

FIRST FLOWER



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In a story blooming with beauty and scientific mystery, NOVA investigates an ancient Chinese fossil that leading scientists believe to be the earliest evidence of a flower found on Earth.

First Flower probes the controversy sparked by this unique fossil of a plant that flowered in a remote area of China where dinosaurs roamed more than 100 million years ago. Does this discovery hold the key to one of science's deepest mysteries? For all our love and need of flowers, the question of how they evolved and has long confounded science. In the 19th century, Charles Darwin called the origin of flowers "an abominable mystery." NOVA reveals the detective work behind the hunt for the very first flower and the still unfolding story of how and why flowers evolved.

In *First Flower*, NOVA reveals how botanists and geneticists are beginning to solve that mystery. The story begins in remote northern China, where local fossil hunters present Professor Sun Ge with *Archaeofructus*, a 124-million-year-old fossil found in ancient lake deposits. Sun Ge shares this amazing find with American paleobotanist David Dilcher at the University of Florida, who has been hunting for evidence of the origin of flowers his entire career.

Meanwhile, in China's Hengduan mountains, Chinese botanist Yin Kaipu and American plant explorer Dan Hinkley roam one of the world's most biodiverse landscapes, searching for more clues to how flowers evolved. Yin and Hinkley retrace the steps of British explorer Ernest H. Wilson, who in the early 1900s brought back from China dozens of plant species that are now familiar in our gardens, including forsythia, rhododendrons, dogwoods, and the regal lily. It was no understatement when Wilson dubbed China "the mother of all gardens." Although the Hengduan's unique floral diversity is now endangered by development, Yin and Hinkley continue the vital work Wilson started. Their mission is to classify and sort the vast array of flower species to understand the "tree of life" that connects all flowering plants.

At the Royal Botanical Gardens at Kew, genetic research is providing a new tool for accomplishing the same mission. The study of genes can only reveal the relationships of living flowers rather than extinct ones, so its reach back into the past is limited; the genetic tree of flowers, for example, cannot tell us where *Archaeofructus* fits into the long story of plant evolution.

The story of earth's first flower, how it evolved, and how flowering plants sustain human life continues to unfold. Join NOVA on the trail of one of botany's most beguiling mysteries as scientists continue their pursuit of the *First Flower*.

NOVA

CREDITS

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