## **Citizen Science Stroll: Route**

An easy stroll from the East Gate of the Botanics to the Terrace Café. The route visits seven plants and/or habitats used in Citizen Science\* projects which are monitoring the everincreasing impacts of climate change on plants and animals.

- 1. *Rhododendron ferrugineum* alpenrose: this group of 5 plants in Bed MO5 are monitored weekly. The alpenrose is an evergreen shrub that grows above the tree line in the Alps and Pyrenees, where its future distribution is potentially strongly dependent on changing summer temperatures and snow-cover duration. Approximately 25 per cent of all Rhododendron taxa are under threat of extinction in the wild.
- 2. **Desfontainia fulgens:** in the Rock Garden. Holly-like shrub. The very distinctive, long, conical, waxy flowers are pollinated by hummingbirds in its native Chile. Here its showy flowers are easily monitored by citizen scientists. (Two specimens Bed R39)
- **3.** *Eucryphia cordifolia*: located beside the giant Sequoias in Upper Woodland Bed W11. A long-lived, rainforest species found in central Chile and Argentina that is threatened by logging and habitat loss and that currently has a vulnerable conservation state. An over 40% decrease in precipitation, along with rising temperatures (up to ~ 5 °C), is anticipated for central Chile over the next 70 years. Therefore, cordifolia's homeland the Chilean temperate rainforest could become one of the most susceptible environments to future climate change.
- 4. Pond habitat: at such localities the reporters contributing to the British Dragonfly Monitoring Scheme are finding that dragonfly and damselfly species are increasingly moving northward through Scotland. The range extension is closely aligned with climate change, particularly with rising summer temperatures.
- 5. *Fitzroya cupressoides* Patagonian cypress: the largest tree species in South America. Fitzroyas are endangered, owing to logging and land clearance. That's why this slow growing, very long-lived (3,300yr) evergreen is monitored to find new areas where they may thrive once again. (Three specimens Beds KO8/9)
- 6. *Rhododendron wadanum*, on the Azalea Lawn. A resilient, flowering shrub from the temperate forests in Japan (Honshu), notable for its vibrant blooms. Currently it is decreasing in its natural habitats. Hybridizes, so conservation of genetic diversity is of particular concern. (Bed JO1/36)
- 7. Nothofagus antarctica 'southern' beech, a deciduous tree native to southern Chile. Nothofagus continues to be the icon tree genus of Gondwanan biogeography. The genus is distributed on fragments of the old supercontinent of Gondwana: Australia, New Guinea, New Zealand, New Caledonia, Argentina, and Chile, consistent with a 100Myr dispersal by continental drift. Satellite data reveals how temperature controls start-of-season activities. (Middle of lawn NE of Inverleith House.)