

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](https://doi.org/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

CentAUR

Central Archive at the University of Reading

Reading's research outputs online

1 **Sorcery and nature conservation**

2

3 JOANA SOUSA^{1,2}, ANDREW AINSLIE³, CATHERINE M HILL¹

4 ¹Anthropology Centre for Conservation, Environment and Development, Oxford

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

6 ²Department of Geography and Environment, Geneva School of Social Sciences,

7 University of Geneva, Switzerland

8 ³International 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 Taï (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 *troglodytes 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'IUCN.
- 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
- 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 Sympathy 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 EA. (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
- 442 Mendes N. & Serra A. (2002) As medidas de lemberém 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->
449 [contra-criancas-em-empada/](http://www.odemocratagb.com/chimpanzes-voltam-aos-ataques-ferozes-)
- 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*. Edinburgh 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