

VIEWPOINT

The return of the elephants: How two groups of dispersing elephants attracted the attention of billions and what can we learn from their behavior

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1 | INTRODUCTION

In May–June 2021, wild Asian elephants, *Elephas maximus*, in Southwest China made global headlines when a herd of 15 trekked north toward the 8-million-person city of Kunming, while another herd of similar size moved south into a popular botanical garden. Both herds used to live in the Mengyang section of the Xishuangbanna National Nature Reserve (hereafter Mengyang; 22.2°N,

100.9°E), from which both departed in March 2020, moving into areas with no living memory of elephants. For several weeks, the “wandering elephants” drew unprecedented public attention on Asian elephant conservation, while mobilizing an extraordinary amount of resources (800 officers and 270 vehicles at the peak of the monitoring and management operation; Fei Chen *pers. obs.*). Here, we address the causes and conservation implications of this unusual behavior.

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2 | CURRENT CONTEXT OF ELEPHANT CONSERVATION IN CHINA

China is home to a small but growing population of wild Asian elephants, officially estimated in 293 individuals, representing < 1% of the global total. Widely distributed in China in historical times, elephants gradually lost range until the mid-1990s, when < 200 survived, mostly in Mengyang. The population then began to grow and expand geographically, with elephants from Mengyang recolonizing neighboring areas. This change in trajectory was driven by very strict enforcement of elephants' legal protection as well as broad-scale socioeconomic changes. In this same period, however, the recent elephant range suffered 15% forest loss and a 10-fold decrease in mean patch size. The ongoing elephant expansion is, therefore, occurring in highly fragmented, human-dominated, landscapes, resulting in frequent conflicts with people.

The current approach to human–elephant conflict (HEC) mitigation in China can be summarized as “getting people out of the way of elephants” and relies primarily on early warning and damage compensation. The Chinese authorities expend considerable amounts of resources monitoring elephants that are outside nature reserves and providing economic compensation for crop losses. Unfortunately, elephant-caused human mortality is high, making HEC a matter of public safety more than an economic issue. In contrast, killing of elephants by people is now very rare in China, with no known case in at least the past 3 years.

3 | WHAT CAUSED THESE MOVEMENTS?

For several decades, conservation policies have resulted in increasing elephant numbers and canopy cover in Mengyang, which has led to enhanced intraspecific competition for declining elephant forage as preferred food plants are shaded out. Every few years, a herd of elephants has left Mengyang and established in an unoccupied neighboring area. In March 2020, a climate-change-related extreme drought (Wang et al., 2021) aggravated food limitation and intraspecific competition, triggering the movement of two different herds out of the reserve. March 2020 was also exceptional due to low human activity in many parts of China. Outside the reserve, both herds found abundant food, in the form of crops, and few areas free of human presence. Given the current approach to HEC mitigation, both herds continued their movements largely unchallenged. The northbound herd, perhaps confused by unfamiliar crops and vegetation, high human densities, and the increasing number of people follow-

ing them, increased their pace and eventually reached the outskirts of Kunming. We do not think that any of these herds had a specific destination in mind. They just moved out from their home range seeking resources in new locations and, judging from external health indicators (their good body condition and the babies both herds have delivered), the decision has paid off for them so far.

4 | WHAT LESSONS CAN WE LEARN FROM THIS UNUSUAL BEHAVIOR?

The movement of the Kunming herd was exceptional because of its scale (300 km in a straight line) and because the elephants moved into densely populated areas. But dispersal—abandoning traditional home ranges to (re)colonize unoccupied areas—is expected in a growing population and has been happening in China since the mid-1990s. We can expect more elephant dispersal events in the coming years. As elephants continue expanding in highly fragmented landscapes, HEC will become even more intense, particularly where elephants have been absent for a long time. The long-distance dispersal by the Kunming herd is also a reminder that climate change will disrupt traditional ecological dynamics and will exacerbate exceptional events.

Elephants are currently well-protected in China. Their long-term conservation, in our view, relies on (1) protecting people from elephants and (2) increasing the amount of low-conflict habitat available to them. Protecting people means ensuring that elephant conservation does not impose a large burden on local communities. Human injuries and deaths can be reduced through the combination of elephant monitoring, early warning, safe-behavior awareness, and elephant-proof fencing around high-risk villages. Tolerance of elephants will also require maintaining and improving the financial compensation schemes. Expanding low-conflict habitat could be done through a combination of protecting existing elephant refuges, restoring and managing habitats to enhance suitability, and promoting voluntary human relocation in remote areas of elephant conservation value.

The “wandering elephants” present a unique opportunity to boost support for elephant conservation, especially in China. Both the public and high-level policymakers have been exposed to the complexities of elephant conservation. On the one hand, they witnessed cute, intelligent, and relatable behaviors (elephants sleeping, opening a faucet, helping each other; Figure 1). On the other hand, they have seen how dangerous, costly, and logistically complex it is to share highly developed landscapes with the largest terrestrial animals.



FIGURE 1 Iconic photo of elephants in the Kunming herd sleeping. The use of drones for elephant monitoring allows detailed behavioral observation with very little disturbance. The abundance and accessibility of intimate footage of animals with such complex behaviors (e.g., complex social interactions, problem solving) is likely to have stimulated public interest in and sympathy for elephants in China. Photo credit: Yunnan Forest Fire Department (云南省森林消防总队)

The return of Chinese elephants is not an isolated phenomenon. Wildlife, including large and conflict-prone species, are recovering ranges and numbers in places where conservation policies and “modernization” create favorable conditions. Examples include the recovery of large carnivores in northern China, Europe, and North America. These are conservation successes and should be celebrated, but the conservation community must also realize that the recovery of large, conflict-prone, potentially dangerous wildlife will create new conservation conflicts, often with grave consequences for local communities. Anticipating and mitigating conflicts resulting from successful conservation outcomes should be a priority for wildlife conservation in the Anthropocene.

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CONFLICT OF INTEREST

The authors declare no conflict of interest.

ETHICS

This viewpoint complies with the authors’ institutions’ ethical guidelines and did not require any research ethics permit.

AUTHOR CONTRIBUTIONS

ACA and CF conceptualized the paper. ACA wrote the first draft. All authors contributed critically to the development and writing of the final manuscript.

DATA AVAILABILITY STATEMENT

This paper has no associated data.

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