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## Bats and COVID-19 - separating facts from fiction

Given the huge impact that the COVID-19 pandemic has had on people across the world, questions have naturally been raised about where this new virus came from. In a rush to find answers, bats were initially blamed in a number of media sources. As a group that is already feared, misunderstood and frequently persecuted, that information has been difficult to set straight, even when backed by science. While people around the world are working together to prevent the spread of COVID-19, misinformation has led to bats being blamed and heavily persecuted. Unfortunately, we are getting widespread reports that individuals, communities and government authorities are evicting and even killing bats, in a misguided attempt to prevent the spread of this disease. This is making the already difficult job of conserving bats in Africa even harder. The following document is a joint statement from Bats without Borders (BwB) and Bat Conservation Africa (BCA), both of which are committed to the conservation of African biodiversity and bats in particular. Below we summarise the current facts about COVID-19, to protect both people and bats:

1. There is **no evidence that COVID-19 originated in bats**. Currently, the source of the first human transmission of COVID-19 is still unknown. Reports from the site indicate that no bats were sold at the wildlife market in Wuhan, China. Bats were initially blamed because a virus (Bat CoV RaTG13) found in one insectivorous horseshoe bat species in China in 2013 is a relative of SARS-CoV-2, the virus that causes COVID-19. These viruses are estimated to have diverged 40-70 years ago (Boni *et al.* 2020), meaning that the two viruses are distant relatives. Scientific investigations are now pointing to a chain of events that may have involved a bat but most likely only through an intermediate animal species.
2. Regardless of origin, which we may never know, this **pandemic is primarily due to human behaviour**. Wildlife wet markets bring together an array of wild animals, in stressful and confined conditions, that would not normally occur. This creates an environment conducive to the spread of disease. Consumption of these wild animals (such as bats, pangolins, and even primates) puts human health at risk by providing an opportunity for the virus to potentially spillover from non-human animals to humans.
3. **Bats do not spread COVID-19**. COVID-19 is a human disease and as such it is being transmitted from person to person. Bats do not carry SARS-CoV-2 and people cannot get COVID-19 directly from bats. Killing and evicting bats **will not prevent the spread of COVID-19** but it will have unnecessary and detrimental impacts on bat populations. The

priority to prevent the spread of COVID-19 is to follow the guidelines from global health organisations, such as the World Health Organisation ([WHO](#)), including the practice of social distancing and appropriate hygiene practices.

4. Globally, there are over **1,450+ bat species**, contributing to ~20% of mammalian biodiversity. An estimated **25%** of bat species are **threatened with extinction** and need our help. Across Africa, we have an incredible diversity of over 300 species. Yet despite important mammalian diversity, Africa is considered to be a bat conservation-void. We need to be doing a lot more to protect our important allies and safeguarding Africa's immense biodiversity. **Killing bats will adversely affect the conservation status of bat populations** across Africa and **will not protect people against COVID-19**.
5. Bats provide **enormous benefits** including pollination, seed dispersal, and pest and disease-vector control, worth billions of dollars annually. In Africa, bats pollinate important species such as the iconic baobab tree and also consume large numbers of insect pests (e.g. stink bugs, a major pest species of macadamia plantations); and disease vectors, such as mosquitoes.
6. Pre-COVID-19, bats were already heavily persecuted due to being misunderstood and undervalued. As **bats are largely unprotected across Africa** outside of protected areas, we urge governments and policy-makers to take a more active role in protecting bats given their importance in terms of biodiversity and ecosystem services. It is also worth noting that Africa's second largest fruit bat, the **straw-coloured fruit bat** (*Eidolon helvum*) is **protected under** the [Convention on the Conservation of Migratory Species of Wild Animals \(CMS\)](#) because this important long-distance migratory species is threatened by severe deforestation, unsustainable hunting for bush meat and persecution. CMS is an environmental treaty by the United Nations to develop collaborations across borders to protect vulnerable migrating species. Most countries across Africa are signatories to this treaty and as such have an international obligation to protect this species, which is currently being highly persecuted.
7. In relation to human-bat conflict, there are **no poisons registered for killing bats**, therefore it is illegal to kill any bats using poison. This includes individuals and industry. Any pest control company killing bats with poisons, will be doing so illegally and can be prosecuted. Likewise, in some countries (such as South Africa) if companies are found to be illegally killing bats, the CEO can also be charged with criminal activities.
8. Due to human impacts, including rampant deforestation, agricultural expansion and urban spread many bat species have adapted to living in urban environments, such as our gardens and urban parks. **Bats are shy creatures who avoid human contact**, and therefore do not pose any threat to humans in their natural environment. Like most wild animals, bats carry some diseases but there is no risk to humans unless you handle bats. To protect people and

bats we strongly advise against handling bats, unless you are appropriately trained to handle bats, have had pre-exposure rabies vaccinations and wear suitable gloves.

9. It is worth recalling that a similar **misdirected focus** occurred at the height of the 2006 avian influenza, with calls for widespread culling of migratory waterbirds and the draining of their wetland habitats. We know from this experience that such actions do not work but also cause **harm to protected species**.
10. **Human behaviour and our impact on the natural environment must be addressed**. The result of such behavior can, in the most extreme case, lead to the global pandemic we are experiencing now.
11. BwB and BCA continue to **advocate for the conservation of all bats** and to protect them from persecution as they are an essential part of both natural and anthropogenic ecosystems.

We would like to thank and acknowledge the [CMS](#) (Convention on the Conservation of Migratory Species of Wild Animals), [EUROBATS](#) (Agreement on the Conservation of Populations of European Bats), [AEWA](#) (Agreement on the Conservation of African-Eurasian Migratory Waterbirds), [BCT](#) (Bat Conservation Trust) and [GBatNet](#) (Union of Global Bat Diversity Networks) for information that helped us to write this statement. These and links to other articles have been provided in the 'Further reading' section below.

### Further reading

Andersen *et al.* (2020). [The proximal origin of SARS-CoV-2](#). Nature Medicine 26, 450–452.

Akpan (2020). [New coronavirus can spread between humans—but it started in a wildlife market](#). National Geographic.

Bat Conservation International (2020). [BCI's FAQ on Bats and Covid-19](#).

Bat Conservation Trust (2020). [COVID-19 and Bats](#).

Bat Conservation Trust. [Relationship between bats and disease](#).

Becker (2020). [Human impacts and the spillover of zoonotic viruses](#). GBatNet blog.

Boni, Lemey *et al.* (2020). [Evolutionary origins of the SARS-CoV-2 sarbecovirus lineage responsible for the COVID-19 pandemic](#). Biorxiv, 1-25.

Burton (2020). [Coronavirus: should we be afraid of bats?](#) Geographical.

CMS (2020). [Facts about bats and COVID-19](#). Notification to the Parties joint statement by CMS, AEWa and EUROBATs.

Dávalos, L.M. (2020). [What we know and don't know about the origins of SARS-CoV2](#). GBatNet blog.

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Frankel (2020). [Opinion: Far from Being our Enemies, Bats Need Protection now more than ever](#). CMS.

Grandcolas and Justine (2020). [Covid-19 or the pandemic of mistreated biodiversity](#). The Conversation.

Ingala and Morales (2020). [Killing Bats Won't Help Prevent Disease, But Here's What Will](#). GBatNet blog.

Lam *et al.* (2020). [Identifying SARS-CoV-2 related coronaviruses in Malayan pangolins](#). Nature (pre-publication).

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Lentini *et al.* (2020). [No, Aussie bats won't give you COVID-19. We rely on them more than you think](#). The Conversation.

Lindahl and Grace (2015). [The consequences of human actions on risks for infectious diseases: a review](#). Infection Ecology & Epidemiology 5, 1-11.

Lohan and Frick (2020). [Speak Up for Bats — Even in the Pandemic](#). The Revelator.

Mollentze and Streicker (2020). [Viral zoonotic risk is homogenous among taxonomic orders of mammalian and avian reservoir hosts](#). Proceedings of the National Academy of Sciences 117, 9423-9430.

Plowright *et al.* (2017). [Pathways to zoonotic spillover](#). Nature Reviews Microbiology 15, 502–510.

Quammen (2020). [We Made the Coronavirus Epidemic](#). The New York Times.

Ramesh (2020). [Don't demonise bats, we need them: Researchers explain why 'mass hysteria' is uncalled for](#). The Print - Science.

Robins (2012). [The Ecology of Disease](#). The New York Times.

Stevens (2020). The Origins of SARS-CoV-2: Part 1. [Emergence of a new species](#). Benhur Lee Lab.

Stevens (2020). The Origins of SARS-CoV-2: Part 2. [Why is this virus so good at infecting and spreading among us?](#) Benhur Lee Lab.

VOX (2020). [How wildlife trade is linked to coronavirus](#) - expert speaker Peter Li points out in the video: "The majority of the people in China do not eat wildlife animals...".

Welbergen (2020). [No, Aussie bats won't give you COVID-19. We rely on them more than you think](#). The Conversation.

Wry (2020). [The truth about bats, revisited](#). GBatNet blog.

Wu *et al.* (2020). [A new coronavirus associated with human respiratory disease in China](#). Nature 579, 265-269.

#### Fact checking websites:

There is a lot of misleading information out there, we urge people to please check facts and do not share inaccurate and fear inducing misinformation. Thanks to the Bat Conservation Trust here are some websites to help check information:

[Full Fact](#) - UK's independent fact checking charity  
[Snopes](#)

Sites specifically for COVID-19 information:

[Misinformation Watch](#)

[Coronavirus: the science explained \(focussed on human health\)](#)

[FAIR website](#) provides guidance on how to detect bias in the news media