

# *Sorcery and nature conservation*

Article

Accepted Version

Sousa, J., Ainslie, A. ORCID: <https://orcid.org/0000-0002-7549-7643> and Hill, C. M. (2018) Sorcery and nature conservation. *Environmental Conservation*, 45 (1). pp. 90-95. ISSN 1469-4387 doi: 10.1017/S0376892917000327 Available at <https://centaur.reading.ac.uk/72260/>

It is advisable to refer to the publisher's version if you intend to cite from the work. See [Guidance on citing](#).

Published version at: <http://dx.doi.org/10.1017/S0376892917000327>

To link to this article DOI: <http://dx.doi.org/10.1017/S0376892917000327>

Publisher: Cambridge University Press

All outputs in CentAUR are protected by Intellectual Property Rights law, including copyright law. Copyright and IPR is retained by the creators or other copyright holders. Terms and conditions for use of this material are defined in the [End User Agreement](#).

[www.reading.ac.uk/centaur](http://www.reading.ac.uk/centaur)

**CentAUR**

Central Archive at the University of Reading

Reading's research outputs online

1 **Sorcery and nature conservation**

2

3 JOANA SOUSA<sup>1,2</sup>, ANDREW AINSLIE<sup>3</sup>, CATHERINE M HILL<sup>1</sup>

4 <sup>1</sup>Anthropology Centre for Conservation, Environment and Development, Oxford

5 Brookes University, Oxford, OX3 0BP, United Kingdom

6 <sup>2</sup>Department of Geography and Environment, Geneva School of Social Sciences,

7 University of Geneva, Switzerland

8 <sup>3</sup>International Development Research Group, School of Agriculture, Policy and

9 Development, University of Reading, Reading, RG6 6AR, United Kingdom

10

11 **Running head:** Chimpanzees, sorcerers and conservation in Guinea-Bissau

12 **Key-words:** animal representations, chimpanzees, national park, tourism, witchcraft.

13

14 **Word count:** 4982 words

15

16 Corresponding author:

17 joanavazsousa@gmail.com

18

## 19 **Sorcery and nature conservation**

20

### 21 SUMMARY

22

23 Representations of animals are diverse and can portray local understandings of  
24 nature conservation, information that is often missing from conservation debates. In  
25 Cantanhez National Park (southern Guinea-Bissau) chimpanzees (*Pan troglodytes*  
26 *verus*) are recognised as animals that share certain features with humans but live  
27 independently of them in the forest. However, chimpanzees are also integral to  
28 socially mediated, deep-rooted, local narratives about sorcery and nature  
29 conservation. We use results from ethnographic research to explore local  
30 interpretations of chimpanzee attacks on people. Attacks by ‘bush’ chimpanzees  
31 occur when an animal is provoked by someone’s actions towards it. Unprovoked  
32 attacks however, are either interpreted as the act of a shape-shifted chimpanzee  
33 (i.e., a sorcerer) or as the responsibility of conservation stakeholders. In the case of  
34 unprovoked attacks, chimpanzee aggression is linked to a perceived abuse of power  
35 and to greed, with implications for nature conservation locally. Close analysis of local  
36 representations of animals contributes to a broader consideration of conservation  
37 priorities and practice.

38

39

### 40 INTRODUCTION

41

42 A rapidly growing body of conservation literature addresses various aspects of  
43 human-animal interaction, including conservation conflicts (Hill 1997; Naughton-

44 Treves 1998; Woodroffe et al. 2005; Dickman, 2010; Draheim et al. 2015; Redpath  
45 et al. 2015). However, little attention has been paid to symbolic meanings of animals  
46 (Hill 2015), particularly when these are linked to local criticism of conservation  
47 policies. Representations of animals can be intricately embedded within people's  
48 lived experience of a place. Therefore, to understand the relevance of these  
49 narratives around certain species requires an understanding of the tensions and  
50 power-relations associated with the *social* context in which that narrative is created  
51 and sustained. Despite the lack of representation of this perspective within the  
52 conservation literature, several studies in relevant disciplines consider animals'  
53 symbolic meaning in local people's narratives. For example, Jalais (2008) examines  
54 tigers (*Panthera tigris*) as part of the social world of people in the Sundarbans  
55 (Bengal) whose views have often been dismissed as superstition, whether by  
56 colonial administrators or today's post-colonial, urban elites. Rural people in the  
57 Sundarbans reject the 'touristic tiger' and highlight feelings of marginalization and  
58 exclusion when evoking their understandings of tigers (Jalais 2008: 34). In Japan,  
59 humans and bears (*Selenarctos thibetanus japonicus*, *Ursus arctos yezoensis*) are  
60 seen as putting each other's livelihoods at risk (Knight 2000). In this context, Knight  
61 (2000) argues, recent negative views about bear conservation stem from the  
62 indifference of urban conservationists to the costs to rural dwellers of living alongside  
63 bears. Similarly, in Norway, the anti-wolves alliance is sustained by rural people's  
64 concern to maintain local ways of life which are 'not quite threatened by the actual  
65 wolves, but rather by the protected wolves', with wolf protection being imposed on  
66 them by urban elites who neither live with wolves, understand nor value rural ways of  
67 life (Marvin 2010:76). In Cameroon, Köhler (2000) describes the symbolic  
68 representations of elephants as part of a 'cosmic economy of sharing' (Bird-David et

69 al. 1992) established between humans, animals and other forest beings. Baka  
70 people describe what is understood as an insurgency of hybrid elephant-men  
71 (*mokila*) against the Baka community. These *mokila* kill Baka hunters, and kidnap  
72 their women and children in revenge for the elephants killed during the period Baka  
73 hunters participated in the ivory trade (Köhler, 2000).

74 These case studies go beyond understanding whether local people eat, hunt, like  
75 or dislike certain animal species; rather they shed light on the importance of the  
76 symbolic constructions of wildlife across a range of species, geographical locations,  
77 and different human groups. Particularly when there is a long history of coexistence,  
78 efforts are needed to understand representations of animals socially and historically.  
79 In this paper we use insights gained through ethnographic research in Guinea  
80 Bissau to explore local representations of chimpanzees and argue that exploring  
81 these symbolic meanings of animals may contribute to a deeper understanding and  
82 possible resolution of local conservation conflicts.

83 Within Euro-American cosmologies, chimpanzees figure among the charismatic  
84 African mega fauna, and are commonly considered conservation flagship species.  
85 Global programs such as the Great Apes Survival Partnership (GRASP) have  
86 recognised great ape tourism as a promising conservation strategy (GRASP, 2005).  
87 In East Africa, tourism with habituated chimpanzees has been ongoing for over 30  
88 years (e.g. at Gombe and Mahale in Tanzania, and Budongo and Kibale in Uganda);  
89 more recently, in West Africa, tourism with unhabituated or semi-habituated  
90 chimpanzees has been established at a number of sites including Tai (Côte d'Ivoire),  
91 Gola (Sierra Leone) (Macfie & Williamson, 2010) and Cantanhez National Park  
92 (Guinea-Bissau) (Sousa et al. 2013). However, whether tourism can successfully

93 achieve both conservation and development goals simultaneously remains contested  
94 within the literature (Leischer et al., 2000).

95 In Guinea-Bissau, the national action plan for the conservation of chimpanzees  
96 (*P. t. verus*) reports they have “recently disappeared” from certain areas (Casanova  
97 & Sousa 2007). Sá et al. (2012) describe chimpanzee body parts, particularly skins,  
98 being traded in the capital, Bissau. However, in Cantanhez where people live in  
99 close proximity with chimpanzees (e.g. Sousa et al. 2011, 2013; Hockings & Sousa  
100 2012, 2013; Bessa et al. 2015), local inhabitants perceive them as having increased  
101 in number (Sousa 2014). Chimpanzees are regarded as similar to humans and are  
102 therefore not hunted nor eaten (Gippoliti et al. 2004; Karibuhoye 2004; Sousa et al.  
103 2013). However, because they live in close proximity to human settlements,  
104 sometimes forage on people’s crops, because and women and children fear them,  
105 Costa et al. (2013) advised against chimpanzees being used as a conservation  
106 flagship species in Cantanhez.

107 Encounters between chimpanzees and people resulting in physical injury or  
108 death (to people or apes) are perhaps the most dramatic face of human-chimpanzee  
109 interactions. At Bulindi, Hoima District (Uganda), where chimpanzees live amid farms  
110 and villages there are reports of chimpanzees chasing people (McLennan 2008) and  
111 attacking young children, which has discouraged agencies from implementing  
112 chimpanzee tourism in the area (McLennan & Hill 2010). There are also reports of  
113 chimpanzees injuring children at Bossou in Guinea-Conakry (Hockings et al. 2010),  
114 killing children and babies in Sierra Leone (Richards 2000), and carrying out  
115 predatory attacks on children in villages close to Kibale National Park, Uganda  
116 (Wrangham et al. 2000). In Kibale, three children were eviscerated and had their  
117 hands and/or feet severed in the attacks which led Wrangham et al. (2000: 187) to

118 argue that chimpanzees “should now be regarded as occasional hunters of humans”.  
119 For a recent compilation of records on ape attacks on humans in Africa and Asia,  
120 see McLennan and Hockings (2016).

121 However, narratives of chimpanzee aggression are not necessarily  
122 straightforward, particularly when the violence is thought to have a human origin. As  
123 described by Richards (1996, 2000) for Sierra Leone, witches are believed to “dress”  
124 as chimpanzees, to mutilate and/or murder young people and babies and sell their  
125 body parts for the manufacture of “bad medicine”. Worldwide, there are wide-ranging  
126 interpretations of witchcraft and it has remained a broad and controversial domain of  
127 research (Geschiere 2013). However, a feature common to several studies is the  
128 accusation of witchcraft being directed towards what is perceived of as excessive  
129 individualism regarding the distribution of power and goods (Richards 2000; Sarró  
130 2009).

131 This paper analyses people-chimpanzee encounters in Cantanhez National Park  
132 (Guinea-Bissau) where chimpanzee tourism has been recently developed, despite  
133 local criticism of, and antagonism towards, the local non-government organisation  
134 (NGO) that was heading the Park. We discuss the implications that narratives  
135 relating to chimpanzee violence may have for nature conservation and for tourism.  
136 The analysis framed here contributes to the wider discussion on governance and  
137 negotiations of power in nature conservation contexts.

138

## 139 METHODS

140

### 141 **Study area**

142

143 Cantanhez peninsula (Tombali region) is located in southwestern Guinea-Bissau  
144 and became part of Cantanhez National Park in 2008 (see Figure 1). The peninsula  
145 comprises a combination of mangrove, forest (at various stages of regeneration),  
146 savannah and land under cultivation. There is no obvious frontier between farming  
147 areas and forest; instead farming areas intermingle with forested areas in a  
148 temporally and spatially dynamic fashion. In 2002, a partnership of NGOs together  
149 with the chieftains and the local administration, in the presence of other members of  
150 the community, signed an agreement that approved the internal rules for the future  
151 Park (Mendes & Serra 2002). These regulations prohibited the use of snares and  
152 traps for hunting and tried to act against deforestation, by banning shifting cultivation  
153 in areas set aside for protection (Mendes & Serra 2002). As part of the settlement,  
154 NGOs agreed to (i) financially support mangrove rice farming; (ii) provide financial  
155 incentives, field material and courses to community guards; and (iii) hold regular  
156 meetings with local inhabitants (Mendes & Serra 2002). Local reports suggest that  
157 NGOs were considered to have failed to satisfactorily meet these conditions,  
158 something which caused dismay and outrage among local residents (see Temudo  
159 2009, 2012; Sousa 2014).

160

### 161 **Methodological approach**

162

163 This paper draws on 13 months of ethnographic fieldwork carried out by JS over  
164 five years (2009-2013) in Cantanhez (see Figure 1). Data were collected within the  
165 scope of a larger research project adopting a mix-methods approach using both  
166 ethnographic and quantitative data collection methods.

167



168 [Add Figure 1 about here]

169 Figure 1 – Cantanhez National Park in Guinea-Bissau.

170

171 In this paper we draw directly on information from 45 in-depth qualitative  
172 interviews conducted by JS with key informants in Cantanhez to explore local views  
173 about NGOs, the Park and sorcery. Rapport had already been established between  
174 the interviewer and local people as a consequence of JS having already completed  
175 13 months of ethnographic fieldwork at this site. As noted by Dury et al., (2011) and  
176 Albuquerque et al. (2014), qualitative approaches can enable the researcher to  
177 access socially sensitive information, as was the case in this study.

178 Key informants included leaders of associations, elders recognised as  
179 knowledgeable about local oral history, people recognised as magically skilled,  
180 members of founding lineages, chieftains and village chiefs, healers and preachers,  
181 hunters, and people involved in protests, as well as those acquainted with cases of  
182 witchcraft and of people harmed by chimpanzees.

183 Further information was gathered during participant observation and informal  
184 conversations. Interviews were held in Guinea Kriol, the *lingua franca*. This approach  
185 to data collection provided access to a deeper understanding of existing tensions  
186 between local people, NGOs and the Park. The research was approved by the  
187 University Research Ethics Committee (UREC), Oxford Brookes University on 2  
188 October 2009.

189

190

191 RESULTS

192

193 In Cantanhez, animals were portrayed as creatures that exist independently of  
194 people, but also as actors that are enmeshed within the human social world. Local  
195 farmers often refer to chimpanzees as intelligent animals that feed on crops but do  
196 not waste harvests (see Sousa 2007, Hockings and Sousa 2013). Chimpanzees are  
197 also said to feed on crops only when they are hungry or when they like a certain crop  
198 such as orange, cashew or honey (see Bessa 2014, Bessa et al. 2015 for a study on  
199 the dietary habits of a chimpanzee community in Cantanhez). Indeed, previous  
200 studies from Cantanhez have highlighted portrayals of people-chimpanzee  
201 interactions as one of peaceful coexistence (Sousa 2007, Karibuhoye 2004,  
202 Hockings and Sousa 2012). However, the context-specific nature of these narratives  
203 becomes clear when negative views about chimpanzee crop feeding behaviour are  
204 expressed whenever the Park is evoked (see Sousa 2014). To explore this more  
205 fully, we examine local narratives about negative interactions between chimpanzees  
206 and people in this landscape.

207 We identify two major types of local narratives used to frame chimpanzees in  
208 their encounters with humans. In the first one, the 'bush' chimpanzee or 'clean  
209 chimpanzee' (*dari limpu*, Guinean Kriol), is perceived as a frightening but essentially  
210 predictable animal that will not attack people without provocation. Chimpanzees in  
211 Cantanhez are not specifically known for attacking people, but there were two  
212 attacks of this nature recorded during fieldwork. One involved a man being  
213 hospitalised for more than a month after he shot a female chimpanzee feeding on his  
214 orchard. The second event was a consequence of a hunter harassing chimpanzees  
215 in the forest. Both episodes were reported as a chimpanzee retaliating to persecution  
216 and the injured people had to be hospitalised for medical treatment.

217        However, the situation becomes more complex when an animal shows certain  
218 physical or behavioural characteristics that signal it is ‘not simple’, as people in  
219 Cantanhez say, but a human in animal form. This corresponds to the narrative of the  
220 ‘unclean chimpanzee’ (*dari ka limpu*, kl) or ‘shape-shifted chimpanzee’ (*dari bidadu*,  
221 kl). Shape-shifted chimpanzees are distinguished by their all-too-human behaviours,  
222 such as the ability to speak people’s language, or apparent groundless reasons for  
223 harassing or attacking people (Sousa et al. 2017). As an interviewee described,  
224 shape-shifted chimpanzees are ‘people who shape-shift into chimpanzees to commit  
225 crimes’. We have gathered 11 reports of chimpanzee witchcraft in southern Guinea-  
226 Bissau (Sousa, 2014): four in the Boé region and seven in Tombali region (five of  
227 these collected in Cantanhez). Each incident was confirmed by several people and  
228 all informants explained them as being attacks by a person shape-shifted into a  
229 chimpanzee. Three attacks comprised physical threat only (i.e., the recipient was not  
230 harmed), four referred to actual attacks that resulted in injury (i.e., the victim received  
231 scratches or bites), three involved human deaths, and another the disappearance of  
232 a child.

233        More recently, there have been reports of chimpanzee attacks on children in the  
234 Empada sector, in Quinara region. Four cases of children being injured by  
235 chimpanzee were reported in August 2006 (e-Global 2016) and the national  
236 newspaper *O Democrata* reported that there have been seven chimpanzee attacks  
237 to children between October and December 2016 and, of these, six were considered  
238 serious by the hospital doctors (O Democrata 2016). JS interviewed one of the  
239 children who had his leg, face and hands bitten and lost several toes during the  
240 attack. The child identified the attack as witchcraft. Three months had passed since

241 the attack, the child was reticent to talk about the episode, and indeed reports of  
242 traumatised children, prone to suggestion from adults, should be taken with caution.

243 For the interviewees, sorcerers (those doing the shapeshifting) were recognised  
244 as attacking members of their own family or those belonging to their social networks.  
245 Such actions allow sorcerers to benefit at the expense of others, while at the same  
246 time reinforcing their relationships within the society of sorcerers. Sorcery  
247 accusations serve as interpretations of undesired events, making someone  
248 responsible for a loss or a misfortune. For example, in Cantanhez, in 2010 an elderly  
249 woman, regarded by many as a sorcerer, was reported to shapeshift into a snake to  
250 bite her nephew who was taking care of his absent father's cashew orchard.  
251 Rumours suggested the woman wanted control of the revenue from the orchard.  
252 Another example refers to a man who was accused of belonging to a sorcerers'  
253 society and of spying on the local NGO at farmers' meetings where people criticised  
254 the Park (full report in Sousa et al 2017). Sorcery accusations work at a certain level  
255 of social intimacy in which accusations of sorcery are frequently linked to the  
256 perceptions of selfishness, excessive greed or the abuse of power.

257 The description below refers to a chimpanzee attack initially represented as  
258 chimpanzee sorcery by neighbours of the victim (i.e., an attack by an 'unclean'  
259 chimpanzee), but the victim herself (an adult woman, ≈ 40 years old) suggested a  
260 different interpretation of the event when she later recounted the event to JS: 'I went  
261 to get bunches of oil-palm fruits, and my son saw a chimpanzee in a tree. I thought  
262 we should avoid it by going a different way. However, surprisingly, there were many  
263 chimpanzees there too. A chimpanzee hid behind a tree and grabbed me, it  
264 scratched my neck and I thought it would take me to the forest. A man was cutting

265 bunches nearby and he came to help me out. When the man came the chimpanzee  
266 let me go' (Aua, pseudonym, early 2011).

267         Upon further enquiry, it transpired that Aua was unsure whether it was a  
268 shape-shifted chimpanzee or not. However, she reported that she was going to send  
269 a message to the head of the NGO to tell him that his chimpanzees were harming  
270 people, an action consistent with her interpreting the event as being caused by a  
271 'bush' chimpanzee. This incident of chimpanzee aggression was perceived by  
272 neighbours as the outcome of sorcery since in their view there was no reason for the  
273 attack. Initially Aua was uncertain whether the incident involved a bush or shape-  
274 shifted chimpanzee, but on reflection indicated that the attack had been led by a  
275 bush chimpanzee, but with the caveat that she held the head of the NGO  
276 responsible for what had happened to her. The head of the NGO lived and worked in  
277 the capital Bissau, only visited Cantanhez occasionally for scheduled events and  
278 was thus rarely present locally (see Sousa et al. 2017 for a detailed discussion of the  
279 social implication of witchcraft locally).

280         Since 2009, JS has recorded community guards asking for (though not receiving)  
281 salaries, uniforms and boots, and local people requesting meetings with the heads of  
282 conservation organisations. Nothing appeared to happen in response to these  
283 requests until 2013. In 2007, local people staged a strike, preventing tourists  
284 entering local forests, and forest signs indicating the names of the forests were  
285 removed by disgruntled local people. The Chieftains and other local leaders were  
286 accused of being in support of conservation projects and overlooking their  
287 responsibilities towards local people (Sousa 2014, Sousa et al. 2017, Temudo 2005,  
288 2009, 2012). Additionally, only about a third of the 15 local tourist guides, originally  
289 trained by a local NGO, have generated any income through tourism, and thus direct

290 benefit from the Park, since 2010-2011. In 2011, in a public meeting, several farmers  
291 demanded a share of the funds generated by the local hotel where tourists are  
292 hosted, and a voice in the hotel's management; the hotel is managed by a local  
293 NGO. Perhaps not surprisingly the majority of people express dissatisfaction and  
294 exclusion because the benefits they expected to receive as a result of the initial  
295 agreement made between local leaders and NGO officials, have not been  
296 forthcoming, The following quote from a farmer, recorded in 2011, illustrates this  
297 broader sense of grievance with the Park: 'We gave them the forests. What did they  
298 give us? Nothing! Don't you ever tell me about conserving forests!'

299

## 300 DISCUSSION

301

302 Local understandings of wildlife, particularly those associated with religious and  
303 ritual meanings (e.g. see Neto et al. 2011, for Brazil) and medical uses (e.g. see  
304 Benítez 2011 for Spain) can be difficult for western-trained conservationists to fully  
305 comprehend (Alves et al. 2012). Meanings attributed to animals in witchcraft, like  
306 those described in this paper, are probably not exceptional (for a discussion about  
307 culture and conservation from a conservationist's point of view, see Dickman et al.  
308 2015). In fact, conservation may also be similarly difficult to understand, and be a  
309 cause of concern and consternation for local people. For example, in Zanzibar, a  
310 proposal to reintroduce a leopard population classified as extinct caused concerns  
311 among local people because the idea of reintroducing leopards linked to memories  
312 of leopard-keeping and witchcraft (Walsh & Goldman 2012). Similarly, Richards  
313 (2000, p.78), describes that while interviewing young people about conservation in

314 Sierra Leone, he encountered some who 'expressed alarm that protection for  
315 chimpanzees provided cover' for chimpanzee witchcraft.

316 Proximity between chimpanzees and people in Cantanhez is expressed through  
317 sharing of physical space, portrayals of a common past in oral history: oral tradition  
318 in Cantanhez claims that the first chimpanzee was once a blacksmith who was  
319 transformed by God into a bush animal; and through shape-shifting and thus sorcery.  
320 Despite these multiple meanings in local people's framings, the idea of 'chimpanzee'  
321 in nature conservation discourse corresponds only to the chimpanzee as a forest  
322 (bush) animal. However, because of the intimate, secretive nature of narratives  
323 around sorcery, which often imply conflict within the family, attacks from 'shape-  
324 shifted' chimpanzees very likely go unreported to outsiders.

325 In Cantanhez, nature conservation has become politically significant and  
326 implicated in local governance. Beginning in the 1990s and continuing to the present  
327 day, there have been social tensions between the local conservation NGO and local  
328 residents (Temudo 2005, 2009, 2012, Sousa 2014). Nature conservation is seen as  
329 a restriction inflicted upon people for the sake of chimpanzee welfare, similar to what  
330 Jalais (2008: 36) described as a perceived 'unequal distribution of resources  
331 between humans and tigers'. Nature conservation in Cantanhez is thought to defend  
332 chimpanzees at the expense of local farmers; at the same time those who belong to  
333 nature conservation circles are perceived to benefit, while local people expressed  
334 keen feelings of being disenfranchised and excluded.

335 There is an extensive literature on witchcraft in African contexts, and more  
336 broadly (Geschiere, 2013), and despite the differences in contexts and discourse,  
337 accusations of witchcraft are often directed towards individuals who are thought to  
338 have benefitted at the expense of others through immoral/inappropriate means,

339 including those challenging culturally accepted norms of reciprocity, and/or those  
340 abusing others through alliances with more powerful individuals.

341 Unwarranted, violent attacks by chimpanzees are subject to local interpretation  
342 and are analysed in regard to specific, social contexts. Animals are not perceived as  
343 mean or vindictive in their essence. Either the attacker is perceived as a shape-  
344 shifted chimpanzee and the sorcery narrative is invoked within intimate circles of  
345 sociability, or the attack is perceived as undertaken by a 'clean' or 'bush'  
346 chimpanzee that is protected by nature conservation legislation and then the  
347 accusation is directed at those holding senior managerial positions in chimpanzee  
348 conservation. In this sense, different natures – the bush chimpanzee (as a protected  
349 chimpanzee) and the unclean chimpanzee (as sorcerer) are both subjects in critical  
350 assertions of expropriation and violence. By creating programmes based on unequal  
351 divisions of benefits and duties, nature conservation strays into both highly  
352 stigmatised political ground and socially fraught terrain that deserves more careful  
353 consideration.

354

## 355 ACKNOWLEDGEMENTS

356

357 Our deep appreciation to the field assistants of this research as well as to the  
358 people who received JS in their homes. We acknowledge Fundação para Ciência e  
359 Tecnologia (SFRH/BD /45109/2008), Rufford Small Grants Foundation, Primate  
360 Society of Great Britain for the funding, and Institute for Biodiversity and Protected  
361 Areas for institutional support. We are grateful to Prof. James Fairhead, Dr Matthew  
362 McLennan and Dr Amanda Webber for their helpful comments on earlier drafts.

363



364

365 **References**

366

367 Alves RRN., Rosa IL., Neto NAL. & Vocks R. (2012) Animals for the Gods: magical  
368 and religious faunal use and trade in Brazil. *Human Ecology* **40**: 751-780.

369 Bessa J., Sousa C. & Hockings KJ. (2015) Feeding ecology of chimpanzees (*Pan*  
370 *troglydytes verus*) inhabiting a forest-mangrove-savanna-agricultural matrix at  
371 Caiquene-Cadique, Cantanhez National Park, Guinea-Bissau. *American*  
372 *Journal of Primatology* **77**: 651–665

373 Bird-David N., Abramson A., Altman J., Bicchieri M. G., Burch ES., Ember CR.,  
374 Endicott KM., Grinker RR., Gudeman S., Ichikawa M., Ingold T. & Wenzel G.  
375 W. (1992) Beyond 'The original affluent society': a culturalist reformulation.  
376 *Current Anthropology* **33**: 25–47

377 Casanova C. & Sousa C. (2007) National action plan for the conservation of the  
378 chimpanzee, red western colobus and black and white western colobus  
379 monkey populations in Guinea-Bissau Republic.

380 Costa S., Casanova C. & Lee P. (2013) The good, the bad and the ugly: perceptions  
381 of wildlife in Tombali (Guinea-Bissau, West Africa). *Journal of Primatology* **2**:  
382 1–7

383 Dickman AJ. (2010) Complexities of conflict: the importance of considering social  
384 factors for effectively resolving human–wildlife conflict. *Animal Conservation*  
385 **13**: 458–466

386 Dickman A., Johnson PJ., Kesteren F. & Macdonald DW. (2015) The moral basis for  
387 conservation: how is it affected by culture? *Frontiers in Ecology and the*  
388 *Environment* **13**: 325-331.

- 389 Draheim M., Madden F., McCarthy JB. & Parsons C. (2015) *Human-wildlife conflict:*  
390 *complexity in the marine environment*. Oxford: Oxford University Press
- 391 Drury R., Homewood K. & Randall S. (2011) Less is more: the potential of qualitative  
392 approaches in conservation research. *Animal Conservation* **14**: 18-24.
- 393 Geschiere P. (2013) *Witchcraft, intimacy and trust*. Chicago and London: The  
394 University of Chicago Press
- 395 Giles-Vernick T. & Rupp S. (2006) Visions of apes, reflections on change: telling  
396 tales of great apes in Equatorial Africa. *African Studies Review* **49**: 51–73
- 397 Gippoliti S., Sousa C. & Embalo D. (2004) Guiné-Bissau. In: *Chimpanzés d’Afrique*  
398 *de l’Ouest. Etat de Conservation de l’espèce et plan d’action*, eds. R. Kormos  
399 C. Boesch H. I. Bakarr & T. M. Butynski, pp. 73–78. Groupe de spécialistes  
400 des primates de la CSE de l’UICN.
- 401 GRASP (2005) Global strategy for the survival of great apes and their habitat [WWW  
402 document]. URL [http://www.unesco.org/mab/doc/grasp/e\\_globalStrategy.pdf](http://www.unesco.org/mab/doc/grasp/e_globalStrategy.pdf)
- 403 Hill CM. (1997) Crop-raiding by wild vertebrates: The farmer’s perspective in an  
404 agricultural community in western Uganda. *International Journal of Pest*  
405 *Management* **43**: 77–84
- 406 Hill CM. (2015) Perspectives of ‘conflict’ at the wildlife–agriculture boundary: 10  
407 years on. *Human Dimensions of Wildlife* **20**: 296–301
- 408 Hockings KJ. & Sousa C. (2012) Differential utilization of cashew—a low-conflict  
409 crop—by sympatric humans and chimpanzees. *Oryx* **46**: 375–381
- 410 Hockings KJ. & Sousa C. (2013) Human-Chimpanzee Sympatry and Interactions in  
411 Cantanhez National Park, Guinea-Bissau: Current Research and Future  
412 Directions. *Primate Conservation* **26**: 57–65

413 Hockings K.J., Yamakoshi G., Kabasawa A. & Matsuzawa T. (2010) Attacks on local  
414 persons by chimpanzees in Bossou, Republic of Guinea: long-term  
415 perspectives. *American Journal of Primatology* **72**: 887–896

416 Jalais A. (2008) Unmasking the cosmopolitan tiger. *Nature and Culture* **3**: 25–40

417 Karibuhoye C. (2004) Mammal conservation status and prospects for community-  
418 based wildlife management in coastal Guinea-Bissau, West Africa.

419 Knight J. (2000) Culling demons: the problem of bears in Japan. In: *Natural enemies:*  
420 *people–wildlife conflicts in anthropological perspective*, ed. J. Knight, pp. 145–  
421 169. London: Routledge.

422 Köhler A. (2000) Half-man, half-elephant. Shape shifting among the Baka of Congo.  
423 In: *Natural enemies: people-wildlife conflicts in anthropological perspective*,  
424 ed. J. Knight, pp. 50–73. London: Routledge.

425 Leischer C., Sanjayan M., Blockhus J., Kontoleon A. & Larsen SN. (2000) *Does*  
426 *conserving biodiversity work to reduce poverty? A state of knowledge review*.  
427 The Nature Conservancy; University of Cambridge; The Poverty and  
428 Conservation Learning Group

429 Macfie E.J. & Williamson E.A. (2010) *Best practice guidelines for great ape tourism*.

430 Marvin G. (2010) Wolves in sheep's and other clothing. In: *Beastly natures: animals,*  
431 *humans and the study of history*, ed. D. Brantz, pp. 59–78. Charlottesville &  
432 London: University of Virginia Press.

433 McLennan MR. (2008) Beleaguered chimpanzees in the agricultural district of  
434 Hoima, Western Uganda. *Primate Conservation* **23**: 45–54

435 McLennan MR. & Hill CM. (2010) Chimpanzee responses to researchers in a  
436 disturbed forest-farm mosaic at Bulindi, western Uganda. *American Journal of*  
437 *Primatology* **72**: 907–918

438 McLennan MR. & Hockings KJ. (2016) The aggressive apes? Causes and contexts  
439 of great ape attacks on local persons [WWW document]. In: *Problematic*  
440 *Wildlife*, ed. F. M. Angelici, pp. 373–394. Springer International Publishing.  
441 URL [http://link.springer.com/chapter/10.1007/978-3-319-22246-2\\_18](http://link.springer.com/chapter/10.1007/978-3-319-22246-2_18)

442 Mendes N. & Serra A. (2002) As medidas de leंबरém sobre a co-gestão das 14  
443 matas de Cantanhez.

444 Naughton-Treves L. (1998) Predicting patterns of crop damage by wildlife around  
445 Kibale National Park, Uganda. *Conservation Biology* **12**: 156–168

446 O Democrata. 2016. Chimpanzés voltam aos ataques ferozes contra crianças em  
447 Empada. 7 December. Available in:  
448 [http://www.odemocratagb.com/chimpanzes-voltam-aos-ataques-ferozes-](http://www.odemocratagb.com/chimpanzes-voltam-aos-ataques-ferozes-contra-criancas-em-empada/)  
449 [contra-criancas-em-empada/](http://www.odemocratagb.com/chimpanzes-voltam-aos-ataques-ferozes-contra-criancas-em-empada/)

450 Redpath SM., Gutierrez RJ., Wood KA. & Young JC. (2015) *Conflicts in*  
451 *conservation. Navigating towards solutions*. Cambridge: Cambridge  
452 University Press

453 Richards P. (1996) Chimpanzees, diamonds and war. The discourses of global  
454 environmental change and local violence on the Liberia-Sierra Leone border.  
455 In: *The future of anthropological knowledge*, ed. H. L. Moore, pp. 140–155.  
456 London, New York: Routledge.

457 Richards P. (2000) Chimpanzees as political animals in Sierra Leone. In: *Natural*  
458 *enemies: people-wildlife conflicts in anthropological perspective*, ed. J. Knight,  
459 pp. 78–103. Oxon: European Association of Social Anthropologists.

460 Sá R., Ferreira da Silva MJ., Sousa F. & Minhós T. (2012) The trade and  
461 ethnobiological use of chimpanzee body parts in Guinea-Bissau: implications  
462 for conservation. *TRAFFIC Bulletin* **24**: 31–34

- 463 Sarró R. (2009) *The politics of religious change on the Upper Guinea Coast.*  
464 *Iconoclasm done and undone.* Edimburgh University Press
- 465 Sousa J. (2014) Shape-shifting nature in a contested landscape in Guinea-Bissau.  
466 (PhD). Oxford Brookes University, Oxford. 245[372] pages.
- 467 Sousa J., Barata AV., Sousa C., Casanova CCN. & Vicente L. (2011) Chimpanzee  
468 oil-palm use in southern Cantanhez National Park, Guinea-Bissau. *American*  
469 *Journal of Primatology* **73**: 485–497
- 470 Sousa J., Vicente L., Gippoliti S., Casanova C. & Sousa C. (2013) Local knowledge  
471 and perceptions of chimpanzees in Cantanhez National Park, Guinea-Bissau.  
472 *American Journal of Primatology* **76**: 122–134
- 473 Sousa, J., Hill, CM. & Ainslie, A. (2017) Chimpanzees, sorcery and contestation in a  
474 protected area in Guinea-Bissau. *Social Anthropology*. ISSN 1469-8676
- 475 Temudo MP. (2005) Western beliefs and local myths: a case study on the interface  
476 between farmers, NGOs and the State in Guinea-Bissau rural development  
477 interventions. In: *Between a rock and a hard place: Africa NGOs, Donors and*  
478 *the State*, eds. J. Igoe & T. Kensall, pp. 253–277. Durham: Carolina Academic  
479 Press.
- 480 Temudo MP. (2012) ‘The white men bought the forests’: conservation and  
481 contestation in Guinea-Bissau, Western Africa. *Conservation and Society* **10**:  
482 354–366
- 483 Temudo MP. (2009) A narrativa da degradação ambiental no Sul da Guiné-Bissau:  
484 uma desconstrução etnográfica. *Etnográfica. Revista do Centro em Rede de*  
485 *Investigação em Antropologia* **13**: 237–264

486 Walsh M. & Goldman H. (2012) Chasing imaginary leopards: science, witchcraft and  
487 the politics of conservation in Zanzibar. *Journal of Eastern African Studies* **6**:  
488 727-746

489 Woodroffe R., Thirgood S. & Rabinowitz A. (2005) *People and Wildlife, Conflict or*  
490 *Co-existence?* Cambridge: Cambridge University Press

491 Wrangham R., Wilson M., Hare B. & Wolfe ND. (2000) Chimpanzee Predation and  
492 the Ecology of Microbial Exchange. *Microbial Ecology in Health and Disease*  
493 **12**: 186–188

494