

## WORLD'S FASTEST FLOWER

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Does bunchberry dogwood (*Cornus canadensis*) grow in your park? If it does, you can now boast that your park hosts the world's fastest plant. The flower's stamens catapult pollen into the air as the flower opens explosively. According to Edwards et al. (2005), bunchberry dogwood stamens serve as miniature medieval trebuchets—specialized catapults that maximize throwing distance by having the payload (pollen in the anther) attached to the throwing arm (filament) by a hinge or flexible strap (thin vascular strand connecting the anther to the filament tip). This floral trebuchet enables stamens to propel pollen upwards faster than a simple catapult.

High-speed video observations show that the flower opens in less than 0.5 millisecond (ms) (i.e., half a thousandth of a second). This is the fastest movement recorded in a plant. The process of petal opening and pollen launching in *Cornus canadensis* occurs faster than the opening of *Impatiens pallida* fruits (2.8–5.8 ms), the snap

of Venus flytraps (*Dionaea muscipula*, 100 ms), the leap of froghoppers (*Philaenus spumarius*, 0.5–1.0 ms), or the strike of the mantis shrimp (*Odontodactylus scyllarus*, 2.7 ms) (Edwards et al. 2005).

Bunchberry dogwood bears flowers much like those of the ornamental dogwood tree, but this plant is a shrub. Its tiny flowers span only a few millimeters and cluster at the center of four white leaves, which resemble petals. The plant grows in dense carpets in the vast spruce-fir forests that span the northern half of the United States from New York to Washington. The Natural Resources Conservation Service also lists the flower as occurring in Alaska, Wyoming, Colorado, and New Mexico. The plant is listed as endangered in Illinois, Indiana, and Maryland, and as threatened in Iowa and Ohio.

So what's the point, besides being able to say that your park hosts the "fastest flower in the West" (or wherever else it may be growing)? Exploding flowers such as bunchberry dogwood enhance insect pollination and may allow for wind pollination. Indoors, pollen of the bunchberry dogwood is transported nearly 9 inches (22 cm), which is more than 100 times the size of the flower; outdoors, in the presence of a steady wind, pollen can move farther than a meter. Information about this record-breaking catapult adds to growing evidence that flowers often use multiple pollination mechanisms (Edwards et al. 2005).

## References

Edwards, J., D. Witaker, S. Klionsky, and M. J. Laskowski. 2005. A record-breaking pollen catapult. *Nature* 435 (12 May 2005):164.

Milius, S. 2005. World's fastest plant explodes with pollen. *Science News* 167(24):381.