Threatened wild mammals persist in Cameroonian community forests, but for how long?

By Sophie Jane Tudge, 3rd February 2022

The rainforest in south-eastern Cameroon is home to a wonderfully diverse community of mammals. However, wild mammals in Cameroon are under threat from hunting and habitat loss. In Central Africa, wild meat is often the main source of protein for rural communities, but unsustainable levels of hunting can decimate animal populations. Deforestation rates also continue to rise in Cameroon, and in 2020 c. 100,000 ha of primary forest were lost.

The Dja Biosphere Reserve is a large protected area in southern Cameroon known to house some of the region’s most well-recognised mammals, such as forest elephants, gorillas and chimpanzees. However, the Reserve is bordered by an increasing number of production forests (where logging can take place), leading to heightened human activity, habitat loss and hunting.
Community forests are an alternative land management tool in Cameroon. Unlike production forests, these are managed by local communities. Their aim is to achieve sustainable management of local natural resources for both people's livelihoods and nature conservation. They are mainly focused on timber extraction, but also permit subsistence hunting of non-protected species, and are found throughout Cameroon, with several close to the border of the Dja Biosphere Reserve.

Despite the potential for community forests to reconcile biodiversity conservation and socio-economic development in forest areas, effective biodiversity monitoring within community forests in Cameroon is rarely carried out, and measurements of the social impacts of community forests are also scarce, although becoming more common. This lack of data means we still don't know how well community forests can actually support both biodiversity conservation and socio-economic development.

Crossing the Dja River.

To provide important baseline ecological data on the status of the mammal community within a community forest in south-eastern Cameroon, my co-researchers and I surveyed wild mammals between August–November 2017. We deployed thirty camera traps within and just outside the community forest, which neighbours the Dja Biosphere Reserve. From the resulting photographs, we identified which mammal species used the community forest and whether human activity was influencing individual species or the community as a whole. Our results can be used to inform future wildlife monitoring and conservation management within the local area.

We identified 24 mammal species, including six species of conservation concern. However, most of the large-sized mammals that you would expect to find in this region, and that have been recently spotted within the adjacent protected area, were not detected. These included forest elephants,
bongos, forest buffalos, leopards and giant ground pangolins. While the lack of detections of some species may be because of the need for more specialised surveys, the overall depletion of larger-bodied mammal species within the community is a characteristic sign of hunting-related wildlife declines.

Setting off from the village within the community forest to check some camera traps.

The species of conservation concern that we did detect were western lowland gorilla, Central African chimpanzee, tree pangolin, putty-nosed monkey, yellow-backed duiker and bay duiker. The persistence of these species within the community forest could be a good sign that they are able to tolerate current levels of human disturbance surrounding the Reserve. On the other hand, we also found that two of the most commonly hunted species, brush-tailed porcupine and giant pouched rat, preferred habitat closer to the protected area, where there are fewer people. A lack of survey data for past or present levels of hunting means current species population sizes or trends remain unclear. Thus, we are unable to make conclusions about the health of remaining populations, or about how long they are likely to persist.
Camera trap images from left to right western lowland gorilla, tree pangolin & Central African chimpanzee.

Our work has shown that community forests in Cameroon can harbour important mammalian biodiversity, although our study area already showed signs of the negative impacts of hunting. In the time between carrying out our fieldwork and publishing our results, the IUCN Red List statuses of tree pangolin, putty-nosed monkey, forest elephant, giant ground pangolin, forest buffalo and white-bellied duiker were all updated to reflect a greater risk of extinction. These species, and others within the Central African rainforest, are clearly experiencing population declines and unsustainable levels of threat, highlighting the pressing need for action to prevent further biodiversity loss in this region. Ongoing monitoring of biodiversity and its threats, including hunting, will be essential for targeting future conservation efforts and for safeguarding the integrity of these forests for future generations.

All photos: Steph Brittain

The article The impacts of human activity on mammals in a community forest near the Dja Biosphere Reserve in Cameroon is available in Oryx—The International Journal of Conservation.
Sophie Jane Tudge

Sophie Jane Tudge is a PhD student at the University of Surrey, UK, where she is exploring biodiversity conservation in forest-agriculture mosaic landscapes in West Africa. This blog post is based on research that began during her master’s degree at Imperial College London and the Institute of Zoology, London, and it forms part of a wider project investigating hunting and wildlife monitoring tools in Cameroon. She is interested in tropical forest ecology, land-use change, sustainable agriculture, wildlife hunting and biodiversity monitoring.