

COVID-19 drives new threat to bats in China

In China, bats are traditionally symbols of good luck and happiness (1). There are more than 1400 species of bats worldwide, but more than half of them have unknown or decreasing population trends (2). Unfortunately, the suggestion that coronavirus disease 2019 (COVID-19) may have originated in bats (3) is putting them at increased risk.

As COVID-19 has spread, people in China have started requesting that hibernating bats in or near their houses be expelled (4, 5). Disturbing hibernating bats causes abnormal arousal patterns (6), which could lead to high bat mortality and potentially to the spread of other viruses. Moreover, the captured bats are being released into the wild, which is not their native habitat (4), posing further threats to their survival. These decisions are not based in fact; COVID-19 was linked to horseshoe bats (3), which do not hibernate in cities in China (7). The reputation of bats as virus carriers has even led to extreme suggestions of mass slaughter to protect public health (8). The exaggeration of bats' negative traits without regard for their positive ones could ultimately lead to their needless and intentional elimination.

Bats serve many critical roles for the ecosystem. They are biological—and economical—pesticides (9), and they contribute to the pollination and seed dispersal for many important plants (10). They are also excellent subjects for studies on healthy aging, cancer prevention, disease defense, biomimetic engineering, ecosystem functioning, and adaptive evolution (11). The need for public education about bats, including their positive and negative impacts, is urgent and vital to their conservation.

Huabin Zhao

Department of Ecology, Hubei Key Laboratory of Cell Homeostasis, College of Life Sciences, Wuhan University, Wuhan, Hubei 430072, China. Email: huabinzhao@whu.edu.cn

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10.1126/science.abb3088

Travel restrictions violate international law

From China's lockdown of the city of Wuhan (1) to U.S. restrictions on travelers from Europe (2) to border closures across a widening range of countries (3), governments are increasingly seeking to limit freedom of movement in response to the coronavirus disease 2019 (COVID-19). These travel restrictions have slowed, but not halted, the spread of the pandemic ("The effect of travel restrictions on the spread of the 2019 novel coronavirus (COVID-19) outbreak," M. Chinazzi *et al.*, Research Articles, published online 6 March, p. eaba9757). However, the necessity and benefits of this public health response are outweighed by its violation of international law. Under the International Health Regulations (2005) (IHR), binding on all World Health Organization (WHO) member states, health measures "shall not be more restrictive of international traffic and not more invasive or intrusive to persons than reasonably available alternatives" [(4), art. 43]. Given the effectiveness of community-based public health measures such as social distancing (5) and contact

tracing (6), the necessity of travel bans must be weighed against less restrictive alternatives, increased global divisions, and violated IHR obligations (7).

The IHR seeks to govern how states can come together to address collective public health threats, whereas national travel bans drive nations apart through unnecessary economic isolation and rights violations. Although the IHR demands that health measures be implemented "with full respect for the dignity, human rights, and fundamental freedoms of persons" [(4), art. 3], travel restrictions unnecessarily infringe a range of basic rights related to the freedom of movement. In the COVID-19 response, systematic social distancing interventions recommended by WHO were bypassed in the rush toward emergency travel bans, limiting individual freedoms while stoking nationalist responses.

WHO has repeatedly praised the "aggressive" measures taken by governments (8), but forced restrictions on travel undercut the global solidarity that WHO seeks in responding to this common threat. Travel bans during past outbreaks have been found to have limited public health effectiveness (9), as the prevention of disease is inextricably linked to international cooperation and rights protections (10). Rather than implementing coercive travel restrictions, governments should follow WHO recommendations in realizing transparent governance, expanding testing capacity, and implementing social distancing to protect public health. The COVID-19 pandemic will test national systems, but the world is more secure when all national responses comply with both public health necessities and global health law.

Benjamin Mason Meier^{1*}, Roojin Habibi²,

Y. Tony Yang³

¹Department of Public Policy, University of North Carolina at Chapel Hill, Chapel Hill, NC 27599, USA.

²Global Strategy Lab, York University, Toronto, ON M3J 2S5, Canada. ³Center for Health Policy and Media Engagement, George Washington University, Washington, DC 20006, USA.

*Corresponding author. Email: bmeier@unc.edu

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10.1126/science.abb6950



COVID-19 has been linked to horseshoe bats, putting other bat species at risk.