

# Many plant species at risk of extinction—and we're blind to danger this poses to life on Earth

June 6 2019, by Sarah Mckim And Claire Halpin

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Credit: AI-generated image ([disclaimer](#))

Up to 1 million species may go extinct due to human activity [according to a recent report](#), some within decades. We all know the mammals in trouble—polar bears, giant pandas and snow leopards—but how many of us could name an endangered plant? A 2019 report assessed 28,000 plant

species and concluded that [about half of them were threatened with extinction](#).

This failure to notice and appreciate plants has been termed "plant blindness," and it's particularly worrying because there are significantly [more plant species at risk than mammals](#), despite the latter hogging most of our attention.

Luckily, we developed a one minute cure for plant blindness that's free and easy to do. Simply stop what you're doing and look around. Are you in a room with wood or fiberboard floorboards or furniture? Do you see wallpaper, books or tissues? These are all made from plants. Your clothes may be made from plant fibers, such as cotton and linen. Perhaps you have food, fruit juice or a glass of wine nearby. Even if you're in an office with plastic furniture, carpet tiles and wearing a polyester suit, these were made from oil generated over millions of years from plant and animal remains. Our lives are utterly dependent on plants, so why don't we see them?

## **Lost connections**

Our lack of appreciation for plants is a fairly recent thing. Our history tells a very different story. [The dawn of farming around 12,000 years ago](#) was when people became obsessed with growing plants for food, changing the way we live and our planet forever. Starting with domesticating cereals such as barley, rice and wheat, humanity's increasing population and sedentary communities depended on their ability to farm, leading to entire civilizations focused on agriculture.



Credit: AI-generated image ([disclaimer](#))

Industrialisation and the more recent "green revolution" in agriculture led to incredible increases in cereal production and farming efficiency, allowing more people to live in cities rather than work on farms. Our agricultural success is a major reason why, for the first time in our history, [most humans no longer farm](#), leaving people free to ignore our complete dependence on plants.

Tragically, our talent for farming has come at a huge cost to biodiversity. Right now, half of the habitable land on earth is [used for agriculture](#), a major reason behind our current extinction crisis.

Should we care about losing the diversity of [plant species](#), as long as we are producing enough food? Absolutely. Plants are the major food producers in most ecosystems, providing nourishment and shelter to

microbes, fungi, insects and animal species which themselves [play key roles in ecosystems](#).

While some creatures eat one type of plant—such as the bamboo-dependent giant panda—micro-organisms which live in the soil and make land fertile by recycling plant nutrients, perform better [the more different plant species there are growing](#). Plant diversity also improves how much carbon is pulled from the atmosphere and stored in the soil – [vital for mitigating climate change](#).

The crops that feed us may increasingly depend on the survival of other plant species. Crops are vulnerable to disease and [climate change](#), but wild and ancient species are often resistant to diseases and can grow on poor soils and in difficult environments. These plants will have genes that could make crops disease-resistant and allow them to grow in harsher conditions with less fertilizer and pesticide. We need this invaluable genetic heritage so that more people can continue to eat well in the future.



*Arabidopsis thaliana* (or rockcress) is one of the most well-studied plants in the world – but would most people recognise it? Credit: [Stefan Lefnaer/Wikipedia, CC BY-SA](#)

Our health is also intimately connected with plant diversity. Just under half of all prescription medicines [come directly from plants or by remaking plant chemicals](#). We've screened only a fraction of species for potential medicines—we don't know how many useful plant chemicals and genes remain to be discovered. Even the most overlooked plants can be enormously important.

You might be surprised to learn that the species most studied to understand how plants work is a genus of tiny weeds called *Arabidopsis*. Most people have never heard of them and couldn't identify them, even though they regularly pull them from their garden. By studying *Arabidopsis*, scientists learned how plants know when to flower, which is being used to [improve our understanding of flowering in vegetable crops](#)—key to improving their yield. They also learned [how \*Arabidopsis\* defends itself from pathogens](#), which could be used to make crops resistant to disease.

We can cultivate an appreciation of plants and their importance by improving access to parks, botanic gardens and forests, as well as including plant biology throughout the science curriculum in schools. But we also need to ensure there is a future for the thousands of [species](#) threatened with extinction. We need to produce more food on less land, so that natural habitats can thrive.

Plants could contribute even more to society's needs in the future. Technologies already exist for [making fuels and plastic from the agricultural waste](#) of straw, grain husks and potato peel. These

alternatives sadly won't compete with cheap oil until we pay the full cost of our current lifestyles with a carbon tax. To avoid mass extinctions, we need transformative change in our politics, economics and technology to preserve and sustainably use the incredible natural resources that Earth provides.

A painless first step towards making this change is something you could do every day: our one minute cure for plant blindness. If we stop, think and appreciate how [plants](#) enrich our lives, we will learn to respect our agricultural heritage and natural habitats and better manage the trade-offs between them.

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