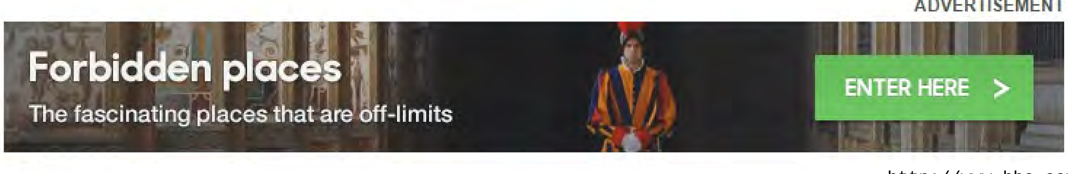
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Science & Environment

Kew report makes new tally for number of world's plants

By Rebecca Morelle
Science Correspondent, BBC News

5 hours ago | Science & Environment



Andrew McRobb

Researchers have counted how many plant species are known to science

Scientists have estimated that there are 390,900 plants known to science.

The new tally is part of **a report carried out by the Royal Botanic Gardens, Kew**. It is its first global assessment of the world's flora.

The study also found that 2,034 new plant species were discovered in 2015.

However, the report warns that 21% of plants are at risk of extinction, with threats including climate change, habitat loss, disease and invasive species.

Prof Kathy Willis, director of science at RBG Kew, said: "It's really important to know how many plant species there are, where they are and the relationship between the groups, because plants are absolutely fundamental to our well-being.

"They provide us with our food, our fuel, our medicines - even controlling our climate."



Paulo Gonella

This carnivorous plant was one of more than 2,000 new species logged in 2015

The researchers came up with their new plant total by searching through existing databases.

However, they found a lot of overlap within these records, with some plants being given different names by different botanists at different times.

> **There are thousands out there that we don't know about**
> Prof Kathy Willis, Director of science, RBG Kew

In total, they now estimate that, excluding algae, mosses, liverworts and hornworts, there are 390,900 plants, of which approximately 369,400 are flowering.

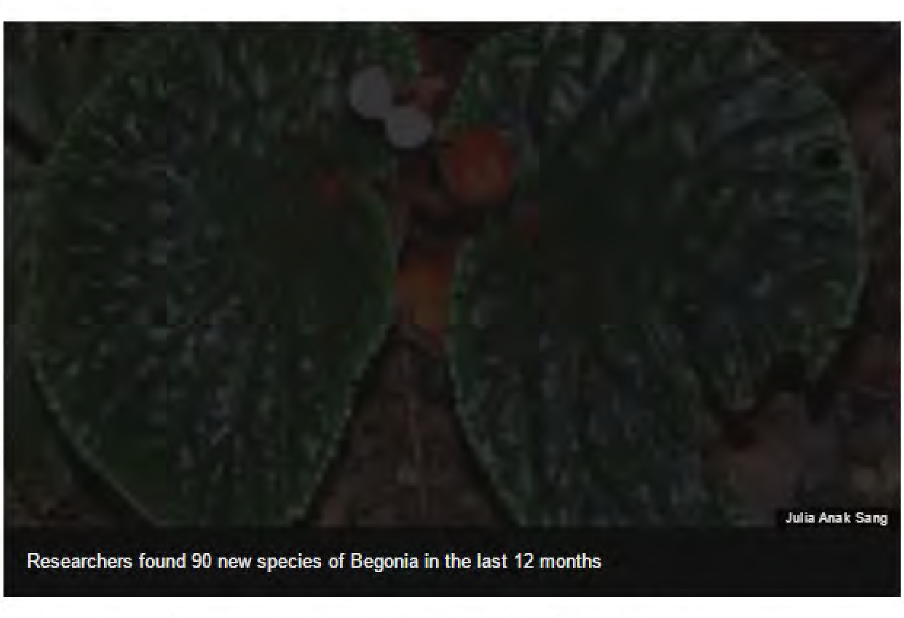
"This is just scratching the surface. There are thousands out there that we don't know about," said Prof Willis.

However, scientists are finding new species all the time.

Last year's discoveries include a tree called *Gilbertiodendron maximum*, which grows up to 45m-high, found in the forests of Gabon in West Africa.

Ninety new species of *Begonia* were also uncovered, as were five new species of onion and a sprawling, insect-eating plant called *Drosera magnifica* in Brazil, which was first spotted on Facebook.

Botanists from China, Australia and Brazil were the most likely to find and name new plants.



Julia Anak Sang

Researchers found 90 new species of Begonia in the last 12 months

The Kew team also assessed the problems faced by the world's flora.

The researchers warn that habitat changes, including the loss of mangroves and forests, are having a big impact on many species.

Pests and diseases were also labelled as a major problem, with the majority of research focused on commercial crops rather than the pathogens that attack wild species.

The scientists also looked at the movement of plant species around the world.

"Invasive species are really one the biggest challenges for native biodiversity," said Dr Colin Clubbe, head of conservation science at Kew.

"They are a real driver of species loss."



Science Photo Library

Invasive species, such as parrot's feather, have also been catalogued by the report

With the damage they cause to the environment and the difficulty and expense of removing them, the report says the global cost of invasive species is estimated at nearly 5% of the world's economy.

The conservationists have now logged 4,979 invasive species around the world.

"Now that we've got this list and this number, it's certainly a bit like know your enemy," said Dr Clubbe.

"We know what we are dealing with, we can then look at them, and see what's similar, what makes a good invasive, and then see how we can use that information to have better management practices in place or recommendations for how you deal with them."



RBG Kew

The researchers warn that one in five species is at threat of extinction

The report also found that more than 10% of the parts of the Earth that are covered with vegetation are highly sensitive to climate change. However the longer-term effects were not yet clear, said Prof Wallis.

She explained: "There are some areas where the increase in atmospheric carbon dioxide is good for some plants, so we have the greening of the Arctic, some areas of savannah are also getting shrubbier and some trees are getting bigger.

"However, we are also seeing big changes in terms of distribution patterns and flowering of plants. And also the indirect impact of climate change - for example, changes in terms of pollinators - which could have a really serious effect on plants."

Kew's global assessment will now be carried out annually, allowing scientists to monitor how plants are changing over time.

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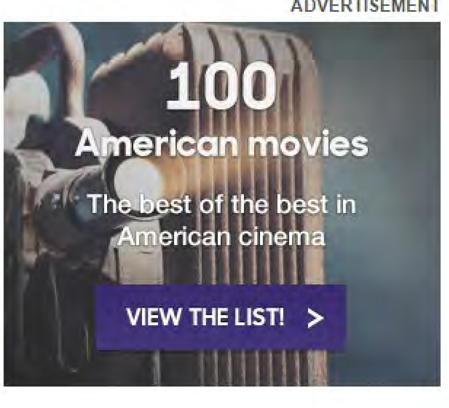
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