Ethno-ornithology and onomastics in the Natta community, Serengeti district, Tanzania

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ABSTRACT

This paper presents ethno-ornithology, the study of birds in a society, in relation to onomastics, the study of proper names. The study was conducted in villages of Mbisso and Motukeri in Serengeti district, Tanzania aiming to find out how the Natta community name and classify birds in their language and to identify anthroponyms and toponyms derived from names of birds. Purposive sampling was used to select 64 respondents who participated in focus group discussions, birding and interview. Data were analysed thematically with the aid of tables. The particular ethno-ornithological data depict two avifauna naming systems from which Natta proper nouns were derived after the removal of prefixes of avifauna names. Male avifauna anthroponyms (50%) were found with positive connotations; female counterparts (20%) denoted negative meanings, whereas avifauna toponyms (30%) signified abundance of the respective birds. This paper is of particular interest and value, given the widespread concern at the global loss of natural history knowledge in local communities, in both traditional and post-industrialised societies. It thus makes the world aware of the anthroponyms and toponyms, encourages conservation efforts for tourism, and provokes more ethno-ornithological studies in relation to names of people and places in other ethnic groups.

1. Introduction

This longitudinal study of birds is in relation to a society with particular focus on onomastics but specifically on birds' relationship with names of people and particular places - in this context in the Natta community's surrounding areas. It was a longitudinal study in the sense that the same subjects or variables were repeatedly studied or tracked over a period of time (i.e. more than once – in 2008 and 2017) as opposed to the cross-sectional one which is done once (Shadish et al., 2001). This interdisciplinary subject combines anthropological, cognitive and linguistic perspectives with scientific approaches to the description and interpretation of people's knowledge and use of birds (Wambura, 2005; Tidemann and Gosler, 2011).

Ethno-ornithology has been of concern to many fields including linguistics, ethnography, folklore, philology, history, geography, [tourism], philosophy, and literary scholarship (Bright, 2003). It refers to indigenous knowledge of birds or the relationship between people and birds. It is a combination of "ethno" (from Greek *ethnos*) meaning relating to race, people, nation, class, caste, or tribe and culture, and "ornithology" which is a branch of zoology that concerns the study of birds. In other words,

ethno-ornithology is a branch of ethno-zoology and so of the wider field of ethno-biology which explores how people of various times and places seek to understand the lives of the birds around them (Hunn and Thornton, 2010).

On the other hand, onomastics is a scientific study of the origin, history and use of proper names (Scheetz, 1988). It is divided into major three branches: anthroponymy (study of people's names), toponymy (study of names of places) and etymology (study of origins and evolution of those names) (Harder, 1976; Powell and Stephen, 1990; Crymble, 2015).

Everyone must have a name – whether with a good meaning or a bad one. We all have our personal names, live in areas with names and normally name our children and pets but the meanings of these names are either known or unknown to us. Some of our given names are hereditary from Holy Scriptures as per our religions, plants, animals or other natural resources or are given due to events or seasons of the year. In addition, we have patronyms (names from male side e.g. father, grandfather, uncle…) or matronyms (names from female side e.g. mother, grandmother, aunt…) (Langendonck, 2007). Knowing meanings of the names helps psychologically and spiritually as some believe that every one's

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name carries blessings or curses, good luck or bad luck, happiness or sadness. What is astonishing is that, we were just given some of our first names by our parents' family friends and unfortunately even our parents sometimes do not know their meanings and, surprisingly, some were given female names while they are men and vice versa!

Since onomastics is very big and studying it based on all names in the Natta community could be indeed demanding, the current study focused on only proper names (anthroponyms and toponyms) derived from birds whereas their etymologies were implied. The study specifically envisaged finding out answers to two research questions: 1. How do the Natta community name and classify birds in their language? 2. What are possible avifauna anthroponyms and toponyms in the Natta community?

2. Background

The Natta community are a Bantu ethnic group inhabiting the vast semi-arid savannah ecosystem of the western Serengeti (Shetler, 2007; Kideghesho, 2008) where they engage in agro-pastoralism [also some in tourism] for their subsistence (Shetler, 2007). The Natta community members are estimated to be over 50,000 in the periphery of Serengeti National Park, Ikorongo-Grumeti Game Reserve, and Ikona Wildlife Management Area (WMA). For the Natta, crop agriculture and livestock account for 80% of the average household income; the remaining 20% is obtained from off-farm activities, such as hunting, charcoal making, local brew, and salaried employment (Campbell and Hofer, 1995; Loibook et al., 2002; Galvin et al., 2008).

In addition, the Natta community used to hunt for a pot, and a few for butter trade. This means they were hunting and sustaining their lives by getting other basic needs including food in exchange of what they had hunted. They used animal trophies in many occasions including wildebeest tail tufts for rituals during dry spell or bad years or as they married notably the Sukuma in Shinyanga and Mwanza regions. However, in these current decades, hunting is practiced by all multi-ethnic individuals [especially those with lower income] to complement the household budgets during misfortune years or poverty extremes (Loibook et al., 2002; Shetler, 2007; Bitanyi et al., 2012). In general, the Natta community avifauna practices, especially by preserving or protecting the sacred ones, serve as an important means of sustainable conservation of birds for various uses – including avitourism - now and in the future.

The Natta community have an extensive oral traditional system of transmitting information down to successive generations through folklores and ceremonies. This traditional way of transmitting knowledge saves it to extinction since some custodians of these bodies of knowledge die before they transfer it (Wambura, 2005). Indigenous knowledge is passed to successive generations by cultural transmission such as symbols and totems, art, song, ritual ceremonies and dance (Berkes, 1999; Janke, 2005). Others are legends, fables, tales, myths and stories (Hunn and Thornton, 2010). While it is assumed that some tribes would make topics of ethno-ornithology perish for lack of documentation and day-to-day use as they intermingle with the world in today's globalisation, the Natta community retain novel information on the ethno-ornithology (Wambura, 2005; Shetler, 2007).

Historic sites used by the Natta tribe before their eviction can still be traced and obtained today in the Serengeti ecosystem where they initially lived near the Grumeti River for easy access to water. Serengeti was and is still known as Ghumari, meaning endless plain by the Natta community. However, the name is not renowned worldwide since another name with similar meaning from the Maa language (Siringet) was later given to this ecosystem and taken by the colonial masters into the present Serengeti with wrong pronunciation and thus wrong orthography - Serengeti - which is used till today. This also applies to many toponyms found in the northern circuit tourist destinations such as Lobo, Ngorongoro, Oldoinyo Lengai and many more as elaborated by Chiwanga (2014:183–185). The mutual relationship between the Natta community and birds has developed a strong bond and heritage of toponyms and anthroponyms in the community.

3. Related work

The interactions between people and animals including birds exist for centuries, even the Holy Scriptures mention Adam as the first person to name them (Genesis 2:20, 1984, NIV). With this regard, there have been ethno-ornithological studies which reveal that birds occupy a special place in the lives of many people and cultures around the world due to their multiple uses (Ng'weno, 2010; Clucas et al., 2011; Alves, 2012; Clucas and Marzluff, 2012). Almost all cultures in the world especially in Asia, Africa and Latin America have association with birds depending on cultural beliefs and traditions which affect positively or negatively their survival (Muiruru and Maundu, 2010). However, the degree of the positive or negative association differs among cultures. While some cultures believe certain birds are bad (ornithophobia) and kill them [or sometimes avoid even seeing or touching them], others consider them good (ornithophilia); hence respect and protect them (Bonta, 2010; Muiruri and Maundu, 2010; Pande and Abbi, 2011).

On the one hand, there are many uses of birds but the most recorded ones are those used for rituals, food, clothing, tools, traditional medicine and witchcraft purposes such as healing or driving away evil through their feathers. These birds are thus threatened or at risk of extinction (Alves et al., 2009; Sault, 2010; Virani et al., 2011; Moreman, 2014; Williams et al., 2014; Kioko et al., 2015). On the other hand, others are kept in captivity as pets and thus not killed. These are those with beautiful plumage, melodic songs, or those that can mimic people's talks and thus believed to be protecting humans (Ng'weno, 2010; Muiruri and Maundu, 2010; Roldán-Clarà et al., 2014; Alves et al., 2016a). With this regard, many studies have been done on birds as pets (Fernandes-Ferreira et al., 2012; Alves et al., 2013a).

Keeping wild native animals as pets for trade has caused vulnerability in some species and the continual capture from one generation to another removes many individuals from the breeding pool (Alves et al., 2010, 2013b) as they are subjected to the unsuitable conditions which often cause their deaths (Alves et al., 2013a; Kuhnen, and Kanaan, 2014; Alves et al., 2016b).

Apart from keeping birds in captivity, many people especially tourists love them in their natural habitats; hence bird-watching and related activities as their hobbies (Alves et al., 2016a), but also some people use them for scientific studies and conservation. Avifauna onomastics exist for many years. Many cultures have their names derived from birds' names since ancient times but they are not at all or minimally documented. McAtee (1953) says though some cognomens are very old, others are young. Names are ever being invented and tested, some become part of the language; others fail. In this case, the current study associates names of people and places, and those of the respective birds. The paper thus presents a potentially valuable ethno-ornithological study of the Natta community, whose knowledge of birds is of a particular interest, in both traditional and post-industrialised societies.

4. Methodology

4.1. Sampling design, sample size and procedure

This study involved 64 respondents aged between 30 and 60 years who were selected purposively depending on their availability and willingness. According to Elo et al. (2014); also Teddlie and Yu (2007), purposive or rational sampling is suitable for this type of research where the researcher is interested in informants who have the best knowledge concerning the research topic or when special information or data is required (Albuquerque et al., 2014a). In this regard, the sampled respondents were believed to have thorough knowledge about origins and meanings of anthroponyms and toponyms within their localities.

To illustrate, 60 respondents participated in focus group discussions (FGDs), and the same also participated in the birding, while 4 were involved in the interview. With regard to gender, 92% of the respondents were male and 8% were female as it was learnt that men were more

interested and knowledgeable in birds than women, given that they used to hunt or raise cattle in the bush since they were still young unlike female counterparts who were almost rejected by gender. No family allowed women to hunt but only a few families could allow them to send their livestock to grazing fields where they could see birds and the majority went to collect firewood but birds were not their interest.

Additionally, the study was conducted according to established ethical guidelines, and the oral consent was obtained from all the participants as it is a globally accepted code of conduct (Albuquerque et al., 2014a). This was done through the Village Executive Officers (VEOs), who had that authority at the village government level. This was done after an ethical clearance from the Serengeti District Council to ensure that, as part of high ethical and scientific standards as well as good research practices, the rights of individuals were not infringed upon.

Others included, but not limited to, focusing on learning from or with local people, invest time to get know them, and avoiding bribing them, embracing collaborations, listening to the respondents and listen to their ideas, asking them questions politely, and sharing results (Albuquerque et al., 2014a). We outlined the objectives of our research project to the homeowners and sought formal permission to record their responses as we were collecting data (Albuquerque et al., 2014b). In this way, the inhabitants could choose whether or not to participate in the research.

4.2. Methods

4.2.1. Focus group discussion

The first study carried out in December 2008 mainly used FGDs as a method of data collection. The FGDs were carried out in two groups of 30 individuals from each village. The questions were both open and closed-ended to allow precise answers but also more information, such as feelings, attitudes and understanding of the subjects, who had no family relationships. All the three phases were followed: invitation and preparation, meeting and mapping, as well as transcription and compilation of data (Albuquerque et al., 2014b). They were done in Kiswahili for easy interpretations of phenomena though names were given in the Natta language, transcribed and translated into English. The interviewers were the researchers in this context as they are the ones with thorough knowledge of birds and the entire subject matter. They insured that all the respondents participated fully in the FDGs; not only the vocal ones. A free-list of birds was generated in forms so as to assess participant's knowledge of bird names, classification, and onomastic uses (Quinlan, 2005; Albuquerque et al., 2014b). Whenever there was any language barrier, one of the researchers (Late Mr John Mugaboh Wambura) who was our lead researcher could intervene directly as he was native to the Natta community. In this method, coloured birds' photographs from various field guides (Alden et al., 1996; Roodt, 2005; Richards, 2006) were used by the informants to identify local birds' names and point out those used in the community for naming people and their surroundings.

4.2.2. Birding

To supplement the FGDs, birding method was used as part of observation method to identify bird species that were used for anthroponyms and toponyms to supplement information given through the FGDs. This method involved 60 individuals i.e. six groups of 10 (three groups from each village, each accompanied by one researcher). They knew birds by their voices, calls, songs, morphology, flight, colour, habitat and behaviour. Some birds were seen in the study villages and the respondents were asked to identify them and their names were entered in the free-list. From thence, researchers noted down the local, common and scientific names of the identified birds, and asked the respondents to tell how they were used in the societal nomenclature system and onomastics.

4.2.3. Interview

Since the study was done almost 10 years back, the researchers decided to go back to the field for the second time in June 2017 as a longitudinal study to see if there might be changes in results. This time the researchers simply used the results of the first survey to ascertain if the results were still valid in this longitudinal study. To get this validity, researchers conducted an interview with two different individuals from each village; making four subjects to tell if the identified birds - with the aid of coloured photos - were still named and classified the same as well as used for onomastics portraying avifauna as the former findings.

The interview was structured with both open and closed-ended questions for the same goals as in the FDGs, and each interviewee was asked once in a similar setting. The interview was held at a school in a friendly and trustworthy atmosphere and in the absence of third parties such as relatives, at the time of their choice (around 10 am). This is because human behaviour is easily influenced by the environmental context. Since the interviewees were familiar with us and we could show interest in them while avoiding authoritarian attitude, they were not hesitant to provide us with quality data (Albuquerque et al., 2014b).

4.2.4. Data analysis

Thematic analysis was used in this study which is largely qualitative. Tables were set to help easier reading of the results.

5. Results

As hinted earlier, the study had two specific objectives: finding out how the Natta community name birds and classify them, but also how they use such avifauna names in their anthroponymy and toponymy. The findings of the study are as presented below:

5.1. Natta ethno-ornithological nomenclature and classification of birds

In this study eight species of birds were identified to be used by the Natta in their nomenclature as it is in the traditional nomenclature in the scientific world. In addition, seven names of people and three of places were identified used for onomastics as shown in Tables 1, 2 and 3.

These birds were called the same names by the Mbisso and Motukeri village communities. Additionally, it was found that the Natta people in the two villages showed a consensus on ethno-ornithological classification of birds in their areas. This system appeared to form the backbone of

Table 1
Bird epithets in the Natta naming system.

S/N	Local name	Literal translation of the epithet	Common English name	Scientific name
1	Nyamanche omusuhu	Nyamanche = aquatic creature, omusuhu = little or small	Little Grebe	Tachylaptus nuficollis
2	Nyamwisagi ekhekubha Ikhiero	Nyamwisagi = swimmer, ekhekubha = breast Ikhiero = white	White-breasted Cormorant	Phalacrocorax lucidus
3	Risemeraanchoka ribhu	Risemeraanchoka = snake eater, ribhu = grey	Grey Heron	Ardea cinerea
4	Anyenge ansuhu	Anyenge (Egret) ansuhu = little or small	Little Egret	Egretta garzetta
5	Risemeraanchoka omutwe mwirabhuru	Risemeraanchoka = snake eater, omutwe = of head, mwirabhuru = black	Black-headed Heron	Ardea melanocephala
6	Ring'hongo omumwa Wasamire	Ring'hongo (Stork), omumwa = bill/beak, wasamire = open/wide	Open-billed Stork	Anastomus lamelligerus
7	Ring'hongo iryero	Ring'hongo (Stork), iryero = white	White Stork	Ciconia ciconia
8	Ring'hongo erilabhuru	Ring'hongo (Stork), erilabhuru = black	Black Stork	Ciconia nigra

Table 2

Avifauna anthroponyms in the Natta community.

S/N	People's names	Meaning attached to the local bird's name
1	**Names given to ♂ born babies**	
1.1	Matonyi	This name is derived from (a) vulture(s), i.e. *amatonyi* or *chamatonyi.* The name symbolises good sight (vision); hence a person with vision.
1.2	Kahache	This is a given name or nickname derived from *kahache* (hornbill). This bird usually breeds in tree holes, and its bill resembles a small axe, called *akahache*- a tool for making oxen yokes or other wooden utensils in the society. The bird is used in initiation songs for circumcised men. The name is given to a baby who cried for some days after being given the first name. Believing that the baby was not pleased with the first given name, the parents had to give him the name Kahache which made the baby keep quiet. The name is also given to adults as a nickname if the bearer of the name was hunting this bird several times.
1.3	Manungu	This is a given name as it is in the case of Kahache. It is derived from *anungu* (an ostrich). It is also a prestigious nickname for male hunters who are able to run fast with attention like the ostrich.
1.4	Masangari	This is a nickname derived from the ostrich down feathers. The feathers are used during ceremonies e.g. initiation. They are worn by men only either as a headdress or ivory ring on the upper arm as decoration. Sometimes the feathers are traditionally used for blessing others. This nickname therefore means "the handsome one" or "the blessed one".
1.5	Tamakindi	This given name is derived from Fischer's Sparrow Lark, called singly *ekhitamakindi* or *ebhitamakindi* in plural. It is given to babies just like Kahache we saw earlier but sometimes the baby was simply given the name from the beginning. This name symbolises handsomeness like that of the male bird, hence the name means 'handsome'.
2.	**Names given to ♀ born babies**	
2.1	Ghechirari	This is a given name (if the baby 'refused' another name) derived from an ox-pecker. The bird is usually associated with livestock especially cattle in either grazing pastures and or kraal(s) in human habitation. When used as a nickname, it means the person is dependant.
2.2	Nyangoko	This is a given name (if the baby "refused" another name) derived from a domestic hen. In addition, a person who is always at home or lazy is nicknamed Nyangoko.

Table 3

Avifauna toponyms in the Natta community.

S/N	Place's local name	Meaning attached to the local bird's name
1	Nyanungu	A place of abundant ostriches. This hamlet called Nyanungu is in Natta ward.
2	Nyakanga	A place named after *nyakanga* (guinea fowls) meaning a place of many guinea fowls.
3	Mabhuri	A place named after feathers, a single feather is called *ribhuri* while its plural is *amabhuri*. The 'a' in *amabhuri* was accidentally left out in this toponym following the wrong pronunciation of non-Natta speakers.

the traditional taxonomy of birds around them and adherence to some principles as follows:

5.2. Generic names

All birds were classified into ekhinyonyi (that is singular) or ebhi-nyonyi (plural). They were further sub-divided into different taxa. In addition, the birds in the Natta language were generally given genus names arbitrarily, but very few used their ecological behaviours as highlighted in Table 1. Many names contain the prefix "a-" for singular or "ch-" for plural. For example, "a"-*akhanga* - a guineafowl) but *chakhanga* (guineafowls), *ambata* (a duck/goose) but *chambata* (ducks and geese);

amatonyi (a vulture) but *chamatonyi* (vultures); *ahongo* (an eagle) but *chahongo* (eagles). A few nouns use prefixes "ekh" and "ebh" for singular and plural respectively as in ekhikohe (kite/hawk/falcon/kestrel) but ebhikohe (kites/hawks/falcons/kestrels); ekheguti (feral pigeon) but ebheguti (feral pigeons).

5.3. Epithet names

Here Natta community were found to be using the traditional epithet nomenclature (second part of a species name or binomen) in which specific clues to birds such as prominent features - morphology, feeding, breeding and other ecological behaviours were used. Likewise, they were found to be using epithet or trivial names almost like the specific epithet in binomial nomenclature which serves to distinguish a species from others in the same genus. Table 1 below shows how the Natta community specifically named the available birds.

5.4. Anthroponymy and toponymy in the societal nomenclature

In many parts of the world, it is common that anthroponyms and toponyms have and others do not have etymologies that we can discover. This study therefore focused on this reality to reveal the existence and meanings (and etymology) of avifauna proper names in the Natta community. Tables 2 and 3 show clearly avifauna names used for anthroponymy and toponymy respectively.

6. Discussion

Historic sites used by the Natta tribe before their eviction can still be traced and obtained today in the Serengeti ecosystem where they initially lived near the Grumeti River for easy access to water for livestock and human consumption, and named Serengeti "Ghumari" meaning "endless plain".

The major rivers including the Grumeti River provided basic requirements for the society such as drinking water for themselves and their livestock, and fish for the pot. Some places (such as Bhangwesi) were useful and respected by all the Natta as their sacred places for worshiping *Iryobha* (God). This mutual relationship has developed a strong bond and heritage of anthroponyms and toponyms.

It is evident that, the Natta community uses birds' generic names to address their relationships with people and their surroundings. In the former, they dropped the prefix "a" for singular and "cha" for plural, or prefixes "ekh" and "ebh" for singular and plural respectively and thus used the remaining part (radical) for athroponyms and toponyms. For instance, for men there exists Matonyi denoting a person whose sense of sight or vision is acute like a vulture which is always capable of prognosticating or detecting animal kills or carcases from very far. The name was derived from *amatonyi* and *chamatonyi* dropping the prefixes "a" and "cha" respectively. However, some names were found generically used while it is not the case in English. For instance *Rig'homa* - Kori Bustard; *Angokoibhara* - Crowned Plover. As for the toponyms, the prefix "a" for singular was dropped out while the prefix "nya" for plural was retained.

Moreover, it was found globally through the data from all methods, that the community had more names at 50% from avifauna for men than for women and places. The identified names were either given names or nicknames or both. When given to babies, it meant those babies were believed to have refused the other names they were given initially. With this regard, they cried and cried for some days; hence the close relatives including their parents believed that the baby was not pleased with the first given name; hence they had to give them any name. If the name was believed to have made the baby stop crying, then the name got its roots.

Additionally, it was found that the given names were sometimes nicknames if given to adult people. In this case, the nicknames were found generally symbolising the behaviour or appearance of the respective birds. On the one hand, the men nicknames (50%) had positive connotation of handsomeness, attractiveness, vision, fast runner, and the

like. On the other hand, women nicknames were few (20%) and had negative connotation like dependency or laziness. With regard to toponyms, 30% of the names showed names of places which meant that such places had the respective avifauna species in abundance.

All in all, it is obvious that in the day- to- day association with birds, the Natta community are in close proximity with nature. Ethno-ornithology in the community is rich in many forms both orally and now in the documented form for references. With this regard, each community has and orally can share its knowledge about birds; hence preservation, protection and documentation.

7. Conclusions

Birds empower people of some cultures, and help to preserve and discover the connections between individuals, groups and the environment, in which people still hunt, venerate and cherish as it is in the case of the Natta community. This study creates global awareness of the Natta naming system and provokes more studies on avifauna anthroponyms and toponyms in other areas but also onomastics based on other sources such plants, mammals, events or seasons in the same Natta community or other ethnic groups in Tanzania and elsewhere.

The results are a little bit different from other studies since the current study was on ethno-ornithology like others but it was the first in Tanzania in terms of anthroponyms and toponyms derived from avifauna, given that the ones already carried out focused largely on ethnobiology and ethnomedicine. However, the results from this current study should not be conclusive as the study involved two villages of Mbisso and Motukeri in Serengeti district, leaving other Natta speakers in Bunda district that might have other names.

Given the growing interest in the relationship between local and traditional knowledge of nature expressed through local language and conservation on the ground, this study is of particular potential interest and value. Since the names of birds in local languages express the sociocultural relationships that the people have with those birds, it can form the basis for conservation dialogues and ecotourism which, in turn, promote bird-watching, avitourism and employment. The study therefore provides a useful contribution to the application of indigenous knowledge in conserving birds, which is currently overlooked in the modern conservation techniques.

7.1. Recommendations

In order to see more values of ethno-ornithology for onomastics and other fields of studies, the following are highly recommended:

- There should be a possible key to instil and encourage traditional conservation efforts especially in the unique biodiversity hotspots and further ethno-biological researches.
- The young generation should be encouraged to ask origins and meanings of their names from their parents and be more proud of the local names with positive connotation, or advise their communities to get rid of the names with negative connotation.
- Illicit practices on avifauna countrywide and beyond frontiers should be discouraged.
- Modern generations should utilise indigenous knowledge in scientific world, and see the values enshrined in it when considering biodiversity conservation options.

Declarations

Author contribution statement

Fredrick E. Chiwanga and Nickson P. Mkiramweni: Conceived and designed the experiments; Performed the experiments; Analyzed and interpreted the data; Contributed reagents, materials, analysis tools or data; Wrote the paper.

Competing interest statement

The authors declare no conflict of interest.

Additional information

No additional information is available for this paper.

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