

Bupleurum baldense Turra Small Hare's-ear

GB Red List Status: Endangered

Bupleurum baldense (family Apiaceae) is an annual herb, present in the UK only in two locations in Devon and in Sussex. Its GB Red List status is due to habitat loss (particularly as the Sussex population is growing on a precarious cliff edge), habitat disturbance and the changing climate.

Bupleurum baldense is listed under Schedule 8 of the Wildlife and Countryside Act and requires a licence to harvest any part of the plant

Seed harvest

B. baldense flowers June and July and seeds develop and disperse July and August. The smooth seeds are approximately 4mm long. Collections conserved at the Millennium Seed Bank were harvested between early July and mid-August. The approximate dry weight of 1000 seed is 0.387g.



B. baldense in flower

Propagation

In the nursery trials, the seed were sown in May into Petersfield Peat-Free Supreme compost and fine perlite and lightly covered with chalk dust. The seeds germinated from June through to October with <1% germinating in February the following year.

An improvement on the trial germination results is expected if the seeds are sown slightly earlier in the year, in April or before rather than late May. Due to the late sow and possibly the very wet conditions that spring, the plants were not able to complete their lifecycle in one year as expected. After pricking out, plants were vulnerable to sciarid fly and temperature changes, possibly exacerbated by the late sow and germination.

A proportion of the plants reaching maturity survived the winter on a sheltered balcony and completed their lifecycle in the next year with seed collected in late August 2023.



B. baldense seed

Ex situ conservation

As of December 2023, the Millennium Seed Bank conserves over 2,750 seeds from the UK in three collections from both the hectads it occurs in. Seeds are maintaining viability in conventional seed bank conditions (15%RH/ -20°C) with one collection maintaining 100% viability after 30 years of storage.

This map shows the distribution of native *B. baldense* records since 2000 (BSBI) and the MSB conserved collections in yellow.

Propagation trials for B. baldense took place at Wakehurst, West Sussex in spring 2022 as part of the UK Threatened Flora Project (2020-2023).

A maximum conversion rate of 51% (seed sown to adult plant) was achieved with a spring sow in a glasshouse. See reverse for methodology and results of the best tests in the laboratory and nursery.



Germination and Propagation: best tests in laboratory and nursery

The seeds tested were stored in the Millennium Seed Bank since collection in Devon in July 1992

| | Laboratory method | Nursery method |
|--------------------------------|---|---|
| Date sown: | September 2016 | May 2022 |
| Pre-treatments: | None | None |
| Germination media: | 1% agar | Petersfield Peat-Free Supreme compost and Sinclair Special Seed perlite (2:1) covered in a small amount of chalk dust |
| Germination conditions: | 10°C / 25°C (12hrs light / 12 hrs dark) | Germinated in a glasshouse with grow lights to 25°C (32°C max) |
| Days until germination: | 7 days (peak germination: 14 days) | Data unavailable |
| Germination duration: | 8 weeks | 9 months |
| Germination percentage: | 88% | 51% |
| Growing conditions: | N/A | Seedlings pricked out and grown outside in cold frame. Kept moist but well drained |
| Growing media: | N/A | Petersfield Peat-Free Supreme compost and Sinclair Standard perlite (2:1) covered in a small amount of chalk dust |
| Seedling survival: | N/A | 51% of seeds sown (100% of seeds germinated) |
| Replicates: | 1 x 50 seed | 3 x 50 seed |



Images from l-r: *B. baldense* seedlings (first week after germination; first month after germination and approx. 3 months after germination). The spoon-shaped leaves form an alternate arrangement. Toothpick markers for scale.

References and Resources

- The Vascular Plant Red Data List for Great Britain. Species Status 7: 1-116. Joint Nature Conservation Committee, Peterborough (Revised 2021)
- *Bupleurum baldense* Turra in BSBI Online Plant Atlas 2020, eds P.A. Stroh, T. A. Humphrey, R.J. Burkmar, O.L. Pescott, D.B. Roy, & K.J. Walker. <https://plantatlas2020.org/atlas/2cd4p9h.f2p> [Accessed 11/12/2023]

Please note: Anyone collecting seeds must do so legally and sustainably. Site conditions and management should be suitable for the sustainability of the population prior to any (re)introduction of seed or plants.

For more information on data, protocols and standards at the Millennium Seed Bank, see our website: www.brahmsonline.kew.org/msbp

Follow the UK Team on Twitter: @Kew_MSBUK