



News

Plants evolved complexity in two bursts -- with a 250-million-year hiatus

A Stanford-led study reveals that rather than evolving gradually over hundreds of millions of years, land plants underwent major diversification in two dramatic bursts, 250 million years apart. The first occurred early in plant history, giving rise to the development of seeds, and the second took place during the diversification of flowering plants. The research uses a novel but simple metric to classify plant complexity based on the arrangement and number of basic parts in their reproductive structures. While scientists have long assumed that plants became more complex with the advent of seeds and flowers, the new findings, published Sept. 17 in *Science*, offer insight to the timing and magnitude of those changes. "The most surprising thing is this kind of stasis, this plateau in complexity after the initial evolution of seeds and then the total change that happened when flowering plants started diversifying,"[Read more...](#)

Date: September 16, 2021**Source:** Science Daily**Climate change, population growth and stressed plants: Feeding the world in the 21st century**

New research from the University of Oxford, published recently in the journal *eLife*, sheds fresh light on plant chloroplasts, and the proteins inside them. The regulation of chloroplast proteins is important for plant development and stress acclimation and is increasingly significant as plants—including our staple crops, wheat, rice, barley—are having to respond to our changing environments. "As the planet warms, it will be increasingly urgent to understand the molecular basis of plant stress tolerance. This study has uncovered another layer of complexity within the systems that plants use to control their chloroplasts." Professor Paul Jarvis It has been estimated that 'stressed' crops—from changing weather patterns, drought, flooding and extreme temperature—may reduce production by as much as 70%,[Read more...](#)

Date: September 17, 2021**Source:** phys.org**Yeast and bacteria together biosynthesize plant hormones for weed control**

Plants regulate their growth and development using hormones, including a group called strigolactones that prevent excessive budding and branching. For the first time, scientists led by UC Riverside have synthesized strigolactones from microbes. The work is published in the open-access journal, *Science Advances*. Strigolactones also help plant roots form symbiotic relationships with microorganisms that allow the plant to absorb nutrients from the soil. These two factors have led to agricultural interest in using strigolactones to control the growth of weeds and root parasites, as well as improving nutrient uptake. These root-extruding compounds don't come without risks. They also stimulate germination of witchweeds and broomrapes,[Read more...](#)

Date: September 18, 2021**Source:** Science Daily**Western Ghats offer major additions to new flora**

The Botanical Survey of India, in its new publication *Plant Discoveries 2020* has added 267 new taxa/species to the country's flora. The 267 new discoveries include 119 angiosperms; 3 pteridophytes; 5 bryophytes, 44 lichens; 57 fungi, 21 algae and 18 microbes. In 2020, 202 new plant species were discovered across the country and 65 new records were added. With these new discoveries the latest estimate of plant diversity in India stands at 54,733 taxa including 21,849 angiosperms, 82 gymnosperms, 1310 Pteridophytes, 2791 bryophytes, 2961 lichens, 15,504 fungi, 8979 algae and 1257 microbes. "The year 2020 will remain marked in global history for the outbreak of COVID-19 pandemic, with the havoc it caused and still continues in 2021.[Read more...](#)

Date: September 20, 2021**Source:** The Hindu**Europe's green ambitions could be hit as gas prices reach record highs**

The European Union could struggle to advance its green agenda as gas prices soar across the bloc, according to experts who warn against slowing down investment into the sector. The European Commission, the executive arm of the EU, has vowed to become carbon neutral by 2050, presenting a concrete plan to reduce greenhouse gas emissions by at least 55% from 1990 levels by the end of this decade. However, these ambitions could be hit as a natural gas shortage on the continent drives prices higher. The front-month gas price at the Dutch TTF hub, a European benchmark, has risen more than 250% since the start of the year. It traded at about 74 euros (\$87) a megawatt-hour on Tuesday — just shy of its record high of 79 euros it hit last week. The recent spike is already having a tangible impact. Spain, for instance, has announced emergency measures to limit the profits that energy companies can make from gas alternatives, including renewables.[Read more...](#)

Date: September 22, 2021**Source:** CNBC

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