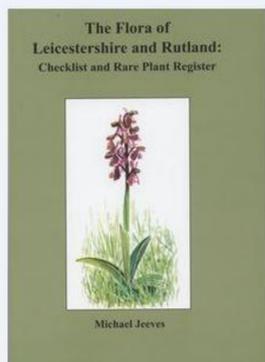


GENEBANK55

Conserving Leicestershire & Rutland's Rare and Scarce Vascular plants

- ❖ Collecting the seed of rare and declining species in Leicestershire & Rutland, drying and freezing them for conservation and research
- ❖ A safeguard against the extinction of locally-adapted genetic variants
- ❖ With assistance from the Kew Millennium Seedbank



1. Target species

- The local Rare Plant Register (Jeeves, 2011) is used to select the rare and scarce species of Leicestershire & Rutland.
- Declining species, those that now only occur in <1/3 of their previous localities (i.e. in 1988) are also scheduled for collection.

“Some species are now down to a single location with a last few individuals”

6. Drying & freezing

- After 2-4 weeks at room temperature, the seeds are put into an incubator dryer to reduce the relative humidity to 15-20%
- Once dry, the seeds are packed into labelled glass jars or smaller vials, within a larger sealed container of silica gel, and stored at -20°, where they can survive for decades.



Mousetail, *Myosurus minimus*. Rare in Leicestershire and Rutland.



Autumn Gentian, *Gentianella amarella* at Ketton Quarry, Rutland. Scarce in Leicestershire and Rutland.

2. Locating

- We use the vice-county plant records, along with the knowledge of local botanists to locate precisely our target species.
- Timing is crucial! Collect seeds too early and the seed does not successfully germinate after freezing, but arrive at a site late and the seed may have already dispersed!
- Sometimes several return trips to a site are needed to ensure that the seeds are ready for collection.



Small Teasel, *Dipsacus pilosus*, at Luffenham Heath Golf Club. Scarce in Leicestershire and Rutland.

3. Collecting & recording

- Seeds are collected by hand into a breathable bag. No more than 10% of available seeds are taken so as not to endanger the survival of the wild population.
- GPS coordinates, location data, area and number of individuals in the population are recorded, along with date and name of species and collector.
- A voucher specimen is made and an accession number allocated.

4. Cleaning

- The seeds need to be sorted from other plant debris or fruiting structures, often by crushing and sieving.



Western Gorse, *Ulex gallii*, from Charnwood Lodge NR. Becoming scarce.



Ragged Robin, *Lychnis flos-cuculi*. Declining.

5. Cut- testing

- A small number of seeds (usually ten) are sacrificed by cutting in half to estimate the proportion of a) empty, b) pest-infested, and c) full, potentially viable seeds.

This project has been part-funded by the Friends of the University of Leicester Botanic Garden. The work has had the full support of the Leics. & Rutland Wildlife Trust, Leicester City Council and various landowners. With special thanks to Geoffrey Hall and Russell Parry for their contributions.