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Food and Feeding Habits of the Thick-Tailed Galago (*Otelemur crassicaudatus*) in Okomu National Park, Edo State

B.N. Ejidike and F.E. Okosodo
Department of Fisheries and Wildlife Federal, University of Technology, P.M.B 704, Aure, Nigeria

Abstract: The food and feeding habits of thick-tailed galago (*Otelemur crassicaudatus*) in Okomu National Park, Edo State, Nigeria were studied for 8 months. Direct observation with the aid of binoculars was used in the data collection. Three visits were made between 0600-1600 h in the Park for 8 months stretching to wet and dry seasons. Data were collected from the plant and animal species the thick-tailed galago fed upon. The faeces of the animal were dried and sieved using 1 mm wire mesh. Some undigested plant materials; seeds, fruits and insect remnants were observed. The results revealed that the thick-tailed galago feeds on wide variety of plant and animal species especially the arthropods.

Key words: Galago, *Otelemur crassicaudatus*, feeding habits, Okomu national park

INTRODUCTION

Primates are rainforest animals that are important in the stability of the ecosystem as agents of fruits and seed dispersal (Adeyemo, 1992). They are also socially interesting and exhibit a high sense of intelligence, which makes them one of the closest animal to man. As a result, they command an enormous tourist value in zoological gardens and other conserved areas. Primates play a vital role in education and medical research because their blood chemistry is closely related to that of man and therefore constitute a very good tool for medical and institutional research worldwide (Ayodele *et al*., 1999). Majority of primate species are primarily arboreal and they depend on the forest and forest ecosystem. Primates as other animals have the need to acquire energy, amino acids, minerals, vitamins, water and certain fatty acids but their individual requirements vary, they rely mostly on plant materials to meet these basic nutrients and energy requirement (Oates, 1987; Waterman and Kool, 1994). Therefore, one of the threshold problems facing the primates in the rainforest is the location of nutrient source essential for metabolic maintenance (Sayer and Wegge, 1992). Man depends on the forest ecosystem for a great variety of products such as food, timber, fuel wood, building and construction materials and medicinal herbs.

Therefore due to the pressure mounted on this ecosystem by man, its potential to provide the basic nutrients and protective requirements for the various animal species has been drastically reduced (Freeland and Janzen, 1994). Galagonidae is one of the African primates, which are small, quick animals that are still relatively common in many areas. The family contains four genera and 11 species. Galagos have long hind limbs, which are noticeably longer than the fore limbs and long tails. Their fingers are well developed and they have terminal disk pads and the thumb is not opposable. Galagos move rapidly through the trees, leaping from branches up to 12 m (Vaughan *et al*., 2000).

Galago species vary in food habits from being highly insectivorous to eating leaves, fruits or gum secreted by trees. The hands and feet of some species appear to be specialized for grasping small twigs and branches and the trunks of trees. Most of their activities are nocturnal and during the day, they can be found in thick vegetation or hollow trees (Bearder and Doyle, 1984). However, this study was designed to investigate the food and feeding habits of thick-tailed galago in Okomu National Park.

MATERIALS AND METHODS

This study was carried out in Okomu National Park, Edo State, Nigeria. The Park is located in Ovia Southwest Local Government Area of Edo State, lays 45 km west of Benin City. The park covers 181 Km^2, which is only 15% of the 1200 Km^2 covered by the Okomu forest reserves. It is between longitudes 5° and 5° 10' East and between latitudes 6° 10' and 6° North. The National Park is one of the Parks that contain the last remaining low rain forest ecosystem in the Southwest of Nigeria and is endowed with a complex assemblage of fauna and flora species.

Corresponding Author: B.N. Ejidike, Department of Fisheries and Wildlife, Federal University of Technology, P.M.B 704, Aure, Nigeria

The rainfall in the area is between 1524 and 2540 mm per annum. The area is within 75 m above the sea level. The vegetation of this area is semi deciduous forest. The vegetation has a close stand of three layers of trees consisting of lower and middle storeys and discontinuous layer of tall emergent trees. There are few endemic tree species. The notable ones are the *Entandrophrama angolensis*, *Entandrophrama utile*, *Kaya ivorensis*, *Aurea cedrata*, while the only Nigerian specie of *stombosia postulate* (*Olacaceae*) a large forest tree is found in Okomu National Park.

This study was carried out in both the wet and dry season of the year. The wet season study took place from July to October 2004, while the dry season study took place from November to February 2005.

Two methods were used for this study, direct and indirect methods. Indirect method involved the examination of faecal output of the *Otolemus crassicaudates* (Lammed, 1999). Faeces of this animal were collected, dried and kept in specimen bag for observations. This was later broken and sieved using 1mm wire mesh, some undigested plant materials and insects' remnants were observed under magnifying glasses and low power compound microscope.

Direct method involved direct observation of the animal in the field with the aid of binoculars by using scanning and focal point technique as described by Altman (1974). Three visits were made per week for eight months. These visits were made between 0600 and 1600 h.

Data were collected of the plant species and parts eaten by this animal after the group had finished feeding and moved out of the site. Samples of the plants that could not be identified in the field were collected and preserved in 10% formalin in specimen bottles for identification at the Department of Forestry, Federal University of Technology, Akure and later compared with Standard Herbarium at The Forestry Research Institute of Nigeria (FRIN) Ibadan for plant species identification.

RESULTS AND DISCUSSION

The results of the plant species thick-tailed galago *Otolemur crassicaudatus* in Okomu National Park was found to feed on during the wet and dry seasons of the year are presented in Table 1 and 2. The results indicated that *O. crassicaudatus* feed on wide varieties of plant species. *O. crassicaudatus* consumes mostly seeds, fruits flowers of plant species. However, the animal was observed to also consume gum of some plant species like *Dacryodes edulis*. The differences in plant species consumed during the dry and wet seasons by *O. crassicaudatus* are observed to be probably due to the different fruiting season of the plants and this animal feed mostly on fruits. Most seeds are swallowed intact without mastication and some of these seeds pass through the digestive tract without losing the ability to germinate. This behaviour is an important form of seed dispersal (Garber, 2001). The *O. crassicaudatus* was found to also feed on lower animals as presented in Table 3 and 4. These observations confirm the fact that

Table 1: Plant species consumed by thick-tailed galago *Otelemur crassicaudatus* during the wet season in Okomu National Park

Plant species	Frequency	(%)	Parts eaten
Afrosersalisia afzelii	42	18	Fruits and leaves
Invigia grandifolia	38	16	Fruits
Garcinia kola	31	13	Fruits
Dacryodes edulis	28	12	Fruits and leaves
Elaeis guuineesis	22	8	Fruits
Caloncoba glauca	26	11	Leaves
Cola verticillata	25	9	Fruits
Treculia africana	7	3	Seed
Invigia gaubonensis	7	3	Fruits
Barteria nigritiana	6	2	Flowers, fruits
Mammea africana	36	13	Fruits and seeds

Table 2: Plant species consumed by thick-tailed galago *Otelemur crassicaudatus* during the dry season in Okomu National Park

Plant species	Frequency	(%)	Parts eaten
Chrysophyllum delevoyi	42	15	Fruits
Mammea africana	36	13	Fruits and seeds
Chrysophyllum albidun	30	11	Fruits
Dacryodes klaineana	30	11	Fruits and leaves
Cocos nucifera	28	10	Leaves
Cola verticillata	25	9	Fruits
Elaeis guineesis	22	8	Fruits
Pterocarpus erinaceus	17	6	Fruits
Detarium microcarpum	17	6	Fruits and leaves
Spondia mombin	14	5	Fruits
Balanites wilsoniana	23	10	Fruits
Caloucoba glauca	8	3	Leaves

Table 3: Animals eaten by thick-tailed galago (*Otelemur crassicaudatus*) during wet seasons at the Okomu national park

Animal species	Part eaten
Lizard	Whole
Grasshoppers	Whole
Earthworm	Whole
Ants	Whole
Beetle larvae	Whole
Butterfly	Whole
Termites	Whole
Spiders	Whole
Chameleon	Whole
Millipedes	Whole

Table 4: Animals eaten by thick-tailed galago (*Otelemur crassicaudatus*) during dry seasons at the Okomu national park

Animal species	Part eaten
Lizard	Whole
Grasshoppers	Whole
Ants	Whole
Beetle larvae	Whole
Butterfly	Whole
Termites	Whole
Spiders	Whole
Chameleon	Whole

O. crassicaudatus is omnivorous in nature and agreed with the report that the main food of the animal are fruits, seeds, nectar, millipedes, arthropods, lizards, chameleon (Hladik, 1977; Clark, 1985; Coe and Isaac, 1985). *O. crassicaudatus* feeding on plant's fruit, seeds, flowers and animals are believed to be balanced as Prins (2000) stated that fruits, flowers and leaves of plant are more nutritious than the stem and dead part of plants. The results of the study are also consistent with the report of Hapold and Hapold (1992) who stated that the thick-tailed galago was observed feeding on arthropods, lizards and chameleons. The consumption of arthropods and small animals was in both seasons of the year though millipede and earthworm were observed to be consumed by *O. crassicaudatus* only during the wet season, this observation might be as a result of the fact that these animals are present on the surface of the earth only during the rainy season in the tropics. The females of *O. crassicaudatus* were mainly observed chasing insects and when captured they would give them to the young ones. From these results it could be deduced that thick-tailed galago *O. crassicaudatus* had a suitable habitat for survival and multiplication in Okomu National Park as both plant and animal species of its food choice exist in the Park.

REFERENCES

Adeyemo, A.I., 1992. Some aspects of ecology of baboons at Old Oyo National Park. Ph.D. Thesis, University of Ibadan.

Altman, J., 1974. Observation study of behaviour sampling methods. Behaviour, 49: 227-265.

Ayodele, I.A., C.O. Ebin and A.A. Alarape, 1999. Essentials of Wildlife management. Published by Jacchin Publisher, Ibadan.

Bearder, S.K. and G.A. Doyle, 1984. Ecology of Bushbabies *Galago senegalensis* and *Galago crassicaudatus*, with Some Notes on Their Behaviour in the Field. In Prosimian Biology. (Eds.), R.D. Martin, G.A. Doyle and A.C. Walker, University of Pittsburgh Press, Pittsburgh.

Clark, A.B., 1985.Sociality in a nocturnal solitary Prosimian: *Galago crassicaudatus*. Int. J. Primatol., 6: 581-600.

Coe, M.J. and F.M. Isaac, 1985. Interspecific differences and discrimination of auditory and olfactory signals of *Galago crassicaudatus*. E. Geoffrey. East African Wildlife J., 3: 123-124.

Freeland, W.J. and D.H. Janzen, 1994. Strategies in herbivores by: The role of plant secondary compountds. Am. Naturalist, 108: 269-289.

Garber, P.G., 2001. Foraging decisions during nectar feeding by monkeys. Biol. Trop., 20: 100-106.

Hapold, D.C.D. and M. Hapold, 1992. Termites as food for the thick tailed bush baby *Otolemur Crassicaudatus* In: Malawi Folia Primatol., 58: 112-120.

Hladik, C.M., 1977. Diet and Ecology of Provisions in the Study of Prosimians (Ed.), G.A. Doyle and R.D. Martin. Academic Press, New York.

Oates, J.F., 1987. Food Distribution and Foraging Behaviour. In: B.B. Smuts, D.L. Cheney R.M. Seyfath, E.W. Wrangham and T.T. Strucshaker (Eds.), Priomates in African Forest. Aus. J. Ecol., 21: 1-9.

Prins, H.H.T., 2000. A balanced diet as a goal for grazing for the food of the Manyara Buffalo. In: The buffalo of Manyara, the individuals in the context of head life in a seasonal environment of East Africa. Ph.D. Thesis, University of Gromign.

Sayer, J.A. and P. Wegge, 1992. Biological Conservation Issues in Forest Management. The IUCN Forest Conservation Programme Proceedings of Workshop Held at the IUCN General Assembly, Perth, Australia; 30th November-1st December 1991. (Eds.), M. Jill M.A. Blackhouse, J.A. Dilenbe Sayer and P. Wegge, pp: 1-244.

Vaughan, T.A., J.M. Ryan and N.J. Czaplewskl, 2000. Mamalogy. (4th Edn.), Saunders College Publishing, Philadelphia, pp: 565.

Waterman, P.G. and K.M. Kool, 1994. Colobine Food selection and plant chemistry in Colobine monkey Eds. A.G. Davies and J.E. Oates Cambridge University Press, Cambridge.