



The Gamba Complex Biodiversity Project is a collaboration of the Smithsonian Institution's Monitoring and Assessment of Biodiversity Program (MAB), Shell Gabon, Shell Foundation's Sustainable Energy Program, the Gabonese government and other national and international organizations.

This is the third update from researchers on the ground in Gabon conducting fieldwork for a month. Subsequent updates will include results from field research and other news.

One of MAB's foremost goals is to disseminate information gained from research as widely and timely as possible. With these updates—directly from the field—we venture down a new path to keep colleagues and other interested parties informed.



A male Sitatunga stands at the edge of the forest after an afternoon rain, top, and *Thonningia sanguinea*, a parasitic flower which grows on roots of trees and shrubs, adds color to the forest floor. **Photos by Carlton Ward Jr.**

**Smithsonian Institution/
Monitoring and Assessment of
Biodiversity Program (MAB)**

FIELDNOTES - GABON

Field Newsletter—Issue 3

March 3, 2002—Special report from the Gamba Complex by Smithsonian Institution, MAB Program.

Rabi. Tomorrow marks two weeks of work in the field. Our species list continues to climb but at a slower rate as sightings of common species repeat. More rare or elusive species take time to find, and require different methods, keen search skills – and plain good luck.

Hot days are damped by rainshowers, one this week so violent it toppled trees like toothpicks on the road. Nights are wild with insect and frog calls, nocturnal movement and, on the 27th, the full moon. By 5:45 a.m. it's still dark on the equator but the coffee's on. Teams rise early to start the day. Let's get to the field before it's too hot...

6:10am. Nets are set open to catch understory birds. A series of 25 mistnets placed three meters high are surveyed every hour until evening. Unable to see the fine mesh, birds fly into the net and are then carefully removed for measurement and study.

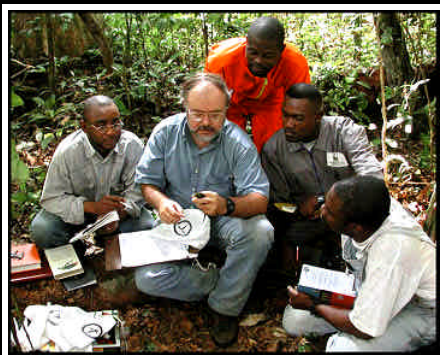
Most birds here dwell higher in the canopy and must be detected by sight or sound. Using tape recorders and binoculars, teams have counted 150 species so far. Exceptional sightings? The Crowned Hawk-Eagle, Malachite Kingfisher, Sooty Boubou and Olive Ibis. Common but stunning birds include the Great Blue Turaco, Gray Parrot and Black-casqued Hornbill. This is a bejeweled sky.

Brian Schmidt, Smithsonian ornithologist, has heard many birds in song but is still waiting to document others, like cuckoos, expected in Rabi. "The rain is of course dampening our efforts but we're still slogging through," he says smiling. The team continues to look for different habitats in the Rabi field to increase chances of finding different



Marius Burger, right, discusses reptile and amphibian biology with Gordon Brown, Head of Operations at Rabi, and Hillary Dussing, Technical Manager of Shell Gabon.

The ornithology team surveys bird communities in several representative habitats of the Gamba Complex.



species.

7:15am. By seven o'clock the mammal team has hit the trail. Each day they cover 8 kilometers of transect, "walking quietly, looking at the night's news written in the dirt," says Major Boddicker. Major's group conducts research on mid-size and large mammals through tracking stations, surveys and photo traps. They record vocalizations, tracks, scats, sightings and other 'hot evidence' -- for a weekly species list including elephant, buffalo, red river hog, blotched genet, marsh mongoose, leopard, African civet, sitatunga, blue duiker, putty-nosed monkey, red-cheeked mangabey and red capped mangabey.

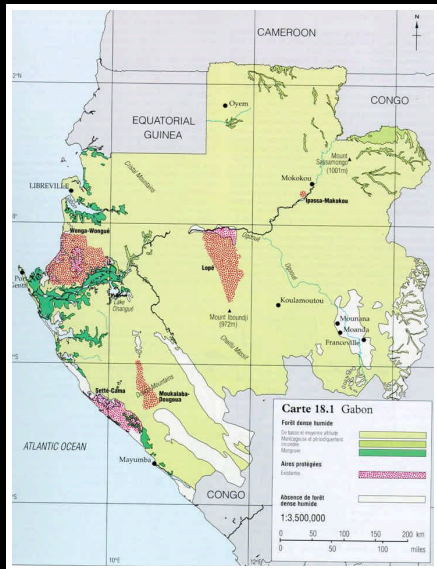
A few close encounters with wildlife highlighted the week. "We ran across elephants at close range a few times, one with young," recalls Major. "You have to be on your toes for these kinds of challenges. Groups of monkeys move through the trees just like rain. It's really amazing."

7:30am. Vegetation plots scattered across the landscape require some navigation to find. Some mornings the route is easy; other times there's rain, swamp, and great distances to cover. It takes a certain will to follow the GPS.

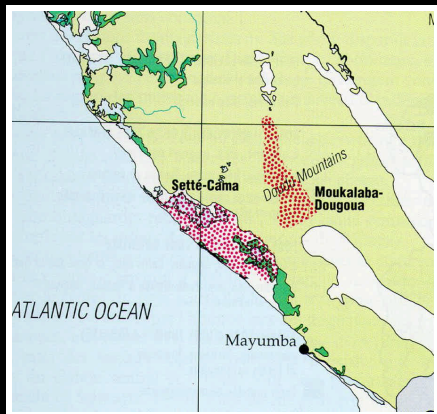
One site this week landed in an extraordinary cove of limestone outcrops rare to this area. Large blocks of water-worn rock lined a broad, dry streambed overhung with lianas. "The Gabonese botanists went crazy," said Pat Campbell, team leader. "Trees 30 meters tall were growing straight out of these rocks. A plant they only knew as a shrub before was standing 25 meters tall and a half-meter wide."

Eleven plots have been surveyed to date and each one quite different, even when they happen to fall close on the map. "What was considered one forest type on the outset has higher habitat diversity than expected, and part of the process is to understand the diversity and dynamic," says Pat. What microhabitat is next? Keep tracking that GPS...

8:20am. Running on five hours of sleep, 38 species of amphibians and 19 species of snakes, the herp team sets out to check sampling lines. Pitfall traps - - buckets buried along fencing -- catch small terrestrial creatures like amphibians, reptiles and



Gabon, situated along the equator in Central Africa, is a country rich in biological diversity.



The Gamba Complex, above and right, located in southwest Gabon, encompasses a mosaic of habitats, including Atlantic coastal wetlands, savannas, and primary rainforests.

MAB Program
 Conservation and Research Center
 National Zoological Park
 1100 Jefferson Drive, SW
 Suite 3123
 Washington, D.C. 20560-0705
 simab@ic.si.edu
 www.si.edu/simab
 Tel: 202-357-4793
 Fax: 202-786-2557

rodents. Study specimens are carefully taken for labwork and photodocumentation.

Each team is alert to interesting specimens for other teams while in the field. This week snakes, crocs and turtles came in from other teams, as well as two chameleons, a green tree-dweller and a brown one found in the leaf litter. Even Shell staff come to the lab bearing snakes and turtles to show the experts. "This is the advantage of a multidisciplinary team," explains Marius Burger, herp team leader. "During the course of other work, people help out by finding animals we may be interested in. You effectively cover more ground."

10:30pm. Fourteen hours later, the herp team is still at it. Night searches are productive for finding frogs by sound. The biggest adrenaline rush this week was the tree cobra, a fast black snake of over a meter in length. "In addition to strong venom the 'supercobra' has a very hard tail to sting its aggressors," explains Olivier Pauwels, snake expert. "It's known as 'tree cobra,' 'frog cobra' and 'false cobra', but in fact lives in places other than trees, eats things other than frogs, and is not in the same genus as cobras." He calls the snake a "supercobra" due to its extraordinary abilities, such as diving for fish and climbing trees. The adrenaline rush must help -- the team will make it to camp around 2am for a quick sleep before checking the sampling lines the next morning.

11:10pm. Don't mention sleep to the bat team either. Like the bird technique, the crew places nets in flyways to study bats. Night surveys at choice hours seek species active at different times of night. So far they've found 2 species of microbats and 6 megabats, mostly fruit-eaters. "Insect-eating bats are hard to catch because they have such fine-tuned echolocation they can detect the net and avoid it," explains Federico Hoffman of the bat team. Are there patterns emerging from the catches? "For one common species, *Epomophorus*, we're finding only females," says Federico. "We don't know why at this point but we want to find out."

We look forward to keeping you informed. Earlier issues of Fieldnotes - Gabon are available at www.si.edu/simab.