

**A SURVEY OF THE CULTURAL ATTITUDES OF PEOPLE TOWARDS
REPTILES IN THE NIGER DELTA, NIGERIA: IMPLICATIONS FOR
CONSERVATION**

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ABSTRACT. – Interviews with people from different villages and different ethnic groups of Niger Delta (southern Nigeria, West Africa) were conducted to survey the cultural attitudes of local populations towards reptiles, with a conservation perspective. This is of importance in as much as environmentalists working in sub-Saharan Africa need to be aware of the cultural attitudes of people for planning reliable animal conservation strategies. We conclude that there is some basis for developing reliable conservation plans for reptiles in this area by means of systems of protected areas connecting sites where traditional beliefs may effectively protect certain species. Moreover, there is some basis also for undertaking sustainable farming of crocodiles, monitor lizards, and pythons. Currently, the reptilian species that seem to be most in danger in the Delta are *Crocodylus cataphractus* (critically endangered), *Crocodylus niloticus* (endangered), *Osteolaemus tetraspis*, *Kinixys* spp., and *Python sebae* (all vulnerable).

THE political aspects of conservation are complicated and a matter of concern in many sub-Saharan countries. In these countries, the need for organising and developing effective conservation strategies for critically threatened faunas must be considered in the context of improving the quality of life for rapidly growing human populations in poor and fragile environments (e.g. see Blake & Loveridge, 1975; IUCN, 1980; Eltringham, 1984, 1994). Moreover, the environmentalists may also need to struggle with deteriorating infrastructure, political chaos, the corruption of the political institutions, and ethnic instability. These factors have produced terrible famine and massacres in some countries, with dramatic effects on the local wildlife conservation (e.g. the case of Rwanda and the conservation of Mountain Gorillas *Gorilla gorilla beringei*, cf. Cooper & Cooper, 1996; Delvingt, 1996). Thus, it is not surprising that it has proven difficult to achieve

ongoing and effective conservation programs in some areas of sub-Saharan Africa (Eltringham, 1984).

Because of the negative interaction of the above-mentioned factors, conservationists must adopt a wide variety of conservation strategies, and it is important that they know the cultural traditions of the local communities inhabiting the regions being considered for conservation programs (Politano, 1997). For example, in addition to standard ecological and biodiversity surveys, the conservationists working in sub-Saharan countries should be aware of the local 'cultural' protection that some species may enjoy from animistic taboos and religious beliefs (Eltringham, 1984; Politano, 1997; Oduro, 1999), and they should know the main economic use that local people make of the target species proposed for conservation.

Since 1996 we have been working on long-term ecological studies of reptiles in southern

Nigeria (e.g. see Luiselli et al., 1998, 1999a, 2000a, 2001; Luiselli & Angelici, 2000). In this paper, we investigated the reptiles that are conserved or protected for cultural reasons and compared them with the species that are subjected to human persecution (including killing for profit - harvest, exploitation - and killing from fear - opportunistic killing; see below for further specifications).

STUDY AREA

The present study was conducted in several localities of the Niger Delta, southern Nigeria. Localities from five major ecological zones, lowland forest, flood forest, mangrove forest, eastern flank, and barrier islands, were surveyed. The ecological characteristics of each of these zones are described by Powell (1993, 1994, 1996). All the localities were included in Delta, Bayelsa, and Rivers States, all in Niger Delta basin.

MATERIALS AND METHODS

We conducted field surveys to obtain information on human attitudes to reptiles all over the Niger Delta region (south eastern Nigeria) between 1996 and 2000 at 38 villages representing all of the principal ethnic groups (see table 1 for a complete list of all the surveyed localities). At each village, a standardised questionnaire was distributed. Information sources used were: (1) hunters, (2) farmers, (3) chiefs of villages that provided information on the traditional beliefs, and (4) bush-meat dealers. At each station 10 to 20 adults belonging to the above-mentioned categories were interviewed individually, and questioned about their attitudes and perceptions to the herpetofauna. Every effort was made to avoid the proportion of interviews being heavily biased towards one particular category of interviewees. Nevertheless, there was a strongly biased gender in our interviewee sample (men more than women), as women were normally reticent to answer. Since there were in some cases minor

differences in the responses of the four groups, we tried to ensure 'balanced reporting' from the different areas, and considered information to be an accurate reflection of attitudes if there was consensus among at least 70% of the interviewees. Remains of animals traded in bush-meat markets, juju markets, and shrines, were also observed. Information was also collected concerning the various uses of reptile body parts by the local population.

RESULTS AND DISCUSSION

A list of the attitudes of people towards reptiles locality -by- locality is presented in Table 1.

As a general trend, it is clear that snakes (except pythons) are opportunistically killed everywhere as they are believed to be venomous. Indeed, several lethal species are found in the area (i.e. *Bitis gabonica*, *B. nasicornis*, *Naja nigricollis*, *N. melanoleuca*, *Dendroaspis jamesoni*, *Pseudohaje goldii*, etc., cf Luiselli et al., 1998), and some of them (especially *N. nigricollis* and *D. jamesoni*) are also found in suburbia (Luiselli & Angelici, 2000; Luiselli et al., 2000a), and thus could represent potential threats to humans. In fact, unpublished research by the writers indicate that most of the cases of venomous snake bite in rural areas of Niger Delta are caused by *N. nigricollis*.

Local people recognise both *Python regius* and *P. sebae*; their attitude toward both species is identical. In Delta State there is more persecution of pythons (they are actively hunted for leather and food), whereas in Rivers and Bayelsa States there is more veneration, especially in sites with Calabari people. People of this ethnic group often believe that pythons are gods, and that pythons may offer protection against enemies to the people.

The three species of crocodiles (*Crocodylus cataphractus*, *C. niloticus*, *Osteolaemus tetraspis*) are subjected to strong hunting pressure for meat and leather in all the three States (Rivers, Delta, and Bayelsa). But, in a few sites of the Rivers State (see Table 1), they are subjected to veneration as totem animals.

Clearly, the hunting pressure to which they are currently subjected should be carefully monitored, as one species (*Osteolaemus tetraspis*) is still abundant but locally declining (Luiselli et al., 1999b), whereas the two larger species (*Crocodylus cataphractus*, *C. niloticus*) are extremely rare and endangered (Luiselli et al., 2000b). The Niger Delta people take large numbers of *Osteolaemus tetraspis*, despite the fact that it is reported to have a low quality leather (Ross, 1997). This is probably due to the decline of the other two species, which could no longer sustain the local market request of leather.

Tortoises (*Kinixys homeana*, *K. erosa*, *K. belliana nogueyi*) are also harvested in almost every locality investigated. They are considered a food delicacy by most people, their shell is used as a musical instrument, and as juveniles they are also kept as pets. In some localities they are used also for traditional medicine. In Bayelsa and Rivers States, however, these tortoises are locally venerated, especially in villages of Ijaw people. These localities where tortoises are 'traditionally' protected offer opportunities for the development of proper conservation programmes for these species, and to create sanctuary areas for them.

Freshwater turtles (genera *Pelusios*, *Pelomedusa*, *Trionyx*) are hunted everywhere, because they are consumed as food, and they are also used to prepare musical instruments, and for traditional medicine. Another problem for these species is that not only are they threatened by hunting, but also by progressive habitat destruction (i.e. 'reclamation' of swampy lands, etc.).

Nile Monitors (*Varanus niloticus ornatus*) are strongly hunted in several villages, but traditionally protected in several others (Table 1). Veneration of this species is especially concentrated in Delta State and Rivers State localities, whereas they are persecuted nearly everywhere in Bayelsa State. Persecution is due to the fact that Nile Monitors are considered a desirable food. Their skin is also of value, and together with crocodiles, these lizards tend to be the reptiles most often offered for sale as stuffed

souvenirs in the tourist shops of Port Harcourt city. Almost everywhere they are called 'iguanas' in pidgin English. In the case of the Nile monitor, there is a potential basis for a conservation programme based on cultural beliefs. It may be possible to link all the villages where Nile Monitors are venerated and form an institutional 'varanus-oriented' mosaic of legally protected forest reserves.

Rainbow Lizards (*Agama agama*) are neither venerated nor persecuted in any of the investigated localities, and, perhaps also for that reason, they are the most abundant reptiles of the area, especially around human settlements (Akani et al., 1999).

Wall geckos (*Hemidactylus* spp.) are opportunistically killed in some localities of the Rivers State (Table 1), but are in general venerated almost everywhere. Intentional persecution is limited by the fact that some people think they are venomous. Veneration seems to be related to the soft nature of their skin and the delicate movements that they exhibit. Geckos are sometimes believed to be a symbol of peace, or a sign of abundant children to be born.

Skinks (genera *Mabuya*, *Mochlus*, *Panaspis*) are generally persecuted (opportunistically killed) because most people think that they are 'a kind of small snake with a venomous bite'.

Chameleons are so scarce in the area that they are probably neither venerated nor persecuted. In some cases they are used for traditional medicine, or even kept as pets. In most cases the people we interviewed were not able even to recognise a chameleon, possibly because of its rarity.

Data on the attitude towards reptiles of local people in relation to the ecological zone where their own villages are situated is also presented in Table 1. Generalizations are difficult in this respect, given the migratory trends of large groups of people in this part of Nigeria (normally in the direction of larger urban centres where the conditions of life are much better). However, in general terms it seems that people inhabiting areas with mangroves (and people of riverine villages as well) are more likely to venerate the reptiles, possibly because they rely on fish and

Cultural attitudes of people towards reptiles in Nigeria

Locality	Local Govt.	State	Ecol. Zone	Sn P	Sn V	Py P	Py V	Cr P	Cr V	NM P	N M V	W G P	W G V	S K P	S K V	Ch P	Ch V	To P	To V	Tu P	Tu V
Ughelli	Isoko North	Delta	FF	X		X	X			X		X	X					X		X	
Patani	Patani	Delta	FF	X			X		X	X		X	X					X		X	
Oleh	Isoko South	Delta	FF	X		X	X			X		X	X					X		X	
Okouvu	Sapele	Delta	FF	X		X	X		X			X	X					X		X	
Nembe	Neiga	Bayelsa	MGF	X			X	X		X			X	X				X		X	
Okpo-Ama	Brass	Bayelsa	MGF	X			X	X		X			X		X			X		X	
dagbabin	Sagbama	Bayelsa	MGF	X			X			X			X		X			X		X	
Eniwari	S. Ijaw	Bayelsa	MGF	X			X	X			X		X	X				X		X	
Otuoke	Ogbia	Bayelsa	FF	X			X	X					X	X				X	X	X	
Angalabiri	Sagbama	Bayelsa	FF	X			X			X		X		X				X		X	
Otukpoti	Ogbia	Bayelsa	FF	X			X	X					X	X				X		X	
Sangana	Brass	Bayelsa	BI	X			X	X					X	X				X		X	
Odioma	Brass	Bayelsa	BI	X			X	X					X	X				X		X	
Toru-Ebeni	Mein /Oakiri	Bayelsa	FF	X			X			X			X	X				X	X	X	
Ekpetiama	Yenagoi	Bayelsa	FF	X			X			X			X	X						X	
Erema	Onelga	Rivers	LFF	X			X	X					X					X		X	
Ubarama	Ahoada-W	Rivers	LFF	X			X			X			X	X				X		X	
Omokwa	Abua /Odual	Rivers	EF	X		X	X						X	X	X			X		X	
Egbema	Onelga	Rivers	LLF	X			X						X	X				X		X	
Elele	Kelga	Rivers	LLF	X			X						X	X				X		X	
Ndele	Emolga	Rivers	LLF	X			X						X	X				X		X	
Abonnema	Akulga	Rivers	MGF	X			X	X					X	X				X		X	
Soku	Akulga	Rivers	MGF	X			X	X					X	X				X		X	
Ido	Asalga	Rivers	MGF	X			X	X						X				X		X	
Buguma	Asalga	Rivers	MGF	X			X	X						X				X		X	
Abalama	Asalga	Rivers	MGF	X			X	X					X	X				X		X	
Ke	Degema	Rivers	MGF	X			X		X				X	X				X		X	
Kula	Degema	Rivers	MGF	X			X		X				X	X				X	X	X	
Banana	Degema	Rivers	MGF	X		X	X						X					X		X	
Bonny	Bonny	Rivers	BI	X		X			X		X	X	X					X		X	
Opobo	Opobo /Nkoro	Rivers	BI	X		X				X	X	X								X	
Bodo	Gokana	Rivers	LLF	X		X			X	X	X							X	X	X	X
Yeghe	Gokana	Rivers	LLF	X		X	X	X		X	X							X		X	
Zor-Sogho	Khana	Rivers	LLF	X		X			X		X	X	X							X	
Kebara Kira	Tan	Rivers	LLF	X			X	X	X		X	X	X					X		X	
Okrika	Walga	Rivers	LLF	X			X	X		X	X	X	X					X		X	
Bolo	Ogu Bolo	River	MGF	X			X	X		X	X	X	X					X		X	
Ozuoba	Obalga	Rivers	LLF	X			X	X	X			X	X					X			
PERCENT				100	0	26	71	68	24	29	29	32	89	66	10	3	0	89	13	95	2

shrimps in their diet. The same is not true in the forests, where hunters kill everything they can catch to eat. This pattern does not seem to be linked to differences in religion among sites. Indeed the greater majority of people in southern Nigeria are Christian (about 70%), with nearly 20% being Muslim and 10% animistic, without evident differences among tribes inhabiting the different ecological zones of Niger Delta.

It is difficult (and certainly premature at the present stage of our knowledge) to give a full report on the differences between ethnic groups in terms of attitude towards reptiles. This difficulty depends on the fact that in the actual social standing of Nigeria, most villages are no longer 'mono-ethnic', but rather a mosaic of people of different ethnic background. And, it is worth mentioning that in Nigeria there are hundreds of ethnic groups, with diverging traditions and languages, and with English or, more frequently, pidgin English as *lingua franca*. Thus it was possible to find clear-cut differences only among ethnic groups, but rather than villages.

In conclusion, we believe that veneration of reptiles is locally still quite high in the Niger Delta area, and that good habitat management in hand with an understanding of local traditional beliefs could help considerably in improving the conservation potential for reptile species in the area. Particular attention should be paid to generating proper conservation plans, based also on a careful knowledge of local beliefs, for the endangered species of the genus *Crocodylus*, *Osteolaemus*, *Kinixys*, and *Python*. In particular, we suggest creating 'mosaics' of protected areas formed by interconnecting patches of forest, e.g. along the rivers Orashi, Sambreiro, and Nun,

where there is still considerable veneration for reptiles and relatively intact forest as well. It is clear, however, that the creation of such protected areas for these species cannot be realised without a feasibility project involving the various communities owning the study sites. It is likely that the economic and social conditions of Nigeria (now improving due to the new democratic government headed by President O. Obasanjo, after several years of military dictatorship) would permit also the establishment of farms for sustainable use of crocodiles, pythons, and monitor lizards. These farms, which have been shown to benefit both people and conservation in several tropical countries (e.g. see Ross, 1997), seem essential in a social environment of the kind found in southern Nigeria, where the human population density is one of the highest of the continent, and anthropic pressure on natural resources continues to be enormous. Moreover, to our knowledge, no farms for these large reptiles presently exist in southern Nigeria, which presumably means that the hundreds of specimens harvested for meat and skin are all removed from the wild. Currently, the species that seem to be most in danger in the Delta are *C. cataphractus* (critically endangered), *C. niloticus* (endangered), *O. tetraspis*, *Kinixys* spp., and *Python sebae* (all vulnerable).

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Table 1. Raw data on persecution (P) and veneration (V) of reptiles in the Niger Delta States of Nigeria. For more details on the type of persecution or veneration, see text. Ecological zones: LLF = lowland forest; MGF = mangroves; FF = flood forest; EF = eastern flank; BI = barrier islands. Reptile groups: Sn = Snakes; Py = Pythons; Cr = Crocodiles; NM = Nile Monitor; WG = Wall geckos; SK = Skinks; Ch = Chameleons; To = Tortoises; Tu = Turtles. Note that in some cases a given type of animal is either venerated or persecuted at a single locality on the basis of the ethnic group of the interviewees. Blank spaces in both 'P' and 'V' columns at a single locality indicate that no specific attitude toward the given reptile type emerged from our interviews.

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