

Insect extinctions happen every day, studies suggest, threatening food security and ecosystem functions

Humanity is pushing many ecosystems beyond recovery. As a consequence, unquantified and unquantifiable insect extinctions are happening every day. [Two scientific papers](#) by [30 experts](#) from around the world discuss both the perils and ways to avoid further extinctions, intending to contribute towards a necessary change of attitude for humanity's own sake.

"It is surprising how little we know about biodiversity at a global level, when only about 10 to 20 per cent of insect and other invertebrate species have been described and named. And of those with a name, we know little more than a brief morphological description, maybe a part of the genetic code and a single site where it was seen some time ago," says Pedro Cardoso, from the Finnish Museum of Natural History Luomus, University of Helsinki, Finland.

[Editor's note: Read [‘Insectageddon’? Biologists say we need better data before warning of impending insect extinction](#) to learn more.]

The results of recently published works make it clear that the situation is dire

Habitat loss, pollution — including harmful agricultural practices, invasive species that do not encounter borders, climate change, overexploitation and extinction of dependent species all variably contribute to documented insect population declines and species extinctions.

"With species loss, we lose not only another piece of the complex puzzle that is our living world, but also biomass, essential for example to feed other animals in the living chain, unique genes and substances that might one day contribute to cure diseases, and ecosystem functions on which humanity depends," confirms Cardoso.

The ecosystem functions he mentions include pollination, as most crops depend on insects to survive. Additionally, decomposition, as they contribute to nutrient cycling, as well as many other functions for which we have no technological or other replacement.

Practical solutions to mitigate insect apocalypse

The researchers also suggest possible practical solutions based on existing evidence gathered from around the world, which would help to avoid further insect population loss and species extinctions. These include actions such as setting aside high-quality and manageable portions of land for conservation, transforming global agricultural practices to promote species co-existence, and mitigating climate change.

Above all, communicating and engaging with civil society and policy makers is essential for the future and mutual well-being both of people and insects.

"While small groups of people can impact insect conservation locally, collective consciousness and a globally coordinated effort for species inventorying, monitoring and conservation is required for large-scale

recovery” says Michael Samways, Distinguished Professor at Stellenbosch University, South Africa.

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