

Animal Species Used for Traditional Medicine in Benin City, Nigeria

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Abstract

A survey of eight markets was undertaken in Benin City from December 2016 to March 2017 to ascertain wildlife species used in tradomedical practices. Questionnaires were administered to 28 (twenty-eight) traders in the various markets and 2 (two) native doctors to determine the animal species commonly used for treating various ailments as well as success charms in one's endeavours. A total of 9418 (nine thousand four hundred and eighteen) animal specimens belonging to fourteen (14) species consisting of five (5) mammals, three (3) aves, four (4) reptiles, one (1) amphibia and one (1) mollusc were encountered in the markets during the study period. These included alligators, bats, chameleons, chicks, dogs, ducks, pangolins, pigeons, pig skulls, rabbits, snails, toads, tortoises and turtles. Results showed the pigeon dominated in its use in trado-medical practices (14.18%), followed by the chameleon (12.75%), ducks (12.52%), chicks (11.29%), toads, (9.24%), tortoise (7.22%), turtles (6.62%), bats (6.37%), snails (5.84%), rabbit skulls (4.54%), alligator (3.93%), rabbits (2.72%), pangolins (1.36%), pig skulls (1.32%) and dogs (0.12%). Ekiuwa market recorded the greatest number of animal species (19.02%) displayed for sale followed by Ugbighokho market (12.85%), 3rd market (12.74%), Uselu market (11.63%), Evbuotubu (11.20%), Oba market (11.08%), New Benin market (11.00%) and Oliha market (10.49%). Apart from bats, dogs, pangolins and snails which were restricted in distribution, all other species were distributed in all the markets. Chameleons, snails and tortoise were common species used in western Nigeria while other species were restricted to Benin City. Control measures should be put in place especially in the use of juveniles as continued exploitation would pose a serious threat to conservation.

Keywords: Traditional medicine, Animal species, Markets, Benin City

Introduction

In times past, use of animals (wildlife inclusive) in traditional medicine occurred mainly in the rural areas with inadequate health care facilities. Its use has however spread to the urban areas with many more people patronising the vendors seen in market places after consulting with trado-medical doctors. This increased pressure on animal species especially wildlife could have a negative impact on conservation considering the fact that wildlife is also popular as delicacies in many Nigerian dishes. The increasing use of animals in traditional medicine has also provided several beneficiaries a means of livelihood ranging from the hunters and vendors to the traditional medical practitioners (1). Tradomedical doctors have specialised in the use of animals for healing various ailments including those apparently beyond orthodox medicine like epilepsy and paralysis. People now depend so much on them as they had been there from time and even more readily available than the orthodox doctors. This dependency tends to push hard on faunal resources upon which their medicines are based. Almost every culture has used animals in the treatment of one ailment or the other (2). As many as 283 (two hundred and eighty- three) animal species have been recorded in Brazil as being used in trado-medicine, of which 96% were wildlife species with 27% of them endangered. In the semi-arid area of North -eastern Brazil, there was a record of 51 (fifty - one) animal species used in the treatment of 68 (sixty-eight) ailments. (3,4). In India, 25 (twenty-five) animal species were recorded as being used in tradomedicine for curing several ailments from asthma, chicken pox, jaundice and pneumonia etc. Amongst these were some protected animals like the golden jackal and the rhino (5). In Northern Ethiopia about 44% of animals used were domestic ones and were used in treatment of about 18 (eighteen) ailments ranging from migraine and goitre to abdominal cramps. Parts used in the preparation included faecal matter, urine, blood and hair etc. The medicines could either be crushed or boiled and administered orally or dermatologically (6). In Nigeria, the use of animal species is determined by culture, religion, traditional medicine as well as availability and locality (7). In Ogun State, Nigeria, 55 (fifty-five) animal species were recorded as being used in trado-medicine out of which 21 (twenty-one) species were on the CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora) list (1) while 22 (twenty - two) animal species were discovered to be used for treatment of various ailments ranging from rashes, toothache, night blindness to mumps and gastro-intestinal disorders in Sokoto State (8). A survey of animals used in alternative medicine in Ibadan ranged from the leopard, civet cat, gorillas to pangolin, aadvark and warthog and the ailments treated ranged from convulsion, preparation of anti- poison drugs to stomach ache (9). With this multifaceted demand for faunal use, trade in animals has continued to flourish as

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there is always a need for it. Some species are becoming rare as there is no consideration for either the conservation status or sustainability of the species before hunting (5, 10). Where the intended species for a particular ailment is unavailable, most times the alternative required is also an endangered or rare species (11,12). In Ogbomoso, Nigeria, 55 (fifty-five) animal species were used in trado-medicine of which 22 (twenty-two) were threatened and 15 (fifteen) critically endangered. Results showed the lack of knowledge of the Ogbomoso people on the ethics or goals of conservation (13). In Benin markets, special sections are given to people who trade in these animal species used for tradomedicine. Little or no work has been done to ascertain the different animal species commonly used in tradomedicine in Benin City. This study was thus undertaken to provide information on animal species used in traditional medicine practice in Benin City.

Materials and Methods

The study was conducted in Benin City, Nigeria. Benin City ($6^{\circ}N\ 20' 0"N / 5^{\circ} 38' 0"E$) is the capital of Edo State with an estimated population of about 1,495,800 (2015). It is situated 320 kilometers by road East of Lagos.

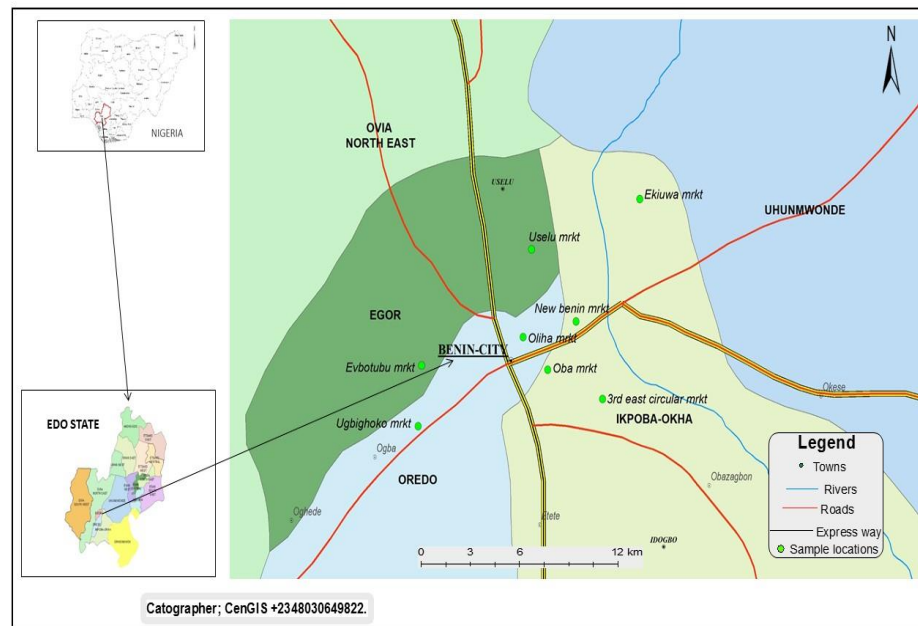


Figure 1: Map of study area

In most of the markets surveyed, special sections are given to people who traded in wild and domesticated animals for use in traditional medicines. Traders were randomly selected based on their willingness to communicate with us. A total of thirty respondents from eight markets were sampled. Some of these traders doubled as both tradomedical doctors as well as traders. The animals recorded were identified by direct inspection and photographs taken. Bar charts were used to represent the various animals and markets where these animals were recorded.

Results

A checklist of the animal species encountered during the study period is given in Table 1. Corresponding photographs are shown in Plates 1 to 14.

Table 1: A checklist of animals used for traditional medicine in Benin city

Family	Genus	Species	Common name
Alligatoridae	<i>Alligator</i>	<i>Alligator</i> sp	Alligator
Pteropodidae	<i>Eidolon</i>	<i>Eidolon</i> sp	Bats
Chamaeleonidae	<i>Chamaeleo</i>	<i>chamaeleon</i>	Chameleons
Phasianidae	<i>Gallus</i>	<i>domesticus</i>	Chicks
Canidae	<i>Canis</i>	<i>lupus familiaris</i>	Dogs
Anatidae	<i>Anas</i>	<i>sparsa</i>	Ducks

Manidae	<i>Phataginus</i>	<i>tricuspis</i>	Pangolin
Suidae	<i>Sus</i>	<i>domesticus</i>	Pigs
Columbidae	<i>Columba</i>	<i>livia domestica</i>	Pigeon
Leporidae	<i>Oryctolagus</i>	<i>cuniculus</i>	Rabbit
Achatinidae	<i>Achachatina</i>	<i>marginata</i>	Snails
Bufonidae	<i>Amietophrynus</i>	<i>maculatus</i>	Toads
Testudinidae	<i>Kinixys</i>	<i>erosa</i>	Tortoise
Pelomedusidae	<i>Pelomedusa</i>	<i>Pelomedusa</i> sp	Turtle

A total of nine thousand four hundred and eighteen (9418) animal specimens comprising five (5) mammals, four (4) reptiles, three (3) aves, one (1) amphibian and one (1) mollusc were encountered. These included alligators, bats, chameleons, chicks, dogs, ducks, pangolins, pig skulls, pigeons, rabbits and rabbit skulls, snails, toads, tortoises and turtles. Pigeons dominated with a percentage abundance of 14.18%. This was followed by the chameleon (12.75%), ducks (12.52%), chicks (11.29%), toads (9.24%), tortoises (7.22%), turtles (6.62%), bats (6.37%), snails (5.84%), rabbit skulls (4.54%), alligators (3.93%), rabbits (2.72%), pangolins (1.36%), pig skulls (1.32%) and dogs (0.12%). In fig. 2, Ekiuwa market recorded the greatest number of animals (19.02%) displayed for sale during the study period. This was followed by Ugbighokho market (12.85%) while Oliha market recorded the least (10.49%) (Fig. 3).



Plate 1: Alligator (*Alligator* sp)



Plate 2: Bats (*Eidolon* sp)



Plate 3a: Preserved Chameleons
(*Chamaeleo chamaeleon*)



Plate 3b: Live chameleon
(*Chamaeleo chamaeleon*)



Plate 4: Chicks (*Gallus domesticus*)



Plate 5: Duck (*Anas sparsa*)



Plate 6: Pangolin (*Phataginus tricuspis*)



Plate 7: Pig skull (*Sus domesticus*)



Plate 8: Pigeons (*Columba livia domestica*)



Plate 9: Rabbits (*Oryctolagus cuniculus*)

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Plate 10: Snails (*Archachatina marginata*)



Plate 11: Toads (*Amietophrynus maculatus*) and animal skulls



Plate 12: Tortoise (*Kinixys erosa*)



Plate 13: Turtle (*Pelomedusa* sp)



Plate 14: Unidentified animal bones

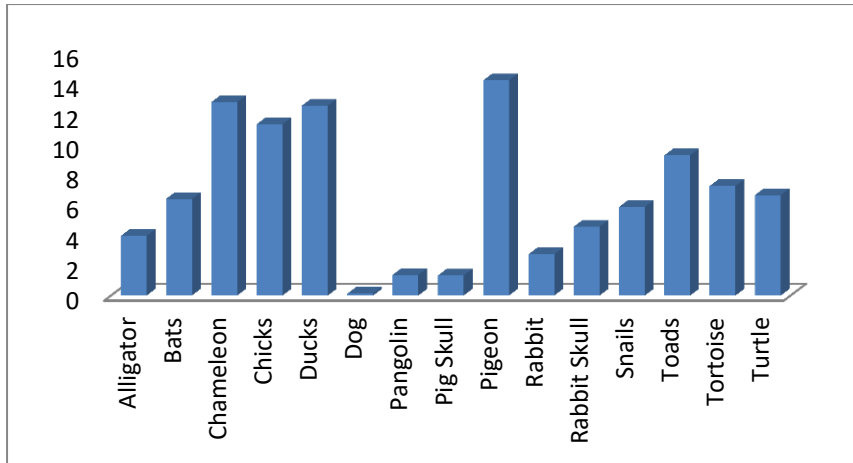


Fig. 2: Percentage abundance of animal species used in trado-medicine in Benin City

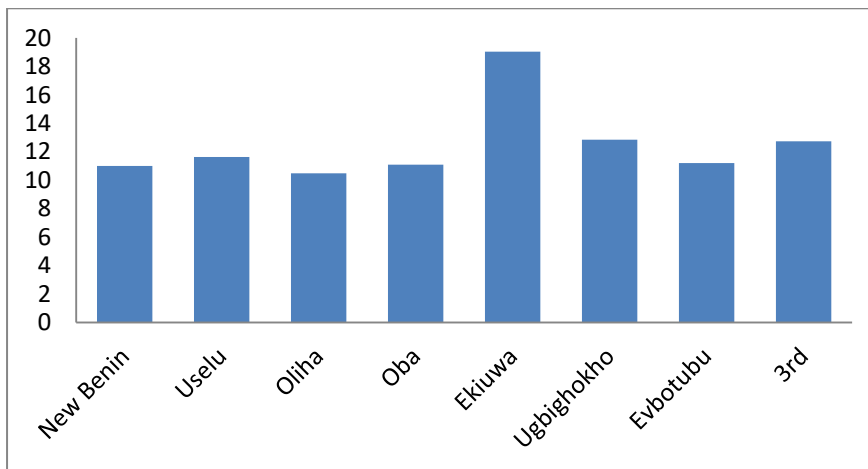


Fig 3: Percentage abundance of animal species in the various markets

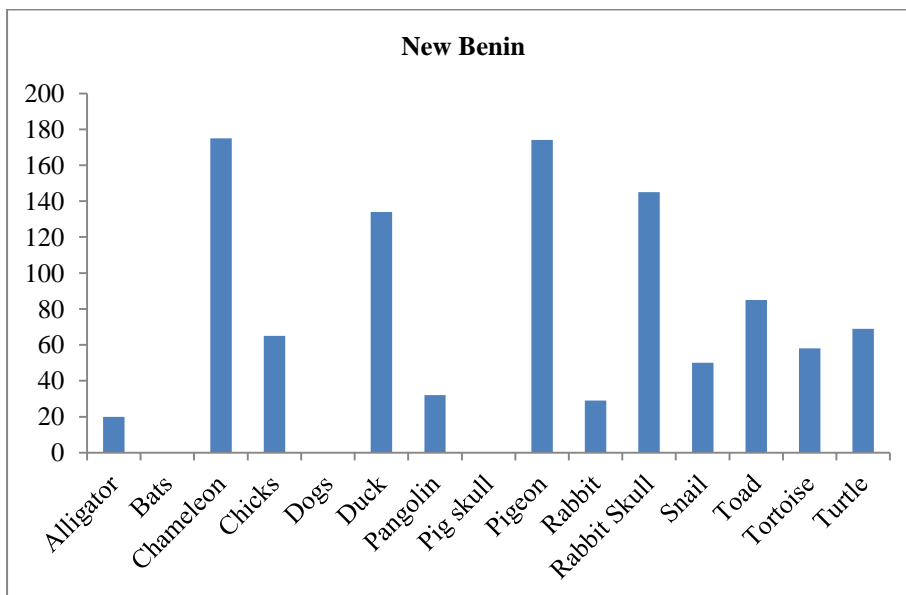


Fig. 4: Species abundance in New Benin Market

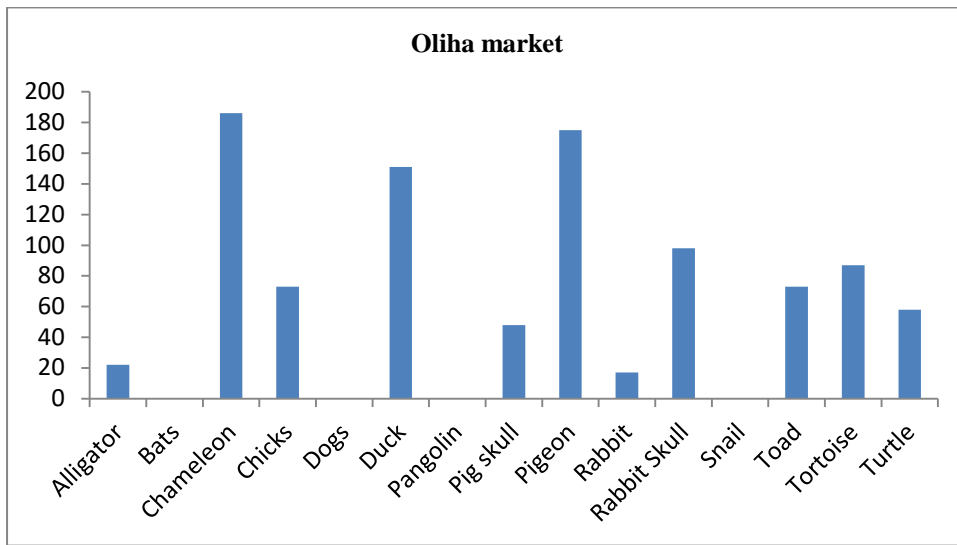


FIG 5: Species abundance in Oliha Market

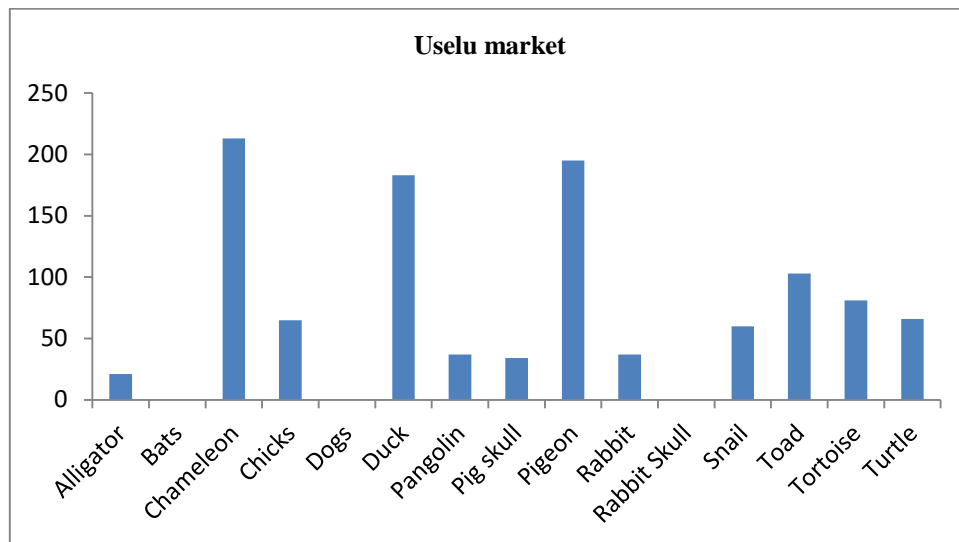


Fig 6: Species abundance in Uselu market

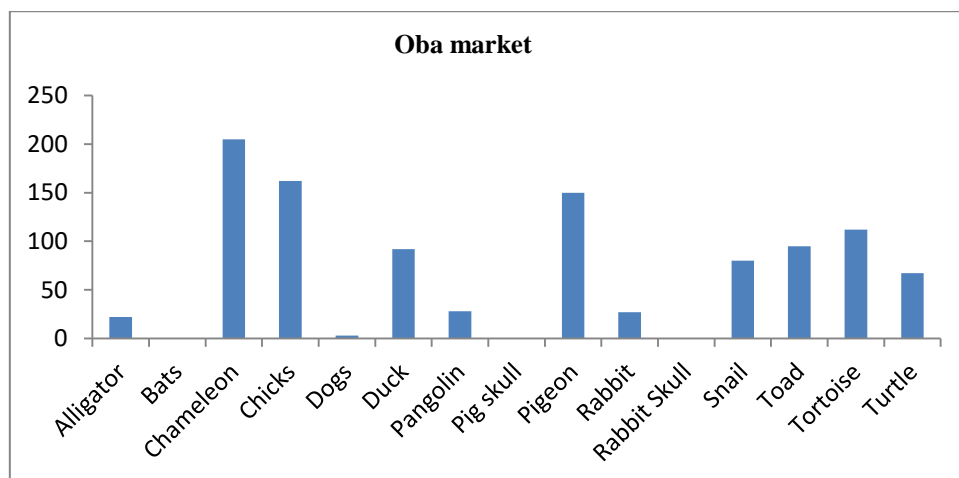


Fig 7: Species abundance in Oba market

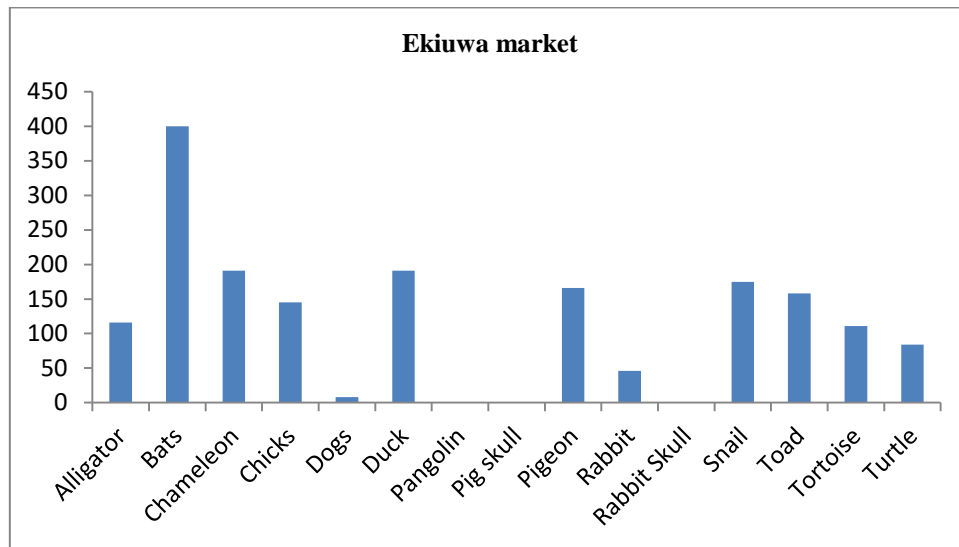


Fig 8: Species abundance in Ekiuwa market

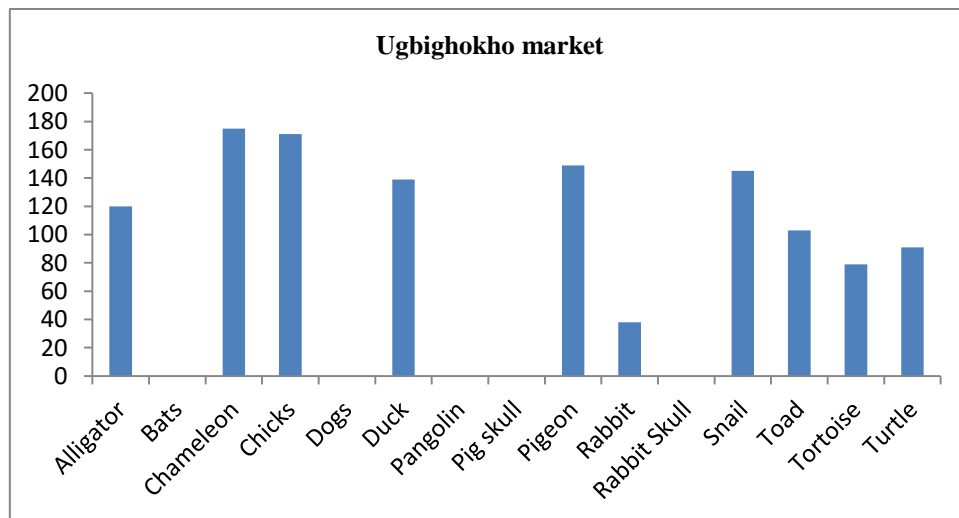


Fig 9: Species abundance in Ugbighokho Market

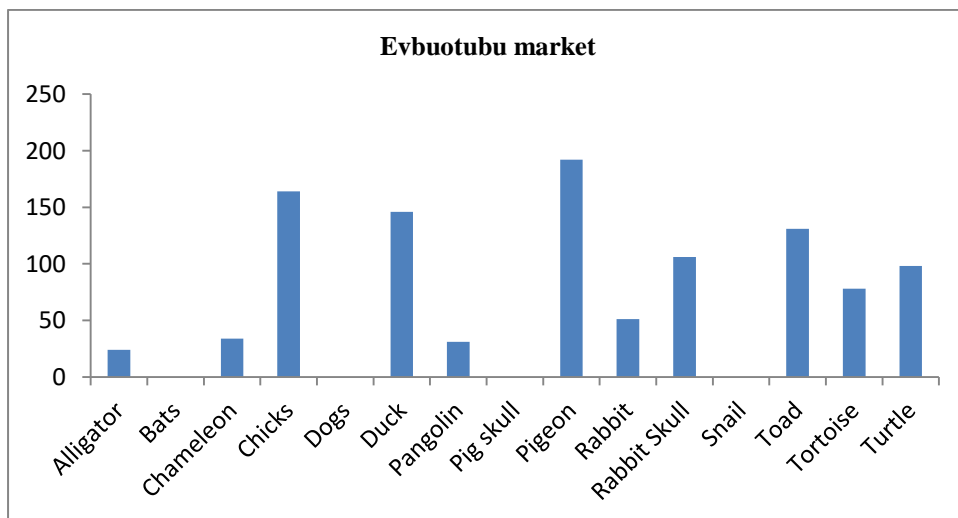


Fig 10: Species abundance in Evbuotubu market

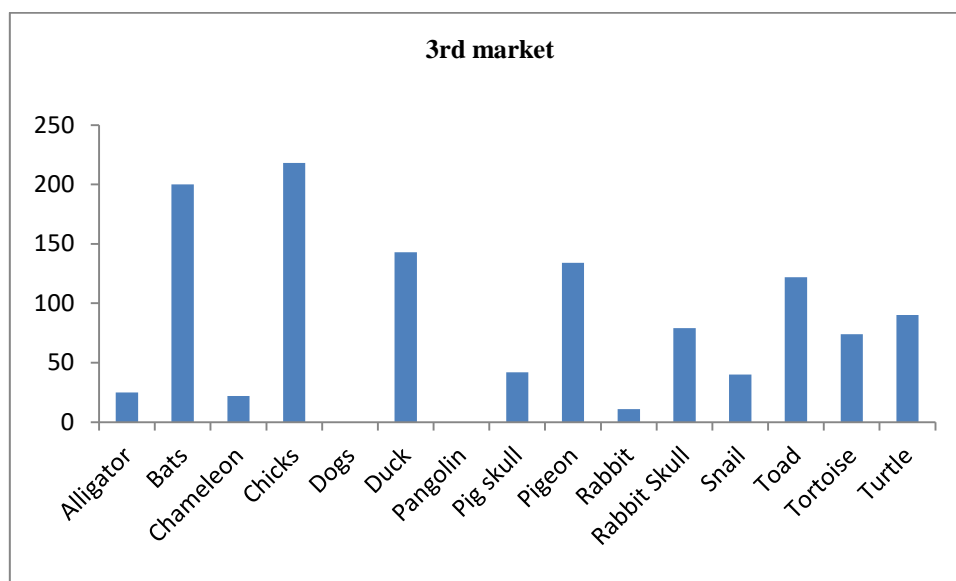


Fig 11: Species abundance in 3rd market

Table 2: Comparison of animals used in tradomedicine in Benin city with Ogun State, Ibadan and Ogbomoso

	Present Study (2018)	Ogun State (2008)	Ibadan (2012)	Ogbomoso (2017)
Alligator	X	-	-	-
Bats	X	X	-	X
Chameleons	X	X	x	X
Chicks	X	-	-	-
Dog	X	-	-	X
Duck	X	-	-	-
Pangolin	X	X	x	-
Pig Skull	X	-	-	-
Pigeon	X	-	-	-
Rabbit	X	-	-	X
Rabbit skull	X	-	-	-
Snail	X	X	x	X
Toad	X	X	-	X
Tortoise	X	X	X	X
Turtle	X	-	-	-

Discussion

The large number of animal species used for tradomedical practices recorded in this work for a four month period shows how much the people depended on trado- medicine for their health as well as business and political success. According to (1), its use is important to all age and gender. This was found to be so as ailments treated ranged from the common cold and convulsion in children, asthma, epilepsy to diabetes, infertility in women and impotency in males. They are also important in the preparation of charms for political and business successes. The species number of fourteen recorded in this study was low when compared to twenty -five species from a study in India (5) and forty- five species from southwestern Nigerian(16). Despite this relatively low number the total number of specimens amounting to nine thousand four hundred and eighteen (9418) was rather high. This could be due to what tradomedical doctors perceive to be efficient for curative purposes for the various ailments presented as well as various needs and availability. The demand for wildlife usage in tradomedical purposes is also usually occasioned by environmental conditions or situations (7). In Benin city, a lot of young people travel overseas in search of greener pastures, and they require charms for good luck from the visa procurement to protection and prosperity in whatsoever business they intend to pursue overseas whether good or bad. As a result, consultation of tradomedical doctors is on the increase, for preparation of these various charms. Generally, the abundance of species in their natural habitat reflects their abundance in the traditional medicine markets (14). Thus species such as the pigeon, chicks, ducks, and

chameleon etc. were most abundant and highly distributed among the traders (Fig.2). Some species such as gorillas and chimpanzee considered as highly threatened at national or international level were not found at the market. This could be attributed to their scarcity than obedience to the laws protecting them. Wildlife in Nigeria is mainly used for cultural, religious and medicinal purposes (7). In the ancient city of Benin where the people are known for fetish practices in almost every area of their lives be it cultural, religious or medicinal, the need for these animals continues to be on the increase. According to this survey, most of the animal species apart from the common ones sold at the Benin markets come from the forest which the traders buy from hunters. Nigeria has been reported as the source of most wildlife species used for traditional medicines within the country and other neighbouring countries such as Cameroon, Togo, Benin and Ghana (14). The continuous and uncontrolled hunting and use of wildlife species for traditional medicine and food places a potential threat on many wildlife species population. In the markets surveyed, it was observed that uncommon species are more expensive, leading to the use of substitute species for certain medicine preparations. As a result most traders focus on the scarce species because of high economic value, thus placing a high and continued demand for the species. The dominant use of pigeons above all other animals sampled could be attributed to the fetish practices of the indigenes. In the mornings especially in the suburbs, at almost every junction, we find black native pots with eggs, pigeons and other fetish materials. Other dominant species used included chameleons, chicks and ducks (Fig. 2). The great number of chameleon species (1201) one thousand two hundred and one specimens recorded is of great conservation concern. The use of juvenile alligator species in tradomedicine also calls for serious conservation as this could greatly affect their population if continued unabated. All species encountered were distributed in all the markets except the bats, dogs, pangolin and snails which were restricted to some markets only. The dogs (puppies) were the least used as only eleven (11) specimens were recorded from Ekiuwa and Oba markets. The restriction of snails to certain markets could be due to the sampling period which coincided with the dry season and subsequent non-availability. The snails on display were also juvenile species of *Archachatina marginata*. Although this may not be of great conservation concern, they could have fetched more money if left to grow to table size.

Ekiuwa market, a leading popular bushmeat market, also had the highest number of animals sold for medicinal purposes (19.02%). This was closely followed by Ugbighokho (12.85%), 3rd market (12.74%), Urelu market (11.63%), Evbuotubu market (11.20%), Oba market (11.08%), New Benin market (11.00%) and Oliha market (10.49%). The record of bats from only Ekiuwa and 3rd markets could be an indication of either its popularity in tradomedicine or the difficulty in capturing the species. The high hunting pressure on pangolin and its consequent scarcity could be attributed to its absence from some of the markets, although its absence from Oliha market (a traditional Market) is based on traditional beliefs rather than scarcity. Some people rate pangolin exploitation for personal benefits more than its conservation, using even juveniles and pregnant females (12, 17). There is no certainty if the unidentified animal bones in baskets (Plate 14) were from species already encountered. Although there are no official records of people in the state who use amphibians as a source of protein, the quantity used for medicinal purposes alone appears quite high.

A comparison with other works on the use of animals in traditional medicine showed some similarities in the use of certain species. It also confirmed the fact that culture of a people has a role to play in the choice of animals for use in traditional medicine (Table 2)

Chameleons, snails and tortoise were common species used in the West as shown by (1), (9) and (13). (Table 2). Species restricted to the Binis were the alligators, chicks, ducks, pig skull, pigeons, rabbit skull and turtles which may be attributed to the culture and belief of the people.

The high number of specimens recorded in this work coupled with the use of juvenile alligators is an indication that there is no enforcement of laws regarding animal hunting in Nigeria. This could pose very serious challenges for conservation in the nearest future. Therefore education on the necessity of conservation of our faunal resources for posterity is recommended.

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