

## Tree of the Month, January 2015: Coulter's pine (*Pinus coulteri*)

Coulter's pine (*Pinus coulteri*) has the largest and heaviest cones of any known pine species. The cones can be the size of a pineapple, weighing up to 3.5 kg, and are armed with wickedly curved talons. These cones can do some serious damage when they fall, and have earned the nickname 'widowmakers'. Crews working in stands of Coulter's pine are encouraged to wear hardhats, and homeowners with these trees growing on their property often have the cones removed as a safety measure.

Coulter's pine can grow to 24 m in height, especially in cultivation with regular watering and a mild climate. In their native range, the dry mountains of southern California and Baja California, they are often much shorter. Coulter's pine has long, gray-green needles in bundles of three, and upturned branches.

Forest fires are fairly common in California, and Coulter's pine has evolved to protect its seeds from fire while also taking advantage of fire to stimulate the release of seeds. The thick, woody, protective cones remain sealed shut with pitch (sap) until a fire sweeps through, melting the pitch and drying the cone, which then opens and releases its seeds. In areas with few fires, however, Coulter's pine cones open on their own once they have ripened. This adaptation varies between populations of Coulter's pine and with the frequency of local forest fires and is called "facultative pyriscence", meaning that while fire can trigger the release of seeds, it is not required.

The seeds of Coulter's pine are edible and were harvested by First Nations. They are not as tasty as pine nuts from other American pines, such as the piñon pine (*Pinus edulis*) or digger pine (*Pinus sabiniana*).

*Pinus coulteri* is named after Thomas Coulter, an Irish botanist who came to Mexico in 1825 to work as a doctor for a Cornish mining company in Real del Monte, a small town 100 km northwest of Mexico City. While working as a doctor he also collected plant and animal specimens from the Mexican countryside. He eventually left the company and travelled north to Monterey, California, where in 1831 he met David Douglas, a Scottish botanist who had done extensive seed collecting in the Pacific Northwest (Douglas-fir is named for him). Coulter and Douglas became good friends and did a lot of collecting together. In 1832 they parted ways; Coulter went to explore Arizona, while Douglas caught a ship to Hawaii, where he would die in a pit-trap (for more details, see "Douglas-fir (*Pseudotsuga menziesii*)", tree of the month in

December 2010, on our website: <http://vandusengarden.org/explore/vandusen-botanical-garden/plant-collections/tree-month/douglas-fir>. Coulter returned to Ireland in 1834, bringing his collection of over 50,000 specimens from northern Mexico, California and Arizona with him; one of those specimens was a huge spiky pine cone - a new species that was named *Pinus coulteri* in his honour.

VanDusen Botanical Garden is home to one specimen of Coulter's pine, which was grown from seed collected in the mountains of California, and can be found along our Winter Walk.