

BUSHMEN AND HERPETOFAUNA: NOTES ON AMPHIBIANS AND REPTILES TRADED IN BUSH-MEAT MARKETS OF LOCAL PEOPLE IN THE NIGER DELTA (PORT HARCOURT, RIVERS STATE, NIGERIA)

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Summary

Observations are reported on the amphibians and reptiles traded in local bush-meat markets amongst the tribes of the Niger delta, south-eastern Nigeria. In all, eighteen species were recorded, of which four were amphibians and fourteen were reptiles. Some species were traded for their skins or for animistic cult purposes, but in most cases they were traded as food. In fact, wildlife represents the main source of protein for the support of rapid local population growth in fragile and poor environments. Some of the traded species are vulnerable or even threatened, not only at the local level of the Niger delta region but also at a more general, continental level. Among these vulnerable taxa may be noted Conraua goliath, Crocodylus niloticus, C. cataphractus and Osteolaemus tetraspis.

Résumé

Les bushmen et l'herpétofaune : note sur les amphibiens et les reptiles vendus dans les marchés bushmen, dans le delta du Niger (Port Harcourt, Rivers State, Nigéria).

Nous avons étudié les amphibiens et les reptiles vendus dans les marchés des populations locales (Delta du Niger, Nigéria du Sud-Est). Globalement, nous avons relevé 18 espèces différentes : 4 d'amphibiens et 14 de reptiles. Quelques espèces sont vendues pour la peau ou pour les rites animistes, mais la plupart sont vendues comme nourriture. En effet, les animaux sauvages représentent la source protéique principale pour les populations locales, surtout pour les gens qui habitent dans la forêt et dans les petits villages. Quelques espèces vendues sont vulnérables ou même menacées, pas seulement au niveau du Delta du Niger, mais dans toute l'Afrique. Parmi ces espèces vulnérables ou menacées nous signalons Conraua goliath, Crocodylus niloticus, C. cataphractus et Osteolaemus tetraspis.

Key Words

Herpetofauna, Ethnology, Bush-meat markets, Niger Delta, Rivers State, Nigeria.

Mots clés

Herpétofaune, Ethnologie, Marchés de gibier, Delta du Niger, Rivers State, Nigéria.

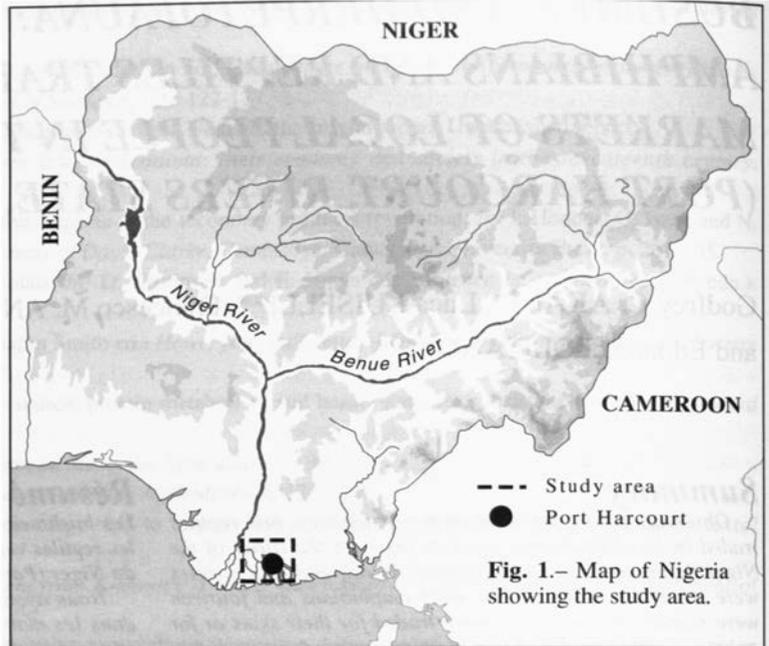
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Many ethnic groups in central and western Africa are strictly bounded to forests as far as their life exigences is concerned (e.g. cf. Turnbull, 1961; Bouquiaux *et al.*, 1980; Bahuchet, 1985; Cavalli Sforza, 1986; Hladik *et al.*, 1993). Forest animals constitute important food for many bushman groups, and sometimes they represent the unique proteic source for supporting rapid human population growth in fragile environments (cf. Ajayi, 1971; Ichikawa, 1983, 1987; Caldwell and Caldwell, 1994; Keyfitz, 1994). Although fish, mammals and birds constituted the main wildlife eaten by forest human populations, reptiles and amphibians were also occasionally consumed (Turnbull, 1961; Martin, 1983). Moreover, some reptile species (e.g. crocodiles and large snakes) furnish precious skins for trading (Hladik *et al.*, 1993). Several studies have investigated the mammal species eaten by African forest people (e.g. see Hart and Hart, 1986; Carpaneto and Germe, 1989), whereas least data are available on the reptile species traded by forest-people in bush-meat markets.



During the course of ecological research on the vertebrate fauna of the Niger Delta (southeastern Nigeria), we made some interesting observations on the species of Amphibians and Reptiles traded in local markets by indige-



Fig. 2.- Adult male *Bitis gabonica gabonica* traded in front of a lorry .



Fig. 3.— Adult female *Python regius* traded in a local market.

nous populations, mostly belonging to the Igbo people tribes. In this paper we present the data collected, and discuss them in the light of (i) food requirements of local people and (ii) conservation needs of threatened taxa.

Study area and methods

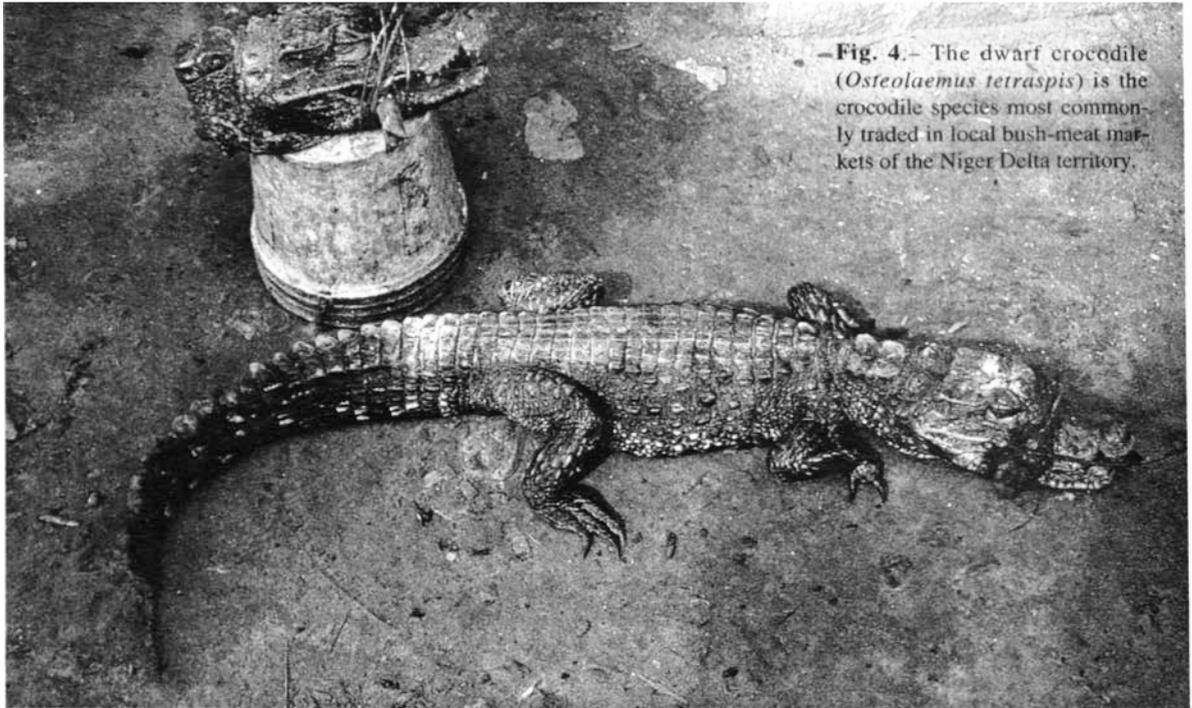
All observations presented here were collected throughout 1996 and 1997 (during the months of September, October, and from April to August) in the Niger Delta territory, southeastern Nigeria. The whole studied territory is under the political administration of Port Harcourt, the main town of the Rivers State (see fig. 1), especially important for the Nigerian economics because of its big oil extraction and gas transmission installations.

The area is strongly anthropized, with hundreds of small villages in the surroundings of Port Harcourt, a town with more than 500,000 persons in its own urban centre. Within the studied territory, several terrestrial macrohabitat types are available to Reptiles and Amphibians. Most of the territory is occupied by farmlands and cultivations, with patches of “bush” interspersed amongst the various villages. Main cultivations are Cassava plantations and oil palm plantations. The “bush” may be of the dryland rainforest type, or of the freshwater swamp-rainforest type. Dryland rainforests could be (i) primary forest, (ii) secondary forest, or (iii) bushy forest. Freshwater swamp-forests could be (i) periodically flooded or (ii) permanently flooded. Mangrove forests,

characterized by prevailing *Avicennia* or prevailing *Rhizophora* populations, are widespread in the zones subjected to saltwater or brackish water influences (Stuart *et al.*, 1990; A.A.V.V., 1995a, 1995b; Isoun *et al.*, 1996).

The climate of the study area is typical for a tropical sub-Saharan country, with well-marked dry and wet seasons with relatively little monthly fluctuations in maximum and minimum temperatures (Griffiths, 1972). The dry season extends from November to April, whereas the wet season from May to October, with the highest rainfall peak during July.

The observations were carried out in several bush-meat markets of local tribes, occasionally found at the limits of major roads in the Port Harcourt province. These local markets were visited as a step of a larger research project for assessing the environmental status of some areas of the Niger Delta territory, conducted by the Environmental Department of E.N.I. (“Aquatec S.p.A.”). We visited the bush-meat markets situated (i) along the Izumini River, (ii) in Aba town, (iii) in Rumuji village, (iv) in Rumuehuo village, (v) in Otari village, (vi) in Udegu (Ahoada) village, (vii) in Odukiri village along the Orashi river, (viii) in the Port Harcourt City, and (ix) in the Rumueme village. All reptiles and amphibians traded in these markets were examined and identified to species. Then, the hunters or the merchants were interviewed in order to know (1) where the animal was captured and (2) which kind of scope the traded animal is serving (food, skin, ritual reasons...).



–Fig. 4.– The dwarf crocodile (*Osteolaemus tetraspis*) is the crocodile species most commonly traded in local bush-meat markets of the Niger Delta territory.

The people

The Niger Delta territory is inhabited by a complex mosaic of ethnic groups. Among the most important ones, we can cite Igbos, Calabari, Ijaw, Akwa-Ibom, Ikwerres, Ogoni, Orobu...

The richest ethnic group in terms of economic conditions is that of the Igbo people, which is not autochthonous of this area, but migrated in the Rivers State for business reasons. Igbo people is a semi-banthou ethnic group widespread in the Port Harcourt area, accounting complexively for about 18 % of the whole human population of Nigeria (Marengo and Riganti, 1995). Igbo tribes inhabit a wide territory in southern Nigeria, including the provinces of Benin, Ogoja, Onitscha, Owerri, Warri, and Port Harcourt. They are organized in 33 subtribes. The Igbo live in most cases in independent towns or villages under a paramount chief and a chief for each quarter. The extended family groups live together in the same quarter. Marriage is prohibited between members of the same extended family and between near relations. Marriage by exchange, although much rarer than in the recent past, is still relatively common. Descent is patrilinear, but women have wide liberty and rights. Age classes and secret societies flourish. Igbo economy is essentially based on commercial activities, oil palm plantations and, especially in the Port Harcourt area, oil-related activities. Inhabitants

of major urban centres are mostly Christian, whereas Animism is still widespread in the smaller villages, especially among aged unschooled persons. Igbos were terribly damaged by the "Biafra War" (1967-1968), when, due to the terrible famine following the fights, they suffered enormous losses in terms of human lives.

Main proteic sources of Igbo and other local tribes living in forested zones are given by wildlife, that is normally exchanged in local bush markets. Therefore, the examination of these markets is of remarkable interest under the ethnozoologist point of view.

Results and discussion

The complete list of amphibians and reptiles observed by us in local markets is presented in Table 1. Although mammals and birds were the most frequently traded vertebrates in local markets (Ajayi, 1971; Martin, 1983; Ojonungwa, 1986; Akani *et al.*, unpublished observations), amphibians and reptiles were occasionally found, especially in small villages along the main rivers (Sambreiro, Orashi, and Niger itself).

On the whole, we recorded 18 different species, 4 were amphibians and 14 were reptiles.

Frogs were traded frequently, but only specimens of *Xenopus*, *Dicroglossus*, *Ptychadena*, and *Conraua* were observed by us in local markets. In general, frogs were

traded for food reasons (edible frogs represent very good meals for Igbos as well as for western European human populations), but a single Goliath frog *Conraua goliath* was traded for animistic religion reasons. This giant frog is very rare in the Niger Delta area and is extremely threatened in the rest of its central African range (IUCN, 1996) and thus its eventual trading should be carefully monitored by Environmental Institutions in Port Harcourt.

Traded reptiles were essentially snakes, used for food, skin, or animistic religion reasons. It is interesting to note that vipers of the genus *Bitis* are frequently traded (our observations and personal communication of interviewed persons, see fig. 2), despite their distribution is scattered within the Niger Delta territory, and their populations are usually sparse. Conversely, olive grass snakes *Psammodphis phillipsi* were not traded at all, despite they are abundant in suburbia and cultivated areas. Rock pythons *Python sebae* were used for skin-industry practices. However, in the Port

Harcourt area the pythons are more rarely traded than in other regions of Africa, especially in the eastern countries (i.e. Kenya and Tanzania). Other species occasionally traded were *Python regius* (fig. 3) and *Calabaria rheinardti*, which are relatively common within the studied region (cf. Butler and Reid 1990).

Crocodiles were occasionally traded for food and skin reasons (fig. 4). This is important, as crocodiles are increasingly rarer year-by-year in the Niger Delta, and are protected by law at either Federal or State level.

It is interesting to note that the various herp species traded varied remarkably depending on the various village districts and, to be more precise, on the different types of animistic cults. For instance, some villages consider pythons as dgyu-dgyu, and thus impede their hunting. The same is true for cobras (*Naja melanoleuca* and *Naja nigricollis*), Nile monitors (*Varanus niloticus ornatus*), and terrestrial turtles (*Kinixys belliana*).

Table 1 : List of amphibians and reptiles observed in several bush-meat markets within the provinces of Port Harcourt and Abia (Abia State). The locality of observation is also presented.

SPECIES	N° OBS. ANIMALS	LOCALITY	SCOPE OF TRADING
<i>Crocodylus niloticus</i>	1 female	Rumuehuo	Food - Skin
<i>Osteolaemus tetraspis</i>	1 female	Odukiri	Pet
<i>Osteolaemus tetraspis</i>	2 males	Elem Sangama	Food
<i>Kinixys belliana</i>	1 sex undetermined	Aba	Food
<i>Kinixys belliana</i>	1 sex undetermined	Otari	Dgyu-dgyu animism
<i>Pelusios castaneus</i>	11 adults	Kreigeni	Pet - Food
<i>Pelusios castaneus</i>	5 adults	Otari	Pet - Food
<i>Pelusios castaneus</i>	3 adults	Bonny Island	Food
<i>Varanus niloticus</i>	1 male	Aba	Food - skin
<i>Varanus niloticus</i>	2 males	Port Harcourt	Food - skin
<i>Varanus niloticus</i>	1 male	Ahoadia	Food - skin
<i>Varanus niloticus</i>	1 male	Elem Sangama	Food - skin
<i>Bitis gabonica</i>	1 male	Azumini River Cross	Food - skin
<i>Bitis gabonica</i>	1 (head only)	Aba	Dgyu-dgyu animism
<i>Bitis nasicornis</i>	1 female	Port Harcourt	Food
<i>Dendroaspis jamesoni</i>	1 male	Udegu (Ahoadia)	Food
<i>Naja melanoleuca</i>	1 male	Rumuji	Food
<i>Boiga blandingii</i>	1 male	Aba	Food
<i>Boiga blandingii</i>	1 male	Rumueme	Food
<i>Python sebae</i>	1	Udegu (Ahoadia)	Skin
<i>Python sebae</i>	3 males	Port Harcourt	Skin
<i>Python regius</i>	1 female	Sagbama	Skin
<i>Python regius</i>	2 sex undetermined	Ahoadia	Skin
<i>Python regius</i>	1 sex undetermined	Bukuma	Skin
<i>Xenopus tropicalis</i>	Many specimens	Rumuji	Food
<i>Conraua goliath</i>	1 female	Aba	Dgyu-dgyu animism
<i>Ptychadena</i> sp.	Many specimens	Aba	Food
<i>Ptychadena</i> sp.	Many specimens	Port Harcourt	Food
<i>Ptychadena</i> sp.	Many specimens	Rumuji	Food
<i>Ptychadena</i> sp.	3 females	Rumuji	Food
<i>Dicroglossus occipitalis</i>	5 males, 4 females	Elem Sangama	Food

In general we conclude that trading for food reasons is an important phenomenon to be monitored accurately in local villages, whereas the decrement of the animistic practices in connection with the better life conditions of the human population seems to be in favour of the conservation of several species, such as Goliath frogs and various snakes. In any case, some of the traded species are vulnerable or even threatened, not only at the local level of the Niger Delta region, but also at the general continental level. Among these vulnerable taxa, we should notice *Conraua goliath*, *Crocodylus niloticus*, *C. cataphractus*, and *Osteolaemus tetraspis*.

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