A team of researchers from a wide variety of institutions in France has concluded that it appears likely that approximately seven percent of all modern invertebrates have gone extinct. In their paper published in Proceedings of the National Academy of Sciences, the team outlines the research they conducted on land snail extinctions and how they extrapolated what they found to apply to non-marine invertebrates extinctions worldwide in the modern age.

For thirty years or more, scientists have been theorizing that planet Earth is undergoing a sixth mass extinction, this one during the so-called Anthropocene—a time dominated by the impact of modern human beings. The problem has been that the theories have been based on a sense of what is likely happening due to destruction of natural habitats, pollution, etc. rather than raw data that shows actual examples of species that have gone extinct. Furthermore, scientists have been noting that most modern extinctions are occurring with invertebrates, which make up approximately 99 percent of all species on the planet. To add some credence to such theories the team in France set their sights on land snails—a group of invertebrates that has been relatively well studied which means there exists data on their numbers. Scientists believe there were approximately 200 species of the snails originally in modern times, but after an extensive review of the literature, the team concluded that approximately ten percent of all of them have now gone extinct.

The researchers then used the data from the snails to make estimates of how many extinctions are occurring in all other non-marine invertebrates—some in the science community have suggested that such animals species are disappearing at a rate of a hundred every day, but hard proof has been limited—thus far only 800 species have been documented as going extinct, out of almost two million that have been named. Complicating the problem is that estimates of total numbers of actual species varies from a few million to hundreds of millions—thus coming up with a figure representing the total number of extinctions is not feasible at this time, but the team believes that it likely represents approximately seven percent of the total, which would represent the largest mass extinction since the dinosaurs disappeared.

More information: Mass extinction in poorly known taxa, Claire Régnier, PNAS, DOI: 10.1073/pnas.1502350112

Abstract
Since the 1980s, many have suggested we are in the midst of a massive extinction crisis, yet only 799 (0.04%) of the 1.9 million known recent species are recorded as extinct, questioning the reality of the crisis. This low figure is due to the fact that the status of very few invertebrates, which represent the bulk of biodiversity, have been evaluated. Here we show, based on extrapolation from a random sample of land snail species via two independent approaches, that we may already have lost 7%
(130,000 extinctions) of the species on Earth. However, this loss is masked by the emphasis on terrestrial vertebrates, the target of most conservation actions. Projections of species extinction rates are controversial because invertebrates are essentially excluded from these scenarios. Invertebrates can and must be assessed if we are to obtain a more realistic picture of the sixth extinction crisis.

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