



Often seen taking flight from savanna shrubs, the blue-breasted bee-eater preys on flying insects.

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 on the ground. One of MAB's foremost goals is to disperse our findings as widely and timely as possible. With these updates—directly from the field—we aim to keep our colleagues and partners informed.



Rain forest – covering 80% of Gabon – meets savanna, mangrove and lagoons on the Atlantic in Loango National Park.

Photos by Carlton Ward, Jr.

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

FIELDNOTES - GABON

Field Newsletter—Issue 10

October 20, 2002—Report from the Gamba Complex by Smithsonian Institution, MAB Program.

Loango National Park. In a landmark act, President El Hadj Omar Bongo and the government of Gabon recently dedicated 10% (30,000 km²) of the country's land area in 13 national parks to preserve Gabon's natural richness and heritage. Loango National Park, created from the former reserve of Petit Loango (established in 1956) and parts of the Sette Cama and Iguela hunting areas, comprises 1550 km² of coastal plains and forest edged by a strip of timeless beach.

Set aside to protect old forests running with elephants, savannas of grazing buffalo, lagoons with Nile crocodiles, and the dynamic coastal interface between the Atlantic and fresh waters, Loango's beauty, variety and intactness alone render it worth preserving. But what biological resources are really here? What snakes, what birds? What do we know about the species and ecosystems to help guide future park management? What organisms live here, where are they found, and how can this baseline data help us better manage the land for their conservation?

Birds

If timing is everything, the bird team nailed it. At the beginning of the rainy season birds are active and in full song as they ready to breed. Some resident birds are simply easier to spot in this time of year as they busy themselves attracting mates and reproducing. Other migrant birds like the African river martin come to Gabon from east or southern Africa to breed. These birds are found in Loango and other parts of Gabon where river habitats provide favorable conditions.



Colonies of several hundred Rosy Bee-eaters were found in savanna clearings near the coast. Resident to the area, they are perhaps more conspicuous in the rainy season while in full display.



Thomas Nzabi of the National Herbarium of Gabon presses plant specimens in the field. Taking voucher specimens allows us to reference trees we find in the field with other herbaria collections for proper identification.



This year the rainy season came softly and slowly to Loango but birds were nevertheless active. Our first three weeks of work recorded 119 bird species in a very small study area, including over 40 species found just in the understory (< 3m height) alone. The mosaic of vegetation types found along the coast provides different kinds of habitat to many birds, lending to higher species diversity.

The savannas, for example, provide favorable habitat for Gray-rumped swallows, who live in underground burrows abandoned by other animals. In Loango these swallows were found near a colony of several hundred Rosy bee-eaters – hole-nesting birds with brilliant red chests. “Rosy bee-eaters have a wider, scapulated claw adapted to dig in compacted sand,” said Brian Schmidt, Smithsonian Institution. “It is a spectacle to watch them come in from the forest in the evening as the light goes down. This time of year they have territorial flights and displays as they enter the colony and drop into their sandy holes.”

Could a sight like this be interesting to ecotourists visiting a new national park? Our bird research continues in Loango for several more weeks, with an eye towards species or sites potentially interesting for conservation and ecotourism.

Vegetation

Sand is always between your toes here. Trees grow on sand layers deposited over time and aged into open, mature forests. “We often find large trees of high value not exploited in these forests,” said Thomas Nzabi, L’Herbier National du Gabon. “This area was probably inaccessible to forestry machinery due to the sandy soils.”

Despite the maturity of the forests, plot-level work on trees larger than 5 cm in diameter found relatively low species diversity for central African rain forest. “Even when we walked all day to reach sites further and further inland, we recorded the same species found nearer the coast, the same basic composition in nearly every plot,” said Pedro Rivera, Smithsonian research associate. “In plots measuring 20 m x 50 m, mangrove sites near the coast recorded only two tree species, and the richest interior site had only 29 tree species.”



We were honored by a special US delegation visit on tour of Gabon. Helicopters brought visitors to the remote site.

John Turner, US Assistant Secretary of State for Oceans and International Environmental and Scientific Affairs, examines a frog found in Loango.

Francisco Dallmeier, SI/MAB Director; Kenneth Moorefield, US Ambassador to Gabon; Walter Kansteiner, US Assistant Secretary of State for African Affairs; Mike Fay, Wildlife Conservation Society; and John Turner, US Assistant Secretary of State for Oceans and International Environmental and Scientific Affairs.



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US Delegation Visits Study Site

The MAB team was honored by a special US delegation visit to our remote camp. The delegation included John Turner (Assistant Secretary of State for Oceans and International Environmental and Scientific Affairs), Walter Kansteiner (Assistant Secretary of State for African Affairs), James Dunlap (Special Advisor to the Assistant Secretary for African Affairs), Ken Moorefield (US Ambassador to Gabon), David Barron (lobbyist), Mrs. Green (government advisor for financial investments), Ron Johnson (US Embassy in Gabon), Mike Fay (Wildlife Conservation Society), and two family members. Their brief visit was an introduction to the potential for study in a new national park of Gabon.

Team Loango

The first session included: **Bird Team:** **Brian Schmidt**, Smithsonian Institution; **Martin Ombenotori**, Brigade de Sette Cama; **Gauthier Moussavou**, Smithsonian Institution Gamba Biodiversity Center. **Vegetation Team:** **Pedro Rivera**, Smithsonian Institution research associate; **Duncan Thomas**, Oregon State University; **Henri Bourobou-Bourobou**, L'Herbier National du Gabon; **Thomas Nzabi**, L'Herbier National du Gabon. **Reptile Team:** **Olivier S.G. Pauwels**, Institut Royal des Sciences Naturelles de Belgique; **Bill Branch**, Port Elizabeth Museum; **Jean Eric Mackaya**; **Elie Tobi**, Smithsonian Institution Gamba Biodiversity Center. **Mammal Team:** **Sally Lahm**, Institut de Recherche en Ecologie Tropicale; **Major Boddicker**, Smithsonian Institution research associate; **Jean Pierre Tezi**; **Jean Luc Makaya**. **Logistics Team:** **John Brown III**; **Marius Makanga**; **Christian Moulomba**; **Alain Bruce Ogendaga**; **Jean Louis Pambo**. **Photojournalism:** **Carlton Ward Jr.** **Management Team:** **Francisco Dallmeier**, **Alfonso Alonso**, and **Patrick Campbell** from Washington; **Michelle Lee** 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 or www.shellfoundation.org/biodiversity/index.html.