

Notes and records

Using the past to manage for the future: contributions of early travel literature, free online, to African historical ecology

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Introduction

It is recommended that ecologists use history to determine the range and variability of ecological processes and structures during times when ecosystems were less affected by humans. Historic reference conditions, e.g. former distribution, may be used, along with current condition assessments, socioeconomic considerations and practical recommendations, for the setting of management goals (Swetnam, Allen & Betancourt, 1999).

In Africa, one can often make use of a rich oral history, for example, in retracing major climatic events such as droughts (Scholte & De Geest, 2010), but access to written documentation can be limited in many regions. Descriptions recorded in the published journals of travellers, especially from the 19th and early 20th centuries, are only available to those with access to well-equipped libraries and have been an underutilized source of information. The publication of selected reprints and translations (e.g. Denham, Clapperton & Oudney, 1826; Nachtigal, 1987) has helped, but only with the recent digitization of early travel literature and its integral availability via open-access websites, has this material become more widely available.

To highlight their potential, I provide three examples how travel descriptions have helped in the understanding of the environment in a historic context, challenging misconceptions and triggering the reformulation of management solutions. These examples are interpreted following Boshoff & Kerley (2010), who reviewed the quality of historic records of large mammal distributions in the Eastern Cape (S. Africa). They proposed five data categories, of which the first three, comprising 82% of data

going back to 1750, were considered reliable (Table 1). I conclude with general remarks on the reliability of travel descriptions and how one may use them alongside other sources of information.

Dama gazelle [*Nanger dama* (Pallas)] in Chad and Niger

Contrary to what their present remnant distribution in the northern Sahel suggests, dama gazelle prefer sparsely wooded savannah rather than desert. Early travellers – Denham, Clapperton & Oudney (1826) and Nachtigal (1987) – reported the observations of dama gazelle in woodlands around Lake Chad during the late dry and early rainy season, Table 1. This contrasts its present habitat, mainly confined to the sparsely vegetated Manga area, north of Lake Chad (Wacher & Newby, 2010). Early European travellers also recorded dama gazelle in the wadis (dry riverbeds) between the Aïr Mountains (Barth, 1857), but not in the extensive deserts they crossed (Scholte, 2012). These findings should stimulate year-round distribution studies and reintroduction trials in this range of habitats. If thus confirmed, this will guide dama gazelle reintroduction programs, which should, also considering other ecological and socioeconomic factors, not be limited to its present habitat.

Elephants [*Loxodonta africana* (Blumenbach)] in Waza-Logone, Cameroon

In his frequently cited paper, Tchamba (1996) writes, based on a single historic source (Flizot, 1948): 'The Waza-Logone region was devoid of elephants until 1947 when they crossed the Logone river and took up residence in Kalamaloué National Park'. He concludes 'The human–elephant conflict in the Waza-Logone region has resulted from increase in the human population and expansion of agricultural land combined with the increase in elephants'.

Yet Barth (1857) described and mapped several encounters with elephant herds in Waza-Logone in 1851–52. His company frequently ate elephant flesh, 'the most commonly available'. Elephants can unmistakably be

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Table 1 Reliability categories of historic distribution data (adapted from Boshoff & Kerley, 2010)

Category	Description of identification	Description of locality	Boshoff & Kerley (2010)		Cases in this paper	
			Usefulness	Frequency (n = 993) (%)	Supporting documentation	Examples presented
1	Accurate (supported by specimen)	Precise	Very high	0	Photograph	<i>Sericostachys liana</i> ^b
2	Accurate	Precise	High	33	Map, description of prints drawing	Elephant dama gazelle ^b
3	Accurate	Imprecise	High ^a - medium	49		
4	Inaccurate	Precise	Low	6		
5	Inaccurate	Imprecise	Very low	12		

^aWhen supported by records where both description parameters are of good quality.

^bAlthough not with a precise locality, the description of locality is sufficiently detailed for the indicated purpose.

identified by the deep prints left in moist soil, the fear of drivers. One of the horses with which Barth's company travelled fell in one, and his rider broke his arm. The interest in elephants from early European explorers can be explained by the increased demand for ivory towards the end of the 19th century. UK ivory imports from Tripoli, through which ivory from Central Africa passed, shot up in the 1850s to some 70 tons annually, only reducing in the late 1890s (Johnson, 1978). Nachtigal (1987), visiting the area in 1872, described the town of Zina as a 'brisk market for ivory'. The slaughter of elephants is also reflected by the naming of the village of Niwadi which, created south of Waza National Park (NP) in the late 19th century, signifies 'place of a dead elephant'. Mecklenburg (1912) did not observe elephants on his journey through northern Cameroon in 1910–1911 and remarked that former elephant hunters had changed their lifestyle because of the lack of elephants. A decade later, Zwilling (1940) on a hunting safari did not find elephants. Jeanin (1936) described the presence of a few elephants in northern Cameroon, but not in the newly created Waza- reserve. Flizot (1948), its first warden, described that in 1947, only a single elephant roamed the nearby Mandara Mountains, while further south in the Benoué Valley, elephant numbers increased due to immigration from Nigeria. The number of elephants in Waza NP subsequently increased to 50–80 in 1954, 600 in 1968 and more than 1000 in the 1990s, attributed to immigration from Chad (Tchamba, 1996).

These complementary descriptions (Table 1) show that the human–elephant problem cannot be attributed to increases in elephant populations but should instead be interpreted in the context of their 21st century recovery (Scholte, 2005).

Liana [*Sericostachys scandens* (Gilg & Lopr.)] in Rwanda

The travel accounts of Mecklenburg (1910) and a photograph in Kandt (1904) highlight the abundance of *S. scandens* in what is now Nyungwe NP (Rwanda) at the end of the 19th and early 20th century (Fischer & Killmann, 2008). The proliferation of this liana, abundantly covering trees, is by many considered a threat to the forest and thought to be the result of the recent extirpation of elephant and buffalo (Scholte *et al.*, 2010). However, above travel accounts show with considerable reliability (Table 1) that the liana was abundant at a time when these animals still roamed the forest. An international workshop that discussed the 'Sericostachys problem' concluded, on the basis of above historical accounts and comparative studies from Uganda, that the planned reintroduction of elephants to Nyungwe would not suppress *S. scandens* (Scholte *et al.*, 2010).

Discussion

Our three study regions, like much of Africa, lack the documentation frequency of the Eastern Cape, but data presented above can be attributed to the first and second categories distinguished by Boshoff & Kerley (2010), (Table 1). The presented examples show that limited historical information, if sufficient reliable, may allow drawing relatively strong conclusions. Data reliability was greatly enhanced by supporting materials, such as photographs, maps and detailed descriptions (Table 1). It may further be worthwhile checking the reputation of the authors, some of whom (e.g. Barth and Nachtigal) have

been subject of scientific reviews, highlighting their reliability (see e.g. translators' introduction in Nachtigal, 1987).

Of course, ecosystems are dynamic, and even reliable historic information is in many cases, not unlike the present, a snapshot in time. Travel documents should be interpreted carefully and, if possible, used in combination with other (travel) descriptions and information sources, such as illustrated in the above elephant example.

Access to travel descriptions

An increasing number of published travel descriptions can be integrally found at <http://openlibrary.org> and <http://www.archive.org>. These user-friendly sites have good search/browse functionality and support several document formats, including pdf. Other Internet sources are <http://www.biodiversitylibrary.org>, whereas <http://books.google.com> provides book excerpts.

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