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Letter for Science

Title:

PPR virus threatens wildlife conservation

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Peste des petits ruminants (PPR), a viral disease that affects domestic small ruminants with high morbidities and mortalities across more than 70 countries, engenders a global cost of US\$2.1 billion and compromises livelihoods of some 900 million poor and low-income people (1, 2). PPR has generally been regarded globally as only a livestock problem (1), but it is also a wildlife conservation challenge.

PPR has spread from its historic range of Africa, West Asia, and the Middle East to the vast and remote steppes and mountains of Eastern Asia, threatening even more wildlife. The mass mortality event affecting more than two-thirds of the critically endangered Mongolian saiga (*Saiga tatarica mongolica*) population in 2017 is one example of PPR's reach (3). PPR has also been diagnosed in mountain ungulate mortalities in the Middle East (4) and detected along the Himalayas (5) and the Tian Shan and Altai ranges (6).

PPR clearly threatens saiga populations, but its impact on other steppe and mountain ungulates of Asia is unknown. The inaccessibility of their habitats, together with the lack of wildlife health surveillance programs across large areas, contributes to underestimating and underreporting of PPR mortality events. The circulation of PPR in Asia may have grave consequences in wild populations that already struggle with overhunting, poaching, livestock competition, and stochastic climatic events. For example, in 2018, multiple PPR-related mortalities of the Siberian ibex (*Capra sibirica*) were recorded in Mongolia (7), and PPR-related mortalities of wild ungulates were found in Iran (8). PPR is also of special concern for the conservation of the susceptible markhor (*Capra falconeri*), argali (*Ovis ammon*), and goitered gazelle (*Gazella subgutturosa*), considered vulnerable by the IUCN (9), and for the survival of the snow leopard (*Panthera uncia*), which relies on prey abundance. A robust assessment will require better baseline information on population size and trends. More efforts to conduct PPR surveillance and integrate wildlife protection into control strategies are urgently required.

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