Serra do Padre Ângelo, in the Doce River valley, eastern Minas Gerais state in south-east Brazil, and the tiny *Paepalanthus minimus*.

wildfires. Our assessment will be submitted to the Brazil Plant Red List Authority, coordinated by the Centro Nacional de Conservação da Flora. Species surveys are fundamental for collecting data for conservation, especially in regions overlooked historically, such as Serra do Padre Ângelo. The rediscovery of this species in the area highlights the urgent need to protect this mountain complex. Areas such as Serra do Padre Ângelo play a critical role as refuges for threatened and endemic taxa. As natural and pristine areas in the country are rare and mostly confined to protected areas, the identification of such refugia further highlights the importance of conservation efforts.

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Mass mortality of bees as a result of improper application of pesticides in the state of Mato Grosso, Brazil

In July 2023, more than 100 million bees were found dead in the state of Mato Grosso, Brazil. It is also estimated that c. 600 beehives, containing a total of 170,000–200,000 bees, were poisoned in apiaries in the cities of Sorriso, Sinop and Ipiranga do Norte. The results of analyses carried out by the Institute of Agricultural Defence of Mato Grosso indicate that the pesticide Fipronil was the cause.

The use of this broad-spectrum insecticide is allowed in Brazil, but aerial spraying of it has been prohibited since 2012 by the Brazilian Environmental Licensing Agency (IBAMA). The toxicity of this product for bees and its illegal application by aerial spraying, with the action of wind amplifying the impacts, are the main causes of the high mortality. The farmer responsible was fined BRL 225,000 (c. USD 47,000).

Bees are essential for pollinating both agricultural crops and native plants. Four threatened bee species were found to have been affected by the misuse of the pesticide. However, the impact on bee assemblages is likely to have been even greater given that a single study recently recorded the presence of 134 species in areas of native habitat and adjacent soybean crops across agricultural landscapes in Mato Grosso (Ferreira et al., 2022, *Agriculture, Ecosystems and Environment*, 338, 15, 108084).

In addition to the environmental impacts on fauna and flora, beekeepers will lose significant income. Pollination services for food in Brazil have been valued at USD 45 billion annually (Giannini et al., 2015, *Journal of Economic Entomology*, 108, 3, 849). There is a need for new guidelines and regulations for the use of pesticides in Brazil, as in the last 4 years more than 2,000 substances have been approved for use in agriculture and industry. In addition, Brazil needs to strengthen the inspection process for the commercialization and use of pesticides, especially in Mato Grosso, an important state for agricultural production that encompasses three megadiverse biomes: the Pantanal, Cerrado and Amazonia.

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