

THE SOCIOCULTURAL AND ETHNOMEDICINAL ASPECTS OF WILDLIFE TRADE ALONG FIVE HIGHWAYS IN SOUTHWEST NIGERIA

¹Mustafa, M.O, Faloye, S.B., ²Fabiye, O., ²Odebode, V. and ²Olaniyi, A.

¹Forestry Research Institute of Nigeria, Humid Forest Research Station, Umuahia, Abia State Nigeria

²Forestry Research Institute of Nigeria, Ibadan.

E-mail for Correspondence: mustafamusiliyu@yahoo.com

Received 20th April, 2019, Accepted 07th October, 2019

ABSTRACT

Wildlife markets are located along highways in southwest Nigeria because these roads fall within catchments of forest reserves where wild animals are hunted for various purposes. The roads also lead to towns and cities from where buyers come to patronise the wild-meat markets. Five roads were engaged in this study: Ibadan-Ife-Ado Ekiti IIAk (Road 1), Ibadan-Ife-Akure IIA (Road 2), Ibadan-Oyo-Ogbomosho IOO (Road 3) Lagos- Ibadan from Shagamu Interchange to Ore in Ondo State LIO (Road 4) and Lagos- Ibadan from Shagamu Interchange to old Toll Gate in Ibadan LIB (Road 5). Twenty-three wildlife markets were located within 100 metres off the main roads and were purposively selected for the study. Survey was done for two years (January 2012 to December 2013) to ascertain the wildlife species displayed for sale. Stakeholders who were the respondents were selected through Systematic Random Sampling Odd method and were interviewed on ethno-medicinal uses of the wildlife on sale through structured questionnaire, but market leaders were interviewed using Indigenous by Knowledge (IBK) method. Results revealed that the stakeholders' demographic characteristics had more females (56.4%) than males (43.6%), also more married (90.0%) than other matrimonial classes of people were featured in the trade. All educational and age strata were present among the stakeholders but their abundance varied with study roads. For indigenous knowledge on ethnomedicinal uses of the marketed wild animals, mammals and wildlife products were more utilised but for taboos, mammals were most mentioned. It was recommended that governments should intensify conservation education, encourage the extension of animal domestication to all other ones that serve as food and medicine to man and establish more forest reserves.

Key words: wildlife, wildlife trade, ethno-medicine, highways, taboos

INTRODUCTION

Sociocultural research or theory is a Western Construct, it is an explanatory framework for cultural patterns associated with settled rural and urban lifestyles (Dillion *et al.*, 2017). Sociocultural studies examine families within their cultural, historical and sociopolitical context but they share a focus on families' co-production of meanings and practices (Skinner, 2007). The concept of ethnomedicine is evolved from the necessity for studies in the light of modern sciences on the drugs used in traditional medicine, it is defined as interdisciplinary science of biologically active agents traditionally observed by man (Cheprasov, 2018). Etnomedicine also referred to as traditional medicine has been in use by man to cure various ailments since creation (Lawal and Banjo, 2007). Much wealth of knowledge could be gathered on

properties and the use of arthropods and their products among the indigenous people of Yoruba in southwest Nigeria (Lawal and Banjo, 2007).

Wildlife encompasses the totality of living organisms which are not living under direct control of human beings), they include non-cultivated plants and non-domestic animals (Ayodele *et al.*, 1999; Mustafa *et al.*, 2008). Wildlife also describes animals and plants that grow independent of people in their natural habitats (Cambridge University, 2016). Wild animals have been the basis of food for mankind since dawn of civilisation and bush meat, the flesh of wild animals and birds have been major sources of protein, income, recreation and health care (Odewo *et al.*, 2008).

Trade in wildlife parts for the purpose of medicine is one of the most important issues pertaining to quality of life in Africa today

because hospital facilities are inadequate and rural dwellers depend on traditional medicine for health care (Soewu *et al.*, 2012). Zootherapy which is the use of animal products in health care delivery is widely accepted among various constituent nationalities in Africa today because it accommodates situations that are psychological, spiritual and even mystical (Soewu, 2013). Road transportation received a boost in Western Nigeria because the then Colonial Government pursued its objectives through road transportation to export agricultural products. This aided internal trade during the pre-Second World-war period when substantial quantities of *garri* were transported from Ijebu towns to markets in Ibadan, Lagos, Ilorin and other towns in Western Nigeria (Okuseinde, 1988). Olubomehin (2012) reported that farmers of Western Nigeria also started replacing old cocoa trees with kola nut seedlings, the latter therefore became one of the most important commodities transported by road from Ijebu, Ekiti and Ondo Provinces to Northern Nigerian markets. This paper provides assemblage of species used as part of indigenous knowledge for ethnomedicinal preparations: the wild animal parts displayed for sale in markets along five highways in southwest Nigeria. It also provides taboos placed on key wildlife species in the surrounding communities of the study area.

Materials and Methods

This study was done within the catchments of five highways in southwest Nigeria: Ibadan-Ife-Ado Ekiti IIAk (Road1) covering 262 km, Ibadan-Ife-Akure IIA (Road 2)

covering 204 km, Ibadan-Oyo-Ogbomosho IOO (Road 3) with distance of 120 km, Lagos-Ibadan expressway from Shagamu Interchange to Ore in Ondo State LSO (Road 4) stretching on 153 km and Lagos-Ibadan road from Shagamu Interchange to old Toll Gate in Ibadan LIB measuring 62 km.

Wildlife markets within 100 metres off the main roads were located and mapped for the study. Market survey was done for two years (January 2012 to December 2013) to ascertain wildlife species displayed for sale in the markets which were purposively selected along each road. Twenty-three (23) wildlife markets (Figure1) were engaged for the study and the geographical location of each place was recorded using GIS equipment Trimble Juno SD (Table 1). Two hundred and fifty copies of structured questionnaire were administered among the stakeholders of wildlife trade (traders, hunters and farmers, herbalists, artisans and others) and which were selected through systematic random sampling (odd number method) to elicit information on the indigenous knowledge on the use of the marketed wildlife in ethnomedicine. Market leaders were interviewed through Indigenous by Knowledge IBK method. Marketed wildlife species were grouped as invertebrates, reptiles, birds, mammals and products. Local names of the displayed species provided by the traders were compared with wildlife encyclopaedia and previous that established the nomenclature (Odewo *et al.*, 2008; Soewu *et al.*, 2012).

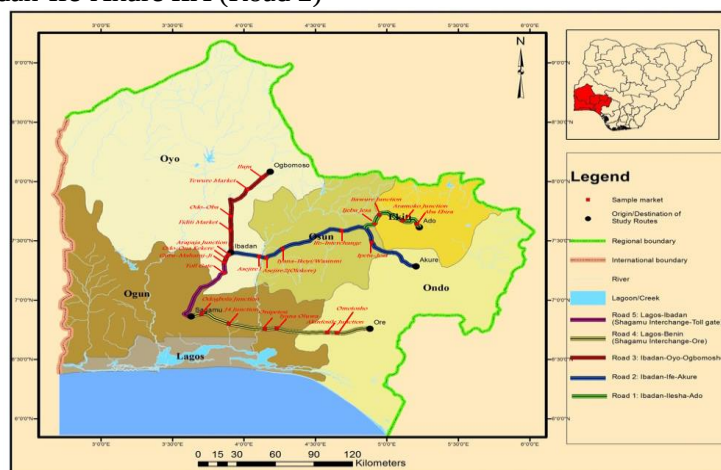


Figure 1: The Study area showing the roads and major neighbouring settlements

Table 1: Market Locations along the Study Roads

Market Roads	Locations	Km	Markets and the Coordinates of Latitude, Longitude and Altitude	States Covered
1	Ibadan-Ife-Ilesa-Ado-Ekiti Road	264	Ijebu Jesa, 7°41'N 4°49'E, +223m; Itawure Junction 7°44'N, 4°57'E, +265m; Aramoko Junction 7°43'N, 5°3'E, +300m; Aba Ebira (Ado-Iyin Road) 5°34'N, 4°12'E, +313m Total: 4 Markets	Oyo, Osun and Ekiti
2	Ibadan-Ife-Akure Road.	204	Asejire 1: 7°20'N, 5°3'E, +137m Asejire2(Olokere) 7°22'N, 4°7'E, +145m Iyana-Ikoyi/Wasinmi 7°24'N, 4°13'E, +213m Ife-Interchange: 7°30'N, 4°28'E, +275m. Ipetu-Jesa 7°41'E, 4°49'E +294m Total : 5 Markets	Oyo, Osun and Ondo
3	Ibadan-Oyo-Ogbomosho Road	120	Fiditi Market, 7°39'N, 1 4°41'E, +302m Odo-Oba: 7°27'N; 4°45'E, +306m Tewure Market 7°25'N; 4°34'E, +277m Iluju: 7°27'E; 4°46'E, +299m Total: 4 Markets	Oyo
4	(Sagamu– Ore road)	153	Odogbolu Junction 6°51'N; 4°33'E, +63m J4 Junction 6°44'N; 4°19'E, +72m Onipetesi 6° 44'N; 4°33'E, +98m Iyana Oluwa: 6°44'N; 4°33'E, +99m Akinfosile Junction: 6°52'N; 3°59'E, +101m Omotosho: 6°53'N; 4°7'E. +259m Total: 6 Markets	Ogun, Ondo

RESULTS AND DISCUSSION

Stakeholders' Demographic Characteristics

Respondents' demographic information revealed that all members of typical human society were present in the trade but they varied in abundance with the study roads. For sex distribution of stakeholders, there were more females (141) than males (109), Road 5 presented most females while Road 2 had the least (Figure 2). For educational distribution, all levels of literacy were found in the business and the variation was as follows: Non-formal: Road 3> Road 2 > Road 5 > Road 1> Road 4. Primary school certificate holders were in the order: Road 4> Road 1> Road 2 > Road 3 > Road 5. Secondary school leavers were distributed as: Road 4 > Road 5> Road > Road 3>. Tertiary education certificates: Road 1=Road 2 > Road 5> Road >4 Road 3 (Figure 3). Assessment of age distribution of respondents showed age group 16 – 25 years as highest on Road 5(6) and

absent on Road 3. Respondents belonging to 26 – 35 years of age were arranged as Road 4> Road 5> Road 1> Road 2 > Road 3. 36 to 45 years of age respondents were in this order: Road 1> Road 2 > Road 5>, Road 4>Road. 46 to 55 years of age were in the order: Road 3>Road 2>Road 4 >Road 1> Road 5. Old people (56 years and above) were most arranged as Road 2> Road 3 >Road 5> Road 1> Road 4 (Figure 4.). Assessment of marital status revealed singles as Road 3>Road 5> Road 4>Road 2= Road 1 also has 3 and Road 4 with 6 people. Married people were distributed as Road 3> Road 1> Road 2 >Road 4 > Road 5. Divorced people were only found along Road 4 (2) and Road 2 (2). Widowed were found along Road 1= Road 2= Road 1 but absent along Road 3 and Road 5 (Figure 5). Distribution on the basis of primary occupation indicated variations like other parameters assessed: Artisans: R1>R4>R2>=R3=R5; for farming with hunting: R2>R1>R3>R5>R4; herbalists: R3>R1>R3=R4=R5 and traders R1> R2> R3> R4> R5 (Table 2).

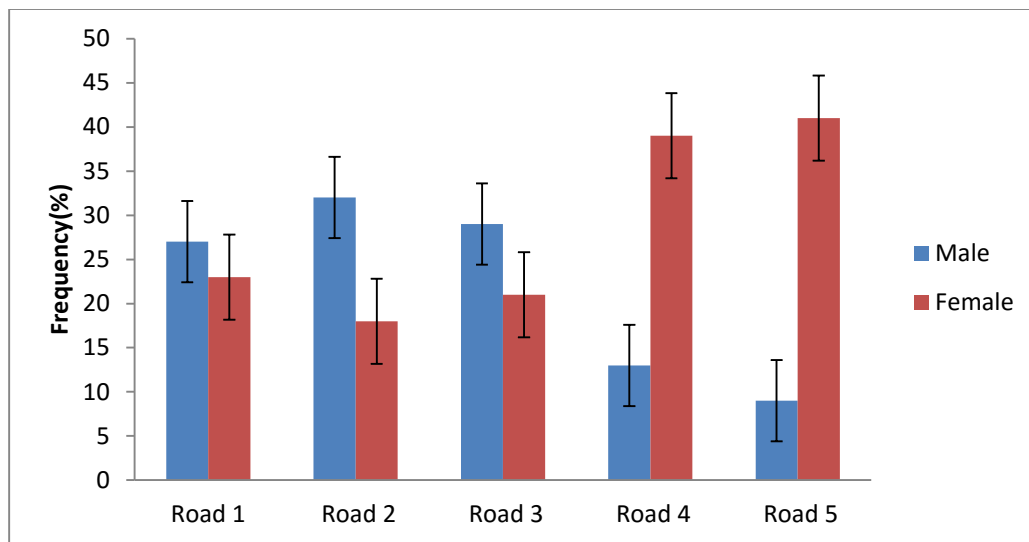


Figure 2: Sex Distribution of Respondents

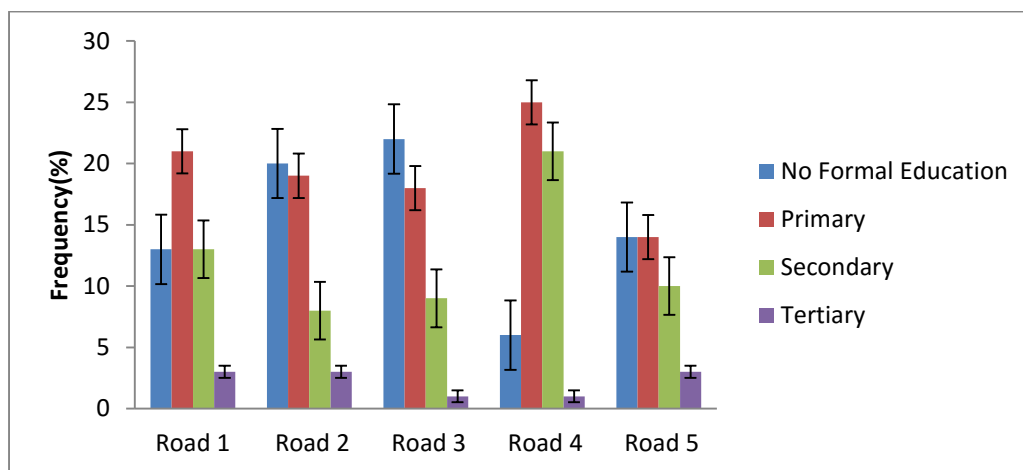


Figure 3: Educational Status of Respondents

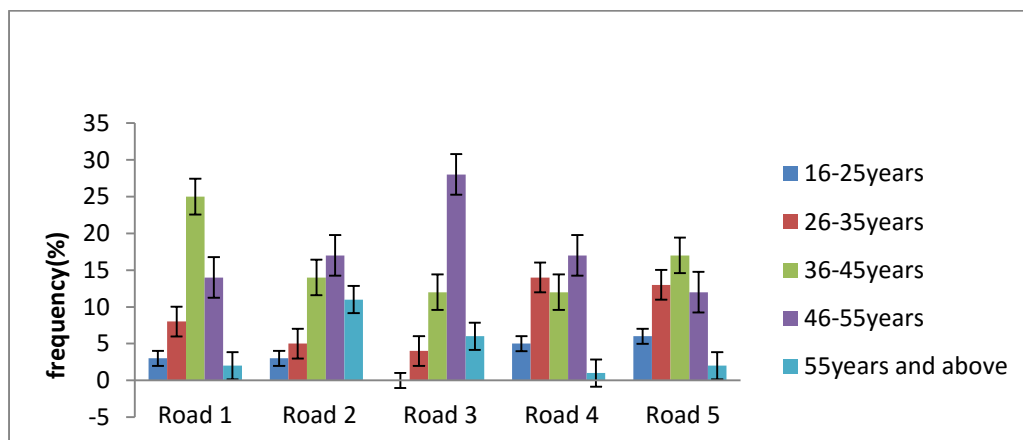


Figure 4: Age Distribution of Respondents

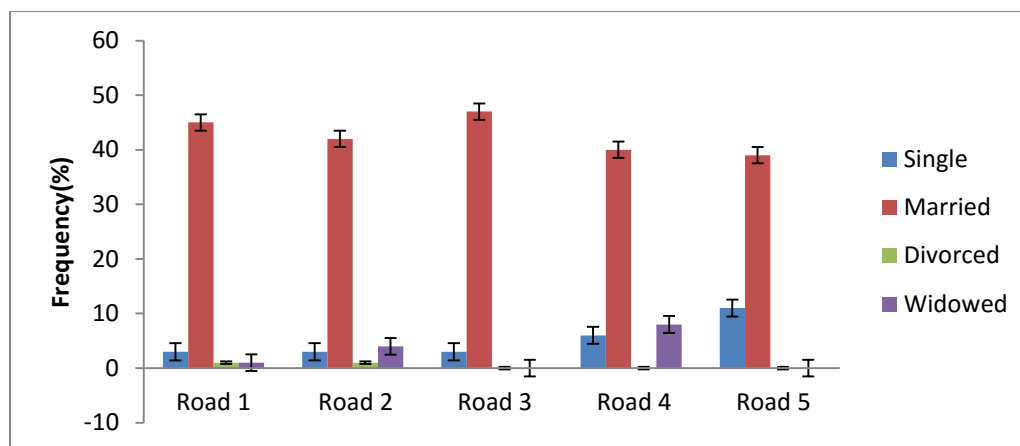


Figure 5: Marital Status of Respondents

Table 2: Primary Occupation of Respondents

		Roads					
Occupation		1	2	3	4	5	Total
Artisan	Count	3	0	0	1	0	4
	% within road	6.0%	.0%	.0%	2.0%	.0%	1.6%
farming and hunting	Count	25	26	20	8	4	83
	% within road	50.0%	52.0%	40.0%	16.0%	8.0%	33.2%
Herbalist	Count	0	1	5	0	0	6
	% within road	.0%	2.0%	10.0%	.0%	.0%	2.4%
Security	Count	1	0	0	0	0	1
	% within road	2.0%	.0%	.0%	.0%	.0%	.4%
Student	Count	0	0	1	0	0	1
	% within road	.0%	.0%	2.0%	.0%	.0%	0.4%
Teaching	Count	1	1	0	0	0	2
	% within road	2.0%	2.0%	.0%	.0%	.0%	0.8%
wildlife trader	Count	20	22	24	41	46	153
	% within road	40.0%	44.0%	48.0%	82.0%	92.0%	61.2%
Count		50	50	50	50	50	250
% within road		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: Field Survey (2013).

The observations above agreed with Odewo *et al.* (2008), Lameed and Sanni (2011) and Soewu (2012) that all members of the society are represented in wildlife and ethnomedicinal trade.

Ethnomedicinal Uses of Wildlife Parts

Ethnomedicinal uses also varied with study roads. Roads 1 and 2 provided the most informative uses while Road 3 offered the least. This could be confirmed from Table 2 that these Roads fielded

most farmers and hunters. From the sum total of wildlife species involved in ethnomedicine from this study, two snails, five reptiles, seventeen mammals and eight products were engaged (Table 3). Taboos also varied with roads: Road 1 provided most information on them while Road 5 provided none. Taboos covered one snail, one reptile and six mammalian species (Table 3). This situation might be due to the fact that Road 1 consists of agrarian communities while Road 5 links two big urban centres where civilisation is high

Table 3: Ethno-medicinal Uses of Wildlife and their Parts

Species	Road 1	Ethnomedicinal Road 2	Uses Road 3	Road 4	Road 5
<i>Archachatina marginata</i>	Human command, spirit appeasement, circumcision	Ditto Road 1	Ditto Road 1	Anti pyresis	Tribal mark, circumcision wound treatment
<i>Achatina achatina</i>	Human command, spirit appeasement, circumcision	Tribal mark wound treatment	Ditto Road 1	Ditto Road 1	Circumcision wound treatment
<i>Crocodilus amphibious</i>	Head as sales or trade puller	-	-	-	-
<i>Groyia smithii</i>	Bullet proof, skin for charm wrapping	-	-	-	-
<i>Kinixys erosa</i>	Baby delivery, convulsion, witches, appeasement	Head for “Back to sender” charm	Ditto Road 2	-	-
<i>Naja nigricolis</i>	Infertility	Head and tail for prosperity	Moult for success	Fortune pull	-
<i>Python regius</i>	Human command, skin for charm wrapping	Faeces for money ritual	Ditto Road 2	-	Skin for shoes and leather
<i>Chen caerulescens</i>	Disappearance during trouble or accidents	-	-	-	-
<i>Francolinus bicalcaratus</i>	Disappearance during trouble or accidents	-	-	-	Head and legs to aid babies in walking
<i>Numida meleagris</i>	Witches’ appeasement	-	-	-	-
<i>Anomalurus beecrofti</i>	Hands and legs for safe tree climbing	-	-	Skin for drum making	-
<i>Cephalophus rufilatus</i>	Head for human command and court-case winning	Ditto Road 1, bullet proof	Good luck	Horn for command	Horn for command
<i>Cercopithecus mona</i>	-	Skin for drum making	-	-	-
<i>Civectictis</i>	Sales pull, human disappearance during trouble	boldness	-	Hatred on women	-
<i>Civetta</i>	Good luck and love charm	Baby teething	-	Head white hair for victory	Head for fortune
<i>Dendrohyrax dorsalis</i>	Hands for prosperity	Skin for charm packing	Ditto for Roads 1 & 2	Money ritual	Hand for beat and fall medicine
<i>Gorilla gorilla</i>	Removing stealing spirit from children	-	-	-	-
<i>Herpestis sanguineus</i>	-	Disappearance, money ritual	Money ritual	Spine as poison arrow	-
<i>Histrix cristata</i>	-	-	-	-	Bones for rheum-atism treatment
<i>Hylochoerus africanus</i>	Sprinting medicine	Legs to aid babies in walking	-	-	-
<i>Lepus capensis</i>	Ancestral spirit appeasement, chieftancy awards	Money ritual, sales puller	-	Skin for leather, bullet diversion	Convulsion, skin as fetish wrapper
<i>Loxodonta africana</i>	Human command, fetish wrapper	Faeces for money ritual	Ditto Road 2	-	Skin for shoes and leather
<i>Python regius</i>	Children’s death spirit appeasement	Skin for fetish packing	-	Ditto Road 2	-
<i>Syncerus afer</i>					

<i>Tragelaphus scriptus</i>	Horn for human command, skin to wrap fetish	Bullet diversion	Bullet diversion	Skin for fetish wrapping, shoes	-
<i>Hylochoerus africanus</i>	-	-	-	-	Bones to treat rheumatism
<i>Xerus erythropus</i>	Human command to fall down, accident avoider	-	-	-	-
<i>Thryonomys gambianus</i>	-	-	-	Cutlass cut futility	Intestines for sto-mach ache
Products					
<i>T. africanus</i> fat	Anti-inflammatory	Ditto Road 1	Ditto Road 1	Ditto Road 1	Ditto Road 1
<i>P. regius</i> fat	Anti-inflammatory	Ditto Road 1	Ditto Road 1	Ditto Road 1	Ditto Road 1
<i>H. equines</i> fat	Anti-inflammatory	Ditto Road 1	Ditto Road 1	Ditto Road 1	Ditto Road 1
<i>Apis mellifera</i> (honey)	Anti inflammatory, wound healer, libido booster	Wound healing, diabetes relief	Stomach ach-e, pile relief	Antibacterial, wound healing	Ditto Road 1
<i>T. swideria-nus</i> fat	Chasing away soldier ants	-	-	-	-
<i>G. smithi</i> fat	Anti-inflammatory	-	-	-	-
<i>Veranus mambitang</i> -	-	Convulsion	-	-	-
<i>Bitis arietans</i> fat	Intestines for infertility, fat as anti-inflammatory.	fat as anti-inflammatory.	Ditto for Road 2	Ditto for Road 2	Ditto for Road 2

Source: Field Survey (2013).

Table 4: Taboos on Wildlife and their Parts

Species	Road 1	Road 2	Road 3	Road 4	Road 5
<i>A. marginata</i>	-	Sighting it in dream signifies slow progress	-	-	-
<i>G. smithii</i>	After biting the vic-tim leaves the pond first, else he dies	-	-	-	-
<i>P. regius</i>			Do not pick its faeces with naked hands		-
<i>C. rufilatus</i>	Its intestines consumption causes stomach ache	Hunters with pregnant wives must not kill it	-	Consumption forbidden to Ifa priests	-
<i>C. civetta</i>	Dogs must not hunt it in its hiding, else the dog runs mad.			People who do not eat dog meat must not eat it	-
<i>G. gorilla</i>	Consumption forbidden to twins	-	-	-	Ditto Road 1
<i>T. gambianus</i>	-	-	-	Its day-time sighting symbo-lises danger	-
<i>T. scriptus</i>	Hunters must not shoot on the white spots	Hunters must peel the skin, they must not burn it	-	-	Hunters must bring the animal home in parts

Source: Field Survey (2013)

CONCLUSION AND RECOMMENDATION

Wildlife trade is a sustaining profession; this is borne out of the fact that all members of any human society in terms of demographic characteristics are represented in it; most of which are married. Mammals and birds are most involved in ethno-medicinal uses while mammals and few reptiles were more frequent in the cases of taboos in the study area. Government at all tiers should therefore encourage the extension of animal domestication to others that serve as food and medicine to man. This policy will guarantee their use in perpetuity. Policy makers in the country should also intensify conservation education and awareness campaigns to include establishment of more forest reserves.

REFERENCES

- Ayodele, I.A., Ebin, C.O. and Alarape, A.A. (1999). *Essentials of Wildlife Management*. Power house Publishers Ibadan. 88
- Cambridge English Dictionary (2016). Meaning of Wildlife. Available on-line at <https://dictionary.cambridge.org/dictionary/english/wildlife>. Retrieved 11-9-18, 11.05 am.
- Dillon, P., Bayliss, P., Stolpe, I. and Bayliss, L. (2017). What Constitutes : Context; in Sociocultural Research: The Mongolian Experience Challenges Theory. *Journal of Global Cultural Studies*. Available on lie at <https://www.journalsopendition>transte> [xsts](https://www.journalsopendition>transte). Retrieved 10-9-18. 7.10 pm
- Cheprasov, A. (2018). Ethnomedicine: Definition and Examples. Available on-line at [hyyps://study.com/academy>lesson>et...](https://study.com/academy/lesson/et...) Retrieved 10-9-18 at 7.27 pm.
- Lameed, G.A. and Sanni, D.M. (2011).Marketing and Consumption Rate of Grasscutters (*Thryonomys swinderianus*) in Asejire, Egbeda Local Government Area, Oyo State. In: Proceedings of 34th Annual Conference of Forestry Association of Nigeria (FAN),Osogbo, Osun State of Nigeria. Labode Popoola *et al.* (eds).418-430.
- Lawal, O.A.and A.D. Banjo, (2007). Survey for the Usage of Arthropods in Traditional Medicine in Southwestern Nigeria. *Journal of Entomology*, 4: 104-112.
- Mustafa, M. O., I. G. Akinyemi., D. Adedokun., Y. B. Osinubi and O. M.Ogoliegbune,(2008). Implications of Climate Change and Deforestation on Behavioural Patterns among Fauna species in National Parks and Protected Areas. *Journal of Agriculture, Forestry and Social Sciences*, (JOAFSS), University of Benin, Vol. 6, No. 2.83-88.
- Odewo, A.S., Imran, G.T., Adeniji, K.A. and Olasupo, O.O. (2008).Utilization of Wild Animal Parts and its Implication on Wildlife Conservation. *Nigeria Journal of Forestry*.Vol.38 No 1&2.23-31.
- Okusehinde, M. (1988). *Garri Production in Ijebu-Remo: A study of Growth and Development in Local Economy 1900-1950*. M.A. Dissertation, Department of Economics University of Ibadan. 58.

- Olubomehin, O.O.(2012). Road Transportation as Life Line of the Economy in Western Nigeria 1920-1952. *African Journal of History and Culture* Vol. 4 (3)37-45. Available at <http://www.academicjournal.org/AJHC> DOI:105897/AJC 12.002. Retrieved 23 July, 2012.
- Skinner, D. (2007). Sociocultural Studies of Families of Children with Intellectual Disability.Availableonlineat<https://www.classroomsynonym.com>sociocultural...> Retrieved 10-9-18, 7.15 pm.
- Soewu, D.A. (2013). Zoontherapy and Biodiversity conservation in Nigeria. In; RRN Alves and I.L. Rosa (eds) *Animals in Traditional Folk Medicine*. Springer-verlag Berlin Heidelberg 2013. 347-357.
- Soewu, D.A., O.K. Bakare and I.A. Ayodele, (2012). Trade in Wild Mammalian Species used for Traditional Medicine in Ogun State Nigeria. *Global Journal of Medical Research*, Vol.12, Issue 3 version 10, May 2012. Available on-line at www.globaljournals.org Retrieved 11 April, 2016