sup>2</sup> on either side of the Belize River from Big Falls to Flowers Bank (Fig. 4). We have similarly drawn up individual land management plans for the new landowners and have already signed up over 60 landowners along a 32 km stretch of the river. We have also obtained formal support from the other villages, including Big Falls, St. Paul's Bank, Willow's Bank, Double Head Cabbage, Isabella Bank, and Flower's Bank. Landowners will receive from us a vegetation map of their lands with the management plan, and a copy of the pledge they signed. We additionally hope to award a certificate of participation, a t-shirt commemorating the sanctuary, and an aerial photograph of the land.

While working on a conservation plan for the area, the project has also stressed education, tourism, and research programs, which we hope will benefit the local people. Education has included lectures at all levels within the community and in Belize, as well as the development of written materials and video programs about the project and selected biology and conservation subjects. We wrote a 60-page, illustrated guidebook about the project which has been sold to tourists and locals. We are also developing a tree propagation program to help replant eroded areas along the river. This will be done initially in an area which we have fenced

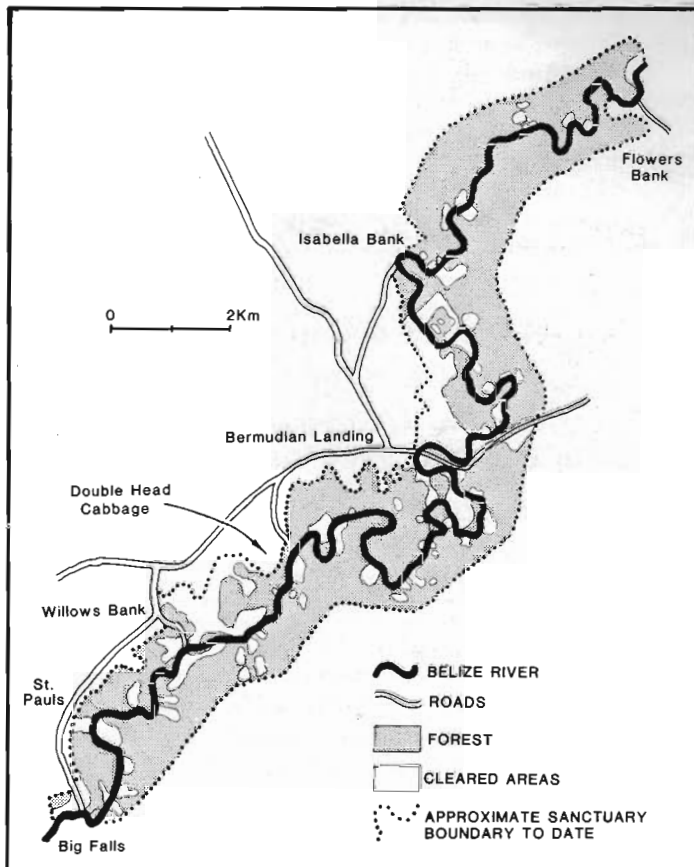


Fig. 4. The current boundaries of the Community Baboon Sanctuary which include over 60 landowners and seven villages along the Belize River (map by S. D. Nash).



Fig. 5. Villagers of Bermudian Landing building a tourist shelter from local materials (photo by R. Horwich).

for a community garden plot as well. Additionally, at the suggestion of the villagers, we are helping them to develop a "bed and breakfast" tourism which will encourage visitors to take meals with local farm families. The villagers have also built a small shelter for overnight camping (Fig. 5), acted as guides, and are selling traditional and innovative crafts made from local materials.

The final step in the development of the sanctuary will occur next year when we hope to hire and train a local Belizean, under the auspices of the Belize Audubon Society, to act as the sanctuary manager. The manager's main job will be contacting and working with local landowners to honor their earlier pledges, especially during the dry season when milpas are cut and burned. In addition, the manager will census howlers; make regular observations on plant phenologies; lecture to school groups and tourists; help to make connections for tourists with villagers for room, board, and guides; cut and develop trail systems; and maintain educational signs on the trails.

Our final plan is to construct a small, rural, holistic museum that will be an additional tourist attraction and a site for local education. We expect to have exhibits on paleontology, archeology, cultural anthropology, zoology, and botany. The museum grounds will be planted with local trees and plants as a small arboretum. All exhibits will have conservation as a theme and will relate to the natural history of the area.

Robert H. Horwich  
RD 1, Box 96  
Gays Mills, WI 54631  
U.S.A.

Jon Lyon  
Box 484  
Old Westmonster Road  
Hubbardston, MA 01452  
U.S.A.

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## Sightings of Red Uakaris, *Cacajao calvus rubicundus*, at the Rio Blanco, Peruvian Amazonia

by Ursula Bartecki and Eckhard W. Heyman

Two species are distinguished within the genus *Cacajao*, *C. melanocephalus* and *C. calvus*. The latter is traditionally subdivided into two subspecies, *C. c. calvus* and *C. c. rubicundus*, the white and the red uakari. Only the red uakari is found in Peru. Like the other uakaris, *C. c. rubicundus* is listed as vulnerable by the IUCN (1982) and has already disappeared in some areas (Aquino, 1978; Soini, 1982). Neither population densities nor the exact distribution are known. Red uakaris do not occur west of the Rio Ucayali (Hill, 1960; IUCN, 1982; Napier and Napier, 1967; Soini, 1972), but whether the northern boundary is formed by the Amazon (Chiarelli, 1972) or by the Rio Putumayo-Ica (IUCN, 1982; Mittermeier and Coimbra-Filho, 1977; Napier and Napier, 1967; Soini, 1972) remains unclear.

Unlike the white uakari, which has been studied by Ayres (1986) at the Rio Japurá in Brazil, little is known about the ecology and behavior of free-ranging red uakaris. Some brief sightings are reported by Aquino (1978), Fontaine (1979), and Mittermeier and Coimbra-Filho (1977). During the course of etho-ecological studies on moustached tamarins and saddle-back tamarins in 1985-1986, we had four encounters with *C. c. rubicundus* at our study site on the Rio Blanco (Fig. 1) in May 1986. [According to the recent taxonomic revision of the genus *Cacajao* by Hershkovitz (1987), the species *C. calvus* is subdivided into four subspecies and therefore the animals seen by us belong to the subspecies *C. c. ucayalii* which is living between the Rivers Ucayali and Yavari. To avoid confusion we maintain the traditional taxonomy.]

The first sighting took place on May 4 at 1530 h, when a group of 20-30 red uakaris passed near our camp. The group included young animals estimated to be less than one year of age. Some animals were feeding in a *leche huayo* tree (Apocynaceae, possibly *Couma* sp.). Visual contact was maintained for about half an hour and was disrupted due to a heavy shower. However, from the camp we heard vocalizations of the uakaris until about 1900 h, indicating that they spent the night nearby. The next morning we met the uakaris at 0550 h at the presumed sleeping site. Some animals were feeding in a *shiringa* tree (Euphorbiaceae, *Hevea* sp. or *Sapium* sp.), others were allogrooming, and one animal was observed to mark anogenitally. When the group started to move, it split into subunits. Group progression was rapid and always at heights of more than 15 m. The uakaris often moved in file, which twice gave us the opportunity to count members. One subunit contained at least 43 individuals, the other 25-30 animals. Thus total group size was about 70-80 individuals. One of the subunits was associated temporarily with a group of squirrel monkeys, *Saimiri sciureus*. Individuals of both species used the same arboreal pathways. Two more feeding trees were recorded, but not yet identified. The fruits of these two trees had thick shells (5 mm and 14 mm, respectively), similar to the *leche huayo* (7 mm) and the *shiringa* (7 mm).

Contact with the uakaris was maintained for 2.5 hours. During most of this time, the main activity was travelling (Fig. 2). It was difficult to keep up with the animals, although they moved around in an area which was made accessible by a trail system. Contact was lost when the uakaris left this area.