

Is 2020 the year when primatologists should cancel fieldwork? A reply

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Abstract

The aim of this article is to explore the impact of coronavirus disease (COVID-19) pandemic on primate-related conservation work. The withdrawal of primatologists and conservation staff from field research can lead to a number of detrimental effects not just on conservation but also on local communities in low- and middle-income countries. Inequalities in access to health and financial insecurities may be drivers for the illegal wildlife trade and the lack of tourism and research activity may allow poachers to work with greater ease. The paper also looks at how conservation organizations and research bodies should modify their field protocols by developing robust occupational health policies that will not only make field work safer but also support local staff as they are likely to face the greatest threats to their physical health, psychological health, and economic loss from COVID-19. By adopting a One Health approach that considers the complex interactions between human and primate health, researchers will be able to find new ways of working not only to protect primates but understand how they adapt to the COVID-19 pandemic.

KEYWORDS

conservation, COVID-19, field work, one health

There is little doubt that the novel coronavirus disease (COVID-19) pandemic will have a long-term impact on how and when we return to conservation-based field work. In the absence of a cure or a vaccine for COVID-19 measures such as the mass lockdown of populations, social distancing, and public education to follow activities such as handwashing may be the best option, we have in mitigating the spread of the disease (Lewnard & Lo, 2020). But, a bigger and more complex challenge remains in remote conservation landscapes in low- and middle-income countries (LMIC) where access to even the most basic healthcare is limited (Ma, Vervoort, Reddy, Park, & Makasa, 2020). The commentary by Dr Michael Reid (Reid, 2020) articulates some important concerns around the risk of conducting primate field work at this time. Mostly, he discusses the need to minimize the risk of COVID-19 transmission to primates as well as highlighting the potentially serious dangers to not only primates but researchers and local/indigenous communities who may all be at risk of a COVID-19 infection.

However, we should also consider the counter argument to this commentary to provide a balanced view of the potential negative impacts that the withdrawal of research activities may cause in fragile conservation landscapes. Conservation groups have already begun to highlight concerns about the potential impact of illegal wildlife activities arising as a result of the COVID-19 pandemic (Nag, 2020; World Wildlife Fund, 2020) These include poaching, with several rhinos having already succumbed to poachers in South Africa after the lockdown of parks there in late March 2020 (Vitale et al., 2020). Although one could argue that reduced human presence during the current pandemic would result in reduced illegal activity in protected areas, the visibility of park staff, tourist vehicles, and research field teams would also be reduced. There is a growing role for tourists to participate in conservation-related activities and visibility of these activities can act as deterrents to would be poachers (Ballantyne, Packer, & Hughes, 2008), while limiting these activities could allow

poachers to have greater freedom to travel without being noticed. Researchers who monitor primate activity are also likely to have a protective influence over the primates they are studying (Piel, Lenoel, Johnson, & Stewart, 2015). It is, therefore, possible that sudden and complete cessation of field work may further compromise the safety and surveillance of primate groups. This is especially important in areas where the local and indigenous communities are employed as field researchers, or park guards. As such, these individuals may be at risk from not only contracting COVID-19 but also face economic risks from the loss of their livelihoods due during the pandemic. Furthermore, increased illegal activity in the forest either through hunting for bushmeat or foraging as a result of the ensuing economic crisis may potentially increase the risk of transmitting COVID-19 between humans and primates, or result in an increase in human-wildlife conflict. A report from Madhya Pradesh in Central India reported 13 human deaths from wildlife attacks that had occurred in the 3 weeks following the lockdown in India and there have been accounts of forest guards who have been killed during patrols during following the COVID-19 lockdown (Naveen, 2020; Press Trust of India, 2020).

The COVID-19 pandemic may also help drive wildlife crime on the basis of claims that traditional remedies such as bear bile and tiger bone glue have been used as treatments for COVID-19 in South East Asia (Banks, 2020; Forbar, 2020). In 2019, the World Health Organization made the decision to include a chapter on traditional Chinese medicine (TCM) in the International Classification of Diseases (ICD-11) (World Health Organisation 2019). It is possible that this inclusion may be seen by some as a shift to legitimize the practice of TCM and it remains to be seen whether this decision to support TCM will fuel the illegal wildlife trade by promoting such remedies.

Another important consideration is the economic impact that research activities may have on local communities that heavily rely on tourism and research activity to survive. Research teams through research funding often employ local people to act as guides, porters, security staff, and field assistants. Although many researchers in developed countries may be furloughed where they retain some of their income during the pandemic, this may not apply to most developing countries. A loss of livelihood can be catastrophic for local communities who make a living from tourism, research, and conservation work. There is a risk that they may be forced to turn to other livelihoods such as illegal logging, hunting, and selling bushmeat to survive. It is important not to overlook the serious health and economic impacts that some indigenous communities will face in addition to the risk of contracting COVID-19 itself, especially given the growing evidence that some populations are at a higher risk of death following a COVID-19 and those of Asian, sub-Saharan African, and South American origin may be disproportionately affected. Given that these geographical locations are also key primate conservation areas this may be an additional concern for local field staff and research organizations (Bhala, Curry, Martineau, Agyemang, & Bhopal, 2020). These individuals are also unlikely to have access to even basic personal protection equipment or healthcare facilities that

could offer even basic screening for COVID-19 (Kelley et al., 2020). An ongoing study of over 1,097 forest staff conducted by the author in 14 tiger reserves in the Central Indian Landscape found significant healthcare inequalities in terms of access to health facilities. The authors found that for a serious emergency such as a snakebite, the forest staff would have to travel over 27.4 (13.1–39.2) km often in poor weather and across difficult terrain (Trivedy & Gadre, 2019). In these settings where healthcare facilities are limited, delivering interventions such as testing field staff for COVID-19 or developing protocols for quarantining may be challenging but an essential requirement in areas where staff may be working in close proximity to wildlife such as primates who may be especially susceptible to COVID-19 (Melin, Janiak, Marrone, Arora, & Higham, 2020).

Opportunities for social distancing or self-isolation may also be limited for those who are unwell due to poor housing conditions and even simple measures such as handwashing will be challenging given that 50% of the population in sub-Saharan Africa and Oceania were without access to water to wash their hands in 2019 (Brauer, Zhao, Bennett, & Stanaway, 2020). Any loss of income for these already vulnerable groups may push them not only into poverty but may also have significant effects on their psychological well-being, which again is a major challenge in LMIC settings. In addition, it may also push people who already have pre-existing mental health issues such as depression, anxiety, and posttraumatic stress disorders deeper into crisis. People living key primate areas such as Rwanda and Cameroon which have experienced violent conflict and may already have pre-existing mental health issues which may be exacerbated by the current pandemic (Rieder & Elbert, 2013; Sousa, Mohandas, & Javed, 2020).

Local field staff have extensive knowledge of the local terrains, the behavior of the primate groups and the social networks in the local communities, and they can play a vital role in information gathering and sharing with the authorities to prevent illegal wildlife activities. All possible steps should be taken to try and mitigate the negative health and economic impacts of COVID-19, particularly in communities that may already be marginalized and dependent upon the income from research activity till a time where it is deemed safe for them to continue with field work and their normal duties are restored.

Currently, there is no consensus of when it will be safe to return back to fieldwork. However, it is possible that the pandemic may drag on chronically with sporadic global resurgence well beyond 2020. It is important that research organizations use the current hiatus in field research to review their long-term operational strategies, which not only consider the safety of primates and researchers but also safeguard the health and economic impact on local staff and their families. This is also the ideal opportunity for research organizations to strengthen their One Health approach to field work, especially as primates are likely to be vulnerable to human diseases (Melin et al., 2020). Research organizations should also consider testing all field staff for COVID-19 before deployment to reduce transmission but this itself may create logistical and financial challenges for research organizations working in LMIC where the access to reliable

COVID-19 testing facilities are limited. It is therefore essential that organizations review their occupational health policies and develop effective COVID-19 protocols in light of the pandemic so that their field staff are not only safe to work in the field but to also minimize the risk of transmitting the COVID-19 within the local community as well as the primates they are working with. This is where collaboration with public health and occupational health organizations could be developed and even cost into future funding applications to cover the cost of implementing this study.

There is no doubt that we are entering a phase of uncertainty over the coming months and years where the key question of “when is it safe for researchers and primates to share the same space” unanswered at present. Investing in remote digital monitoring technologies that may reduce the burden for face-to-face interactions may be useful in some situations. However, this may pose its own challenges in many primate landscapes. Although this commentary has focused on the potential dilemmas facing primatologists, this will be applicable to conservationists working with many other species. A recent study looking at the COVID-19 receptor site angiotensin 1 converting enzyme 2 (ACE2) in a dataset of 410 vertebrates including 252 mammals found that the primates and humans were at a very high risk of ACE2-related COVID-19 binding sites and that other mammals such as the orca, narwhal, giant anteater, and reindeer were considered as high risk (Damas et al., 2020). Although it should be noted that the study has been published before peer review, there is growing circumstantial evidence that COVID-19 may affect other species and the recent discovery of a tiger at Bronx zoo has ignited the debate about the cross infectivity between species (Daly & Lichtenstein, 2020).

Despite these uncertain times, we need to be vigilant but remain hopeful that by strengthening our commitment to developing a One Health approach and broadening our collaborations, we can continue with research that is essential to secure the future of not only of primates but also safeguard the health safety of primatologists, researchers, and the local indigenous communities. It is likely that it will be these local communities that will bear the brunt of any health as well as economic burdens of the COVID-19 pandemic and conservation groups should look to engage with these communities to provide financial security to make sure that the conservation staff are not forced to turn to alternative livelihoods, which can put them and wildlife at risk.

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