

**On the rocks: using discourse analysis to examine relationships between
Barbary macaques (*Macaca sylvanus*) and people on Gibraltar.**

Short title: Discourse analysis and people-macaque relationships

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Abstract

Primates are difficult to categorise due to some of the human-like characteristics they possess. Here, we examine the complexities that exist in a commensal relationship between an introduced population of Barbary macaques and local human populations on Gibraltar. In Western culture, much has been done to recognise primates' human characteristics while simultaneously focusing on keeping them at a metaphorical distance. In the context of Gibraltar's Barbary macaques, primates' anomalous status causes a duality of perception whereby the macaques' position makes them both more frustrating and perceived as more worthy of protection. We examine the language used by Gibraltar residents about the macaques, interpreting statements using discourse analysis to reveal the complexities of people's perceptions of the macaques. Our results indicate that Barbary macaques on Gibraltar occupy a perceptual context of internal conflict in which they are viewed both with pride and a sense of ownership as well as with mistrust and fear. The relationship between people and Barbary macaques on Gibraltar is complex, and while sensitisation programmes and awareness-raising efforts exist, we recommend greater collaboration with residents to prevent the development of more intense negative human-macaque interactions.

Introduction and Background

Commensalism and The Barbary Macaque

The Barbary macaque (*Macaca sylvanus*) is the only macaque species outside Asia and the only African primate north of the Sahara. Classified as Endangered [Butynksi et al. 2008], its remaining wild populations in Morocco and Algeria are thought to number between 8,000 - 10,000 individuals in total [IUCN Red List 2017]. In addition to the wild population, a small population introduced to Gibraltar by the 18th century, numbers around 200 individuals [Fuentes et al. 2007]. The Barbary macaque population in Gibraltar is commensal, meaning the macaques gain a nutritional benefit from living close to humans [Webber 2017]. Many primate genera such as *Macaca* and *Papio* are seen to exhibit behaviours that fit with the definition of commensalism, with multiple examples from the literature illustrating the impacts this has on both macaques and humans [Wheatley 1999, Singh and Rao 2004, Southwick and Siddiqi 1994, Priston and McLennan 2013]. The study of commensalism is important not only for its inherent value in contributing to the fields of conservation, anthropology and ethnoprimateology, but also for its capacity to elucidate the ways in which people develop or lose tolerance for wildlife, and how human-wildlife conflict can be prevented or managed [Webber 2017]. The term 'commensal' implies that one party is neither harmed or benefited from the interaction, and while there is no resource competition between humans and macaques in Gibraltar, we show that the human population is affected by feelings of frustration towards the macaques.

Ethnoprimateology "mandates that multiple stakeholder approaches (including other primates) be included in behavioral, ecological, and conservation research with other primates" [Fuentes, Cortez and Peterson 2016, p1]. By examining the factors underpinning local attitudes to Barbary macaques in Gibraltar, we align our approach with ethnoprimateological tenets and contribute to the growing body of research using ethnoprimateology and ethnography to develop an understanding of human-wildlife conflict and create more

effective ways to manage that conflict. This examination of the discourse also allows us to assess whether Gibraltar's Barbary macaques can truly be described as commensal.

Study Site: Gibraltar And Its Primate Residents

Gibraltar is a British Overseas Territory which occupies a 5km x 1.2km peninsula on Spain's Mediterranean coast. It was a symbol of British strength, and an important factor in Britain's access to its colonies, from its formal secession to Britain from Spain in 1713 until the 20th century. After this time, as Spain increased efforts to 'decolonise' Gibraltar, its residents remained steadfast in their desire to retain their "Britishness"; referenda in 1967 and 2002 saw close to 100% of voters reject Spanish sovereignty and joint sovereignty, respectively [Rodriguez 2014]. Historically, Gibraltar's main sources of income were tourism, re-export of goods, and the military - though the latter declined from the late 20th century onwards, and expansion of tourist facilities was undertaken to compensate.

The first written record of Barbary macaques on Gibraltar dates from 1704 [Fa 1981], and the population has remained on Gibraltar since that time, with a current population of around 200 individuals [Fuentes et al. 2007]. From the 19th century until the mid-1990s, the macaques formed two main groups. Management of the population on Gibraltar has taken varied forms, with culling, removal of individuals, and some 're-stocking' from Morocco, though the last incidence of this was recorded during World War II, when Winston Churchill ordered that the numbers be increased from four to 24 [Fa 1981; Greer 2009]. For most of the 20th century, the macaques were the responsibility of the military, who provisioned the animals and conducted a daily count. This arrangement was put in place due to complaints about the damage caused by the macaques when they ventured into town, and was designed to prevent them wandering in search of food [Burton and Sawchuk 1974]. While the macaques, particularly one group at Queen's Gate (Figure 1), have been visited regularly by tourists since 1936 [Fa 1984], the promotion of the 'Gibraltar apes' as a tourist

attraction from the 1960s led to a significant increase in tourism during the 1980s and 1990s. This coincided with the British military decreasing its presence on Gibraltar, the economic pressures of which forced the Gibraltar government to seek a more self-sufficient, sustainable economic strategy; namely tourism [Archer 2006]. This impact was felt by taxi drivers and tour guides and, in turn, brought about these parties' illegal provisioning of macaques in new areas [Perez and Bensusan 2005]. This contributed to group fissioning, and by 2004, the 250 macaques on Gibraltar at that time were living in six established groups [Fuentes et al. 2007]. This represents a marked increase from the two main groups that were present from the 19th century until the mid-1990s.

In 1991, the government of Gibraltar, via the Gibraltar Tourism Agency and various contractors, took over macaque management from the military, continuing provisioning the animals. From 1999 until the present day, the feeding, care and management of Gibraltar's macaque population has been undertaken by the Gibraltar Ornithological and Natural History Society (GONHS), under an agreement with the government of Gibraltar [Perez and Bensusan 2005, Fuentes et al. 2007]. The provisioning now takes place in five locations, with grains and a variety of fruits and vegetables given every day. Despite this, the macaques' ranging behaviour has changed in recent years, with one group beginning to spend large amounts of time in a waste dumping area, where they are tolerated by workers and are therefore able to make free use of a novel foraging opportunity [Fuentes et al. 2007]. Some groups have also increased the amount of time spent at the fringes of human habitation. As highly plastic foragers, deliberate provisioning and the growing presence of accessible rubbish has influenced the macaques' behaviour, and this has been an important contributing factor with regard to human-macaque interactions on Gibraltar.

The macaques hold a special position in the sociocultural fabric of Gibraltar, being both the subject of legend and a key part of Gibraltar's tourist economy. The Great Siege of Gibraltar

from 1779-1783 saw ongoing military activity by Spain and France on British Gibraltar, with attacks coming from both land and sea. One such attack, according to the legend, was foiled when the macaques, disturbed by noises in the night, raised the alarm and made the night watch aware of their impending peril. This gave rise to the legend that as long as Barbary macaques remain on Gibraltar, it will remain under British rule [Cortes and Finlayson 1988].

On present-day Gibraltar, macaques and humans have an intricate interplay; tourists are still drawn to the monkeys, and local taxi drivers use the animals as a way of advertising tours of the area [Fuentes et al. 2007]. Completing the circle, the continued success of tourism on Gibraltar motivates the government to provide care for the macaques, collaborating to provide them with food and clean water. This relationship is not without its issues; in 2012, 59 people required hospital treatment following attacks by Barbary macaques, and British and Gibraltarian newspapers and magazines are a ready source of recent information about holidays ruined by monkey attacks resulting in hospitalisation, stitches and infections. Less dramatic, but no less important, are the daily interactions between Gibraltar's residents and the macaques who enter town, attracted by readily available food [Perez and Bensusan 2005]. We focus specifically on the latter issue, using discourse analysis to establish a picture of the complicated interplay between individuals, Barbary macaques, and society on Gibraltar. This contributes to our understanding of human relations with commensal macaques, particularly as they play out through social media. It also raises questions about the use of the term 'commensal' in cases where one party is affected outside the sphere of resource competition, and highlights the usefulness of ethnographic data in understanding whether or not two parties are truly commensal.

Macaque Management

While the military was in charge of Gibraltar's macaques, they carried out culls of animals who presented a threat to people or their property and managed inter-group aggression in

the same way. These culls were unpublicised, leaving the public to assume the macaque population was naturally stable [Perez and Bensusan 2005]. It was only when the Gibraltar Tourism Agency and its contractors took over responsibility for the macaques that the resulting population increase raised questions about previous population management strategies. Between 1991 and the early 21st century, sporadic culls were used to remove 'surplus' animals and maintain the population at around 200 individuals. This approach was highly controversial and drew criticism from researchers, primate sanctuaries and the public, but was employed as a last resort when wildlife parks or zoos were unable to provide space for groups [Schiermeier 2003, Nash 2008]. The most recent cull took place in 2009, and fears that it would be required again five years later were allayed when a safari park in Scotland agreed to rehome a group of 30 macaques, the 'Middle Hill Troop' who occupied an area between the top of the Rock and the town (Figure 2). This group had become unpopular, and even feared, for their regular visits to people's bins and gardens, and were moved to Blair Drummond Safari Park in late 2014 [McGinty 2014].

In addition to the GONHS and the government of Gibraltar, there are other key stakeholders who need to be considered when studying current perceptions of Barbary macaques on Gibraltar. A social media campaign, "Monkey Talk – Gibraltar", was founded in 2012 to '[work] with the public in order to change people's perceptions of our much misunderstood macaques'. This organisation runs 'macaque familiarisation outings' to give members of the public the opportunity to gain a better understanding of Barbary macaques than they might get from hearsay or popular opinion. The campaign and its founder have become well-known, and the "Monkey Talk – Gibraltar" Facebook page has over 2000 members. In addition, the "Helping Hand Trust" is GONHS' sister charity, and was founded in 1994 with a focus on the research and protection of dolphins. It began collaborating in the management of Gibraltar's macaques in 1999. The Macaque Team (also known as the Monkey Team), puts out food and water for the macaques each day, and can also be called out by members

of the public if they are concerned about macaques in their residential area and want the Macaque Team to try to move them back to the nature reserve.

Discourse analysis

Discourse analysis can take several forms, depending on the level at which the discourse is being examined. For this study, we used ethnography of communication – the research approach by which communication and culture are considered not separately but in tandem, and communication is analysed within the wider context of a group's social and cultural practices [Hymes 1962]. This approach enabled us to elucidate some of the ways in which the discourse around Gibraltar's macaques reflects and is influenced by the complex human-animal divide and the macaques' 'transgressions' [Sibley 1995] of the boundary between human and animal.

Methods

We collected our data from the public Facebook group "Monkey Sightings", which was established in December 2013 by a Gibraltar resident as a forum for members of the public to record sightings of macaques in residential areas. The group has 1,742 members, and between its inception and the time of our data collection in June 2016 had received almost 1000 posts from members concerned about the macaques' whereabouts, behaviour and welfare. We used social media as a data source because field research involving ethnographic interviews or participant observation has associated costs (travel; accommodation; translators, in some cases) which can be prohibitive. We therefore aimed to demonstrate how freely available data via social media can be used for relevant and important ethnographic analysis.

Using open source online software, sociograph.io (HaHashmonait 2016), we exported group posts made between 29 December 2013 and 24 June 2016. This facilitated easier

organisation and analysis of posts, and produced basic statistics on the numbers of posts and types of posts (photos, text posts, or comments). We then looked for themes arising from the data, coding it to establish a picture of attitudes to the Barbary macaques on Gibraltar. Themes were emergent rather than imposed, arising from repeated phrases across contexts. The saturation point when no new concepts emerged was used to ensure we had an adequate sample size and that coding could be replicated by an independent researcher. This analysis - identifying themes as they emerge from the data instead of doing so prior to data collection - is rooted in the grounded theory approach [Tadie and Fischer 2013, Waters 2014]. Qualitative analysis is designed to capture the kinds of information not expressed through quantitative data, and offers greater opportunity to understand the complexities inherent in the formation of attitudes and motivations [Dury et al. 2011]. It is therefore far more useful and appropriate than quantitative analysis for understanding the meaning behind the words used to describe Barbary macaques on Gibraltar and the public's experience of them.

Ethics

While all information posted to Facebook is technically publicly available, ethical questions can be raised over the use of personal data that might be thought by its original poster to be private by virtue of it being shared only to their chosen circle of Facebook 'friends' [Zimmer 2010]. However, the Facebook group "Monkey Sightings" is a public group; its administrators have not chosen to enable any of the privacy settings which would make it 'closed' or 'secret', and anybody can join the group and read its content. All data for this study was taken from posts in the public group, and no names are mentioned in the analysis. This meets the NIH criteria for Exempt Human Subjects Research; Exemption 4 - "research involving the collection or study of existing data or specimens if publicly available or information recorded such that subjects cannot be identified" [NIH 2017].

We ensured that all analysis preserved the anonymity of posters, and there was no long-term storage of individual posts by the research team.

Results and Discussion

Macaque Location

Of the 968 posts made in the “Monkey Sightings” group between 29 December 2013 and 24 June 2016, 849 were relevant to this study. The others were administrative posts, concerning only the addition of members to the group. By far the most frequent theme to come out of the data was the macaques’ location. 273 out of 849 posts focused on this, with descriptions and photos illustrating their presence in urban areas. Many of these posts referred to the macaques being out of place, with pleas for those deemed responsible for them to do more to keep them in the ‘right place’. Seventeen (17) of the posts specifically referred to the macaques’ presence in town as an ‘invasion’, ‘incursion’, or ‘siege’, and many group members also indicated an opinion that it is hunger or lack of proper care that drives the macaques into town.

Mount Alvernia is under siege by monkeys, but you probably already know that.

Anon, March 2014

I would like them in their habitat, fed and cared for! They come down due to lack of food and water!

Anon, March 2014

270 *INVADED. Just before 1pm I heard some thuds on my roof...around 7 or 8*
271 *descended on my roof and 3 attempted to jump onto my terrace...at one point I was*
272 *surrounded and if I backed down they would for sure get in my house.*

273 Anon, February 2014

274
275
276 **Responsibility and Blame**

277 The second most common theme was that of the authorities and their responsibility to deal
278 with problems caused by the macaques, with many group members expressing a desire to
279 report macaques being in residential areas or causing damage to their property. Many of
280 these posts referenced or directly 'tagged' individuals from the government or NGOs while
281 others referred simply to 'government'.

282
283 *Question: Why doesn't the government hand over all care and control to the Army?*
284 *The gib army used to care of them before and we didnt have any of the problems we*
285 *are having now.*

286 Anon, January 2014

287 *I'm nearly 60, I've never had monkeys till 3 years ago, I built my house improvements*
288 *without factoring in the damn monkeys. Why should I suffer when in all my previous*
289 *28 years, there has been no monkey activity round my house?*

290 Anon, February 2016

291
292 *The monkeys at Laguna Estate again and even going on scaffoldings to enter the*
293 *houses. They have also been at Landport. Where are the environmental officers - oh*
294 *they work 9-5 so miss when they come down and when they go back lol This is a*
295 *joke!*

296 Anon, May 2015

297

298 *The root of the problem is lack of care for our Macaques and the need to have a*
299 *primatologist employed within the ape management team!*

300

Anon, April 2014

301

302

303 While many group members seem knowledgeable about the macaques and their
304 opportunistic nature as foragers, setting this aside when arguing that hunger is driving the
305 macaques into urban areas makes it easier to shift blame - as demonstrated by the quotes
306 above - towards the authorities. Knight [2010] explains how human conflicts can be
307 projected on to wildlife, with realities of animal threats exaggerated when those animals
308 come to symbolise a human conflict such as domination by one group over another. In this
309 case, there is evident dissatisfaction with those parties tasked with managing the macaques;
310 they are seen not to work appropriate hours or to have the relevant expertise. While it is true
311 that the macaques have a tangible effect in terms of damage to property, the frustration felt
312 by members of the “Monkey Sightings” group is exacerbated by a feeling of abandonment by
313 the authorities who should be preventing these problems. Telephones going unanswered
314 and environmental officers who work outside the hours at which the macaques are most
315 obviously present in urban areas create a human conflict – people feel unheard and become
316 less willing to overlook the macaques’ opportunistic foraging, arguing instead that the
317 authorities responsible should be just that – more responsible, more attentive and more
318 present when needed.

319

320 Many discussions also focused on bins and overflowing litter, with praise for initiatives to
321 keep bins in monkey-proof cages, and consternation about residents who leave bags of
322 rubbish out in the streets regardless of the introduction of the new bins. There are still
323 suggestions that the monkeys need to be controlled in some way, regardless of any new
324 way of storing rubbish. One member commented that it would be ‘easier to train monkeys

than people', and some members think the rubbish is just a symptom of the larger problem of a macaque population growing too large for its habitat.

What is the point of the cages if people not only dump food outside but also don't close gate and leave it open.

Anon, April 2014

The monkeys take advantage of our negligence, we can't blame them, they use what they see - but PEOPLE are contributing to this so much just by being lazy, unhygienic and antisocial.

Anon, March 2014

No it is people for sure! But the monkeys need to be controlled!

Anon, March 2014

Why oh why? We should be controlling the monkeys and educating the people not putting our rubbish in cages.

Anon, March 2014

I'm sorry to hear about your ordeal - I have seen people who are locals feeding the apes with their children so I am not surprised that this is happening. I blame the government for this as not enough measures are being done quick enough. They need to implement them now! More food to be put up the upper rock, plant fruit, nut and vegetables to encourage them to forage, sterilise females and males, stiff fines for feeding and dumping of rubbish and an ongoing management of this.

Anon, January 2014

353 *It is ridiculous to blame rubbish. People have lived on the Rock for hundreds,*
354 *thousands of years and they have always produced rubbish. What has never been*
355 *seen before is packs of monkeys living among humans as they are now. The ideal*
356 *would have been to stop breeding that went on over the years but it hasn't been done*
357 *or has not worked. Our only solution now is to export or cull a few packs to the point*
358 *where we have only the packs with territories on the Upper Rock.*

359 Anon, January 2014

360
361 *Part of the problem is the bin issue, but a major problem is that there are too many*
362 *packs. Each pack needs a certain area to live and roam and now they are roaming*
363 *into the Town area.*

364 Anon, January 2014

365
366 While many group members seem knowledgeable about the macaques and their
367 opportunistic nature, setting this aside when arguing that hunger is driving the macaques
368 into urban areas makes it easier to shift blame towards the authorities, who are seen to be
369 neglecting their responsibility to control the macaques. In this case, the expression of
370 frustration at the macaques seems to fulfil two social determinations of human-wildlife
371 conflict. Firstly, animals can act as a symbolic expression of a conflict between people [Song
372 2000, Knight 2010]. In the case of Gibraltar's Barbary macaques, people who feel unheard
373 by authorities feel increasing frustration with the macaques; they have ideas about how to
374 improve the situation, but they can't get enough of a response from the people with the
375 power to enact these solutions. Would damage to property be more easily forgiven if the
376 property owners felt their voices were being heard, or if someone apologised?

377
378 Secondly, human-wildlife "conflict" can be a tool for social aggregation [Douglas 1992],
379 where a natural threat acts as an instrument of social integration and its moral construction
380 upholds community values. In the case of the "Monkey Sightings" group, community values

of pride in one's surroundings and respect for property are reinforced repeatedly by the macaques' transgressions of these values, and by the humans who aid these transgressions with their misuse of litter facilities or ignorance of the problems caused by feeding the macaques.

Packs of Monkeys?

As is evident in some of the quotes above, the macaques are often referred to as moving in 'packs', endowing them with predatory characteristics as if they are dogs or other canids. In September 2014, a British zoo keeper posed a question in the group, asking why the term 'pack' is used. The answers reveal that the terminology is no accident.

They've been called packs in Gib for as long as I can remember. Today's lot at my house were as aggressive as a pack of dogs, too.

A large group of them mauled my cat today, so right now I don't care about the correct terminology. A flock of owls is also called a parliament, and to my mind these monkeys work as a pack, not a troop.

In all the posts we evaluated, there were seven times as many instances of the word 'pack' as 'family', and the uses of 'family' were in posts with a focus on the writers' interest in the macaques' behaviour at a time when they were moving through town with young infants. It seems clear that the use of 'pack' to describe Gibraltar's macaques is motivated not by lack of knowledge, especially as many group members are self-professed admirers of the work of "Monkey Talk – Gibraltar" to educate people about the macaques. Primates can be classified as 'anomalous animals' due to their close resemblance to humans in both morphology and behaviour [Knight 2000, Ohnuki-Tierney 1987, Waters et al. this issue]. While some anomalous animals are classified this way due to their physical form, others

cross the boundary between human and animal by entering human spaces [Knight 2000]. Primates engage in this behaviour when they raid crops from fields, fruit from markets, or plants from gardens and balconies, and by their nature, commensal primates more frequently cross the human-animal boundary. Anomalous animals are often also classified as pests; they are 'matter out of place' when in the wrong context or in inappropriate numbers [Putman 1989, Priston and Lee 2005]. While the actions of pest animals such as crop-raiding monkeys or pigs can cause economic damage, where boundary-crossing also takes place, the picture becomes more complex, and conflict cannot be resolved without understanding all the factors contributing to the animal's classification as a pest or problem animal [Dore et al. this issue]. As we show here, the picture in Gibraltar is not a straightforward one, and the language used to describe the macaques is easy to misinterpret if not examined with an ethnographic lens. The use of the word 'pack', therefore, is borne of frustration with an animal that is not staying 'in its place' and observing the boundaries expected of it as a wild animal. This leads to the macaques being endowed with human attributes such as wilful misdemeanour, theft and vandalism when describing their presence in houses, gardens and shops.

These pics were taken outside the Trafalgar Sports Bar this Thursday at 4 pm. They were mingling with tourists and passersby, eyeing everyone for possible goodies, (even one on lookout duties up the lamppost!)

Anon, January 2014

Despicable vandals!

Anon, January 2014

*Quite why they throw my plants off the roof terrace is beyond me... Seems very like
wanton destruction.*

Anon, October 2015

*I think it's their idea of fun, I hope someone is trying to do something to get them
back to their own environment.*

Anon, October 2015

*I got off the bus at Shorthorn in Europa Road this afternoon. In front of me was a
fairly 'big daddy ape' sauntering on his own. He was obviously bored 'cos he got hold
of a wing mirror on a parked car and tried to wrench it off. I "tchcht" at him and he
looked at me like a naughty child, thought better of his mirror wrenching and
sauntered off.*

Anon, September 2014

Our Macaques

While over 100 of the coded posts mentioned frustration, anger and fear, almost half as
many (n = 40) referred to the macaques with a sense of ownership and empathy. The
description of the macaques as 'ours' is most evident when people perceive the authorities
to be providing less than adequate care for them. This sense of ownership seems tied into a
feeling of pride at being Gibraltarian, a pride which is under threat when Gibraltar's iconic
mammal is causing such concern.

*I think most of us understand - we love our macaques, but we don't love how they
disrupt our lives, often aggressively, and we don't love knowing that the reason they
are doing that so massively of late is just because they are not getting what they*

464 *need up the Rock from those who are supposed to be there to care for them, keep*
465 *them healthy but keep them wild. Monkeys have always come to see what's on offer*
466 *here in the town, but never quite like this. I'm fed up with hearing platitudes, I live in*
467 *hope that one day someone will come up with a solution for both the macaques and*
468 *us.*

469 Anon, March 2014

470
471 *You shouldn't blame the monkeys, you should blame the government for not*
472 *caring/looking after them.*

473 Anon, February 2014

474
475 *Half seven pm and our Monkeys in Laguna Estate again, climbing in scaffolding in*
476 *Smith Dorien House! When is government going to change the ape care to a team of*
477 *people who will truly care for our monkeys! Lack of care is amazing!*

478 Anon, March 2014

479
480 *I wish people would stop complaining about the apes they are the symbol of Gibraltar*
481 *and have been here as long as we can remember the dogs make more mess on*
482 *pavements than the apes ever do anywhere in town if people would put the rubbish*
483 *in the bins properly they wouldn't come down.*

484 Anon, March 2014

485
486 Though members of the group are clearly angry about the damage the macaques cause to
487 property, they also feel empathy towards them and have no desire to see them eradicated.
488 There were six occasions where rumours of potential macaque culls circulated in the group,
489 and all were met with outrage.

490

Controlled yes, but that does not mean culling them. If locals cause problems, we do not say lets kill some people. Again people speak with no reason/logic. The apes are beautiful. Need to hand fines to people to feed them. Also fine the dirty people who live here, who do not understand how to throw rubbish.

Anon, Jan 14

There is a vicious attempt from some cruel people calling for a cull. I would prefer to cull the dirty people, but no that would be wrong. Hence its wrong for our apes.

Anon, Jan 14

Giving to the army to care and employ a primatologist would be the answer! Not culling!

Anon, Jan 14

Agree culling should not happen - what should happen is investment in the care of our apes and a good management plan. Also to include contraception and capturing them to tattoo their numbers so that we have up to date records!

Anon, Dec 13

I am totally against any culling but all for a good management and i hope this group is not one thats for the culling but management.

Anon, December 2013

The underlying frustration is with members of the public who are less conscious of the macaques and do not ameliorate the situation by controlling their own behaviour. Although the macaques are endowed with some human characteristics, it is clear that humans themselves are still expected to be more capable of taking responsibility for their actions and avoiding the exacerbation of problems. Frustration is increased when it seems that

responsible parties are not taking action, or are taking action which is 'incorrect'. For example, there is clear frustration regarding the environmental officers' 9-5 working hours, which often lies outside the time at which people feel most affected by the macaques.

Primates are difficult to categorise due to some of the characteristics they possess [Hill and Webber 2010, Waters et al. in press], and in Western culture there is a focus both on recognising primates' human characteristics, and keeping them at a metaphorical distance [Corbey 2005, Waters et al. in press]. Primates are more likely to become stigmatised than other species, as their ambiguous characteristics make it difficult to maintain the strict boundaries between animal and human [Douglas 1966, Nyanganji et al. 2010]. In the context of Gibraltar's Barbary macaques, we see that the monkeys inspire anger and frustration with their less 'human' behaviours. This frustration deepens when they are not penalised, as a human would be, for certain transgressions, but are protected, seemingly at people's expense. When there is any mention of culling in traditional media posts shared to the group by its members, it is faced with revulsion, as the macaques' ambiguity comes into play and they are perceived as somehow more than 'animal', and therefore an inappropriate target of a cull.

Tourism

Of 251 posts containing negative comments, only 13 referred to tourism as a factor in the macaque situation. Most comments blaming tourists for feeding the macaques or dropping litter were quickly addressed by others pointing out that local people are just as culpable in these complaints, if not more so.

I have seen local with buggies feeding not just tourists

Anon, January 2014

I have to say that there are so many bad parents in Gib, yes BAD. Who do not understand basic values. I see them everyday throwing their rubbish on the floor, with their children next to them.

Anon, January 2014

Though Gibraltar's economy is significantly tourist-driven, it is too simplistic to assume that this is the reason for frustration with tourists being such a small part of the discourse around Gibraltar's macaques. If tourism's effect on the economy is uppermost in people's minds, it would be expected that the macaques, themselves a driver of Gibraltar's success as a destination, would be 'let off' more lightly for spreading into urban areas, when in fact, there is no mention of this in the group. Perhaps frustration with tourists is minimised by their transitory nature; expectations for them are reduced, and as outsiders, they are forgiven for their lack of knowledge about how to deal with macaques. Local residents, however, should take pride in Gibraltar; they should deal with their litter appropriately and consider the needs of those who will be disproportionately affected by macaques, encouraged by readily available extra food, spreading into urban areas. A study from Singapore revealed that residents reported more problems with long-tailed macaques than tourists did, but held overall neutral views of the macaques, despite experiencing occasional raids by macaques on their properties [Sha et al. 2009]. Several researchers have shown that adult male macaques are more likely than females or juveniles to engage with tourists, especially in aggressive encounters [Hsu et al. 2008, Fuentes and Gamerl 2005, Fuentes 2006]; this is reflected in complaints about adult male Barbary macaques in the "Monkey Sightings" group, demonstrating the impact felt by residents when tourism inures primates to a range of human interaction.

Relocation

The plan to relocate a group of 30 macaques to Blair Drummond Safari Park was met with tentative positivity in comparison to rumours of culling, but still regarded as a temporary fix.

There was also disappointment that only 30 macaques were due to be relocated, as some had hoped that the macaque population would be reduced to 100 or fewer individuals. The frequency of posts in the group decreased after the relocation, but the members who continued to post expressed frustration that they were still seeing macaques around residential areas, even after a group had been relocated.

Let us remember that exporting is a very wise decision but only a quick fix! What we need is better professional care for our Macaques! Time for change, new management team for new management plan!

Anon, January 2014

A point that I do not think anyone will argue is that if there were less than 100 monkeys, there would probably be none in town or Caleta. Their feeding grounds and playground on the Upper Rock would be enough.

Anon, February 2014

We still have Apes in Laguna Estate everyday and in Landport so which apes were exported?

Anon, October 2014

Well well it was to good to be true, for the last 3 days we have the monkeys back.

Anon, January 2015

Can they take another pack from Alameda Estate. ASAP. Please.

Anon, October 2014

The frustration felt by group members with the macaques, and with other people's behaviour is ameliorated by positive experiences with authority figures. In August 2015, one member acknowledged that the 'people who keep an eye on the monkeys' were responsible for a decrease in problems in her area, despite the bins in the area remaining 'as disgusting and unkempt as ever'. Another resident commented in November 2014 that having people patrolling their estate had stopped the macaques visiting it, while still another thanked the 'government' for listening to their concerns. There is much in the literature which also reflects the complex relationship between control, power and the human-wildlife interface. When a group perceives itself as vulnerable in relation to another, whether in terms of wealth or of power, conflict can be exacerbated [Dickman 2010] and the trust needed to work towards conflict solutions can be hard to establish [Hough 1988]. An example from Tanzania demonstrates that people's perceptions of crop-damage by wildlife are affected by their relationship with the state wildlife management authority [Gillingham and Lee 2003] and in Botswana, the ongoing effects of centralised wildlife management mean that rural people still see wildlife as the ultimate responsibility of the government, making it hard to engender a sense of ownership or connectedness to wildlife [Boggs 2000].

Conclusion

Qualitative analysis of social media discourse about Gibraltar's Barbary macaque population elucidates the value of exploring beneath the surface when examining factors influencing the interface between human and non-human primates. While at face value, the members of the "Monkey Sightings" group are preoccupied with the tangible effects of macaques in urban areas – the damage to property and the inconvenience of protecting belongings from unwanted animal visitors – a detailed exploration of their discourse reveals the deep-seated frustration of people who feel their concerns are not heard or are not a priority. When authority figures respond to their concerns - even if they cannot solve the problem - the impact of the macaques' presence seems easier to deal with. The clear frustration with other

local people who have less regard for avoiding issues with the macaques is harder to ameliorate; if the macaques were removed from the picture, we suspect the issues would continue, but would be reframed. However, the frustration seems to come from a lack of control - there is little to be done about other people's bad habits, if even the introduction of new bins and hefty fines cannot change them. The frustrations are exacerbated by the difficulty in categorising the macaques; seen as neither completely animal or completely human, the macaques' behaviours are difficult to excuse on the basis of their difference to humans but cannot be punished on an equal footing with humans either. The conflict could be managed by giving interested residents control in a manner that is not dependent on the success or failure of fines, litter management, or the removal of the macaques by culling or export. The "Monkey Sightings" group contains a wealth of information about the macaques, including hundreds of photos, and group members demonstrate concern for the macaques' wellbeing. We recommend engagement with group members as a starting point for improved communication. This could further be achieved by increasing public participation in meetings about the macaques, perhaps via regular sessions with recognised figures who can listen and discuss concerns in person or of formalising residents' data collection by inviting a more official record of macaque sightings, numbers, and movements. Increasing the residents' power means that while the macaques may remain largely unchanging in their behaviour and resistance to categorisation, the people currently frustrated by these factors will be able to categorise themselves as part of the solution.

Our analysis also reveals that the Barbary macaques on Gibraltar cannot be classified as truly commensal while the difficulties surrounding the human-primate interface remain. This may have implications for the commensal classification applied to other primate populations globally.

Disclosure Statement

We understand Folia Primatologica's declaration of interests and declare that we have no competing interests.

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