Hort News and Tips: who knew?

Sandy Welches, MGV 2005

DARWIN'S PRIMULA THEORY PROVEN

Scientists have found the genetic explanation for a theory about reproductive traits in the flowers of the *Primula* first mooted by Charles Darwin more than 150 years ago.

Darwin was first to describe the distinct forms of flower produced by primulas, known as 'pin,' with a long stigma, and 'thrum,' with a shorter stigma but longer anthers. He also discovered that the two types of flower were self-incompatible, and proposed that primulas had evolved these as a reproductive ploy to ensure that insects cross-pollinated flowers from another plant, in order to maintain genetic diversity. Heterostyly, as the phenomenon is known, has since been discovered in other plants, such as species of *Linum* (flax) *and Lythrum* (loosestrife). The best seed set comes from cross-pollination of the two types. When planting out, group at least three or more seedlings to ensure that you have both types growing together to encourage seed production.

Scientists at the University of East Anglia have now sequenced the *Primula* genome and identified a cluster of genes -- known as 'supergene' -- which governs the trait. They also found that the supergene is specific to just one of the flower forms (the thrum), and were able to date the original mutation to 51.7 million years ago.

Thrum flowered *Primula polyneura*

Pin flowered *Primula polyneura*

Hermans, C. (2017, June). Darwin's *Primula* Theory Proven. *The Garden, p. 7*

PREHISTORIC TOMATO

The fossil of a 52-million-year-old fruit has revealed that the *Solanaceae* (nightshade) family is far older than previously understood. **Found in a former Patagonian rainforest, it grew tens of millions of years earlier than the family was thought to originate.** The family of flowering plants (order Solanales) has 102 genera and nearly 2,500 species, many of them of considerable economic importance as food and drugs. Among the most important of those are potato, eggplant, tomato, tobacco, pepper, belladonna and petunia.

Source: www.solgenomics.net