

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

## **FIELDNOTES - GABON**

### **Field Newsletter—Issue 11**

**December 1, 2002**—Report from the Gamba Complex by Smithsonian Institution, MAB Program.

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Unlike elephants, forest buffalo do not appear to migrate seasonally in Loango. Residents include young and old.

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 organizations.

MAB's mission is to promote biodiversity conservation by providing biological information to aid management decision-making. Training local biologists and technicians in field and lab skills helps impart knowledge for continued research and conservation in Gabon.

Fieldnotes-Gabon is a series of updates from researchers in the field. One of MAB's foremost goals is to widely disperse our findings. With these updates we aim to keep our colleagues and partners informed.



A leatherback trudges to the Atlantic with Michelle Lee, Smithsonian Gabon Manager, and John Ferguson, Shell Gabon Finance Director looking on.

**Photos by C.Ward Jr, V.Malch, M.Lee**

*Loango National Park.* At 4:00 a.m., under dead-of-night darkness and the soft roll of surf, the gigantic leatherback turtle we have been watching lay eggs and lumber on the beach finally reaches water's edge and returns gracefully to the Atlantic. John and I exchange tired, cathartic glances – she'd been turning in confused circles on the beach for hours, exhausted, after having carefully dug a deep hole and laid her lot of golf ball-sized eggs. Her body was so big it left tracks in the sand like heavy machinery tires, leading to and from the ocean, and spiraling the shape of her labor on land. The tide was already rising; by morning all evidence would be gone.

Leatherbacks (*Dermochelys coriacea*), the world's largest turtle, are one of five sea turtles known to nest on Gabon's coast, and one of two marine turtle species observed during our study in Loango. Gabon's undeveloped coastline provides important nesting habitat for sea turtles, good waters for whales, dolphins and marine fish, and intact coastal mangroves, savannahs and forests for shore-bound plants and animals.

For large wildlife, Loango National Park has it all. Off the country's southwest coast, framed by the prominent N'gové and N'dogo Lagoons, the newly named park is considered a jewel in central-west Africa for its large mammals like whales, elephants and gorillas, and for large reptiles like sea turtles and crocodiles. Its well-deserved new protection status is meant to ensure these animals remain wild and their habitats unspoiled for generations to come.

### **Large Mammals**

Elephants, hippos, chimpanzees, leopards – large



Sally Lahm spots a blue duiker (*Cephalophus monticola*) during a nocturnal survey (above). Day and night, observations are taken along 3-km transects. Observations include direct sighting of animals and indirect sign such as footprints, dung or nests.

Sally and Jean-Pierre Tezi hike to camp after daytime transects (below). The largest elephant they spotted is one of the largest bulls in the area.



mammals may be among the most popular, charismatic and conspicuous of animals, but they're not necessarily easy to spot. Even when abundant, direct sightings are obscured by thick vegetation, quiet escape, nocturnal activity or other evasive behavior. Researchers learn to read the signs they leave – footprints, dung piles, vocalizations, nests – measured along transects and analyzed for animal presence, density and distribution information.

Impressions in the mud like pie plates, dung pellets resembling coffee beans, a knap of branches assembled in the treetops are all data to the trained eye. From direct and indirect observation, “we encountered 29 species of animals or their signs: 11 species of ungulates, 9 species of primates, 5 species of carnivores, 3 species of reptiles, and 1 species of rodent,” reports Sally Lahm, Institut de Recherche en Ecologie Tropicale. “The community of medium-sized and large mammals in the study zone is dominated by 3 species: elephant, forest buffalo and bush pig or red river hog. Leopards were relatively rare, but small carnivores, particularly genets, civets and marsh mongooses, were common and exhibited frequent use of beaches for foraging and scavenging.”

To verify sign and boost sightings, camera traps are placed in key locations to collect data round-the-clock. “In Loango remote traps operated for three weeks recorded evidence of gorillas, red-capped mangabeys, Servaline genet, marsh mongoose, leopards, buffalo, Ogilbies duiker, blue duiker, yellow-backed duiker, red river hogs and sitatunga. But the majority of shots are elephants, lots of elephants” said Major Boddicker, Smithsonian research associate.

## Reptiles

The coastal forest interface allows a unique composition of reptiles as well, combining marine, savanna and forest species in a single locality. For the reptile portion of the study, “the preliminary list of 36 species includes 3 crocodiles, 8 turtles, 14 lizards and 11 snakes,” said Olivier S.G. Pauwels, Smithsonian research associate and Institut Royal des Sciences naturelles de Belgique. “In total, we believe that a total list of about 50 reptile species is a reasonable

All 3 African crocodiles are found in Loango – a rare co-occurrence. A juvenile Nile crocodile found in the surf is photographed before being released.



Herpetologists Olivier S.G. Pauwels and Marius Burger examine a sea turtle.



Hippos graze at night and laze in lagoon inlets and ocean surf during the day.



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

expectation for the park. Loango's herpetofauna is remarkable by its high proportion of endangered and protected species, notably all three African crocodile species, and its unusual combination of forest, bunchgrass prairie, and marine species."

In addition to all three African crocodiles, the dwarf crocodile (*Osteolaemus tetraspis*), long-snouted crocodile (*Crocodylus cataphractus*) and Nile crocodile (*Crocodylus niloticus*), the two softshell turtles known to occur in Gabon live in the lagoons and mangroves of the park. These turtles are heavily hunted for their meat and have been extirpated from many localities where they formerly occurred. Finds like these add conservation value to the new park.

### Team Loango

Fieldnotes-10 reported on the first session of the Loango study, with highlights on vegetation, birds and U.S. Delegation visits to the site. It also listed participants for the first session of fieldwork. Here we list teams represented in mammal and reptile work. Fieldnotes-12 will cover the last session of participants for Loango.

**Reptile Team:** Olivier S.G. Pauwels, Institut Royal des Sciences naturelles de Belgique; Bill Branch, Port Elizabeth Museum; Jean Eric Mackaya Mboumbah; Elie Tobi, Smithsonian Institution Gamba Biodiversity Center. **Large Mammal Team:** Major Boddicker, Smithsonian Institution research associate; Sally Lahm, Institut de Recherche en Ecologie Tropicale; Jean Pierre Tezi; Jean Luc Makaya. **Logistics:** John Brown III; Marius Makanga; Christian Moulomba; Alain Bruce Ogendaga. **Photojournalism:** Carlton Ward Jr.; Yvonne Malch. **Smithsonian Management:** Francisco Dallmeier, Alfonso Alonso, and Patrick Campbell from Washington; Michelle Lee Project Coordinator in Gabon.

We look forward to keeping you informed as work progresses. You can find earlier issues of Fieldnotes - Gabon at [www.si.edu/simab](http://www.si.edu/simab) or [www.shellfoundation.org/biodiversity/index.html](http://www.shellfoundation.org/biodiversity/index.html).