

## *Illecebrum verticillatum* L. Coral-necklace

GB Red List Status: Endangered

*Illecebrum verticillatum* (family Caryophyllaceae) is an annual herb native to the south and southwest of the UK. Although it has been naturalised in a number of new sites (likely assisted by milder winters and human transportation) it is declining in its native sites without clear reason resulting in its Endangered GB Red List status.

### Seed harvest

*I. verticillatum* flowers June to October and seeds ripen and disperse July to October. Each flower produces a single seeded fruit approximately 1mm x 0.5m. The approximate dry weight of 1000 seed is 0.109g. Collections conserved at the Millennium Seed Bank were harvested between the end of July and mid-October.

This species has a long flowering and seeding time with the seed maturing sequentially up the stems. Mature seed can be harvested from lower down the stems by encasing the stem in a bag and gently rubbing the seeds while not disturbing the flowers further up the stem.

### Propagation

The healthiest plants grown in the trials were sown in spring into sieved Petersfield Air Pot Mix (the smaller particles providing good contact for the small seed) and Sinclair Special Seed perlite at a ratio of 3:1. Seed trays were placed outdoors on a west facing balcony in shallow rainwater to replicate the seasonally inundated natural habitat. Plants grown outside developed better root systems and more robust vegetation as opposed to those in the glasshouse.

The majority of the seeds germinated in one to two weeks at the end of April when the temperature was approximately 18°C.

### Ex situ conservation

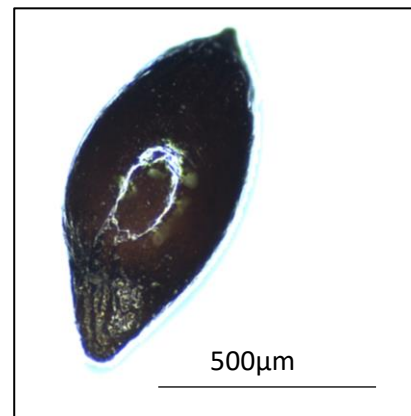
As of January 2023, the Millennium Seed Bank conserves nearly 28,000 seeds from the UK across four collections from four hectads. Seeds maintaining viability in conventional seed bank conditions (15%RH/ -20°C) with one collection maintaining 100% viability after 18 years of storage.

The map (right) shows the UK distribution of *I. verticillatum* records since 2000 (BSBI) in yellow and MSB conserved collections in black.

*Propagation trials for I. verticillatum took place at Wakehurst, West Sussex in spring 2022 as part of the UK Threatened Flora Project (2020-2023). A maximum conversion rate of 82% (seed sown to adult plant) was achieved with a spring sow with similar results for seed sown outside and in the glasshouse. See reverse for methodology and results of the best tests in the laboratory and nursery.*



*I. verticillatum* in flower



*I. verticillatum* seed



# Germination and Propagation: best test in laboratory and nursery

The seeds tested were stored in the Millennium Seed Bank since collection in Hampshire in July 1998

	Laboratory method	Nursery method
Date sown:	September 2016	April 2022
Pre-treatments:	None	None
Germination media:	1% Agar	Sieved Petersfield Air Pot Mix and Sinclair Special Seed perlite (3:1) with a small amount of sieved peat in a shallow rainwater tray
Germination conditions:	20°C (12 hrs light/12 hrs dark)	Best results and quickest germination in a glasshouse with grow lights (avg 18-20°C)
Days until germination:	7 days (peak germination: 7 days)	7 days (peak germination: 7 days)
Germination duration:	7 days	2 weeks
Germination percentage:	100%	82%
Growing conditions:	N/A	Once pricked out, plants grown outside on west facing balcony
Growing media:	N/A	Same as germination media above
Seedling survival:	N/A	89% of seeds sown (91% of seeds germinated)
Replicates:	1 x 50 seed	3 x 50 seed



Images from l-r: *I. verticillatum* seedling (10 days after sow) with toothpick markers for scale; *I. verticillatum* seedling (2 weeks after germination); mature *I. verticillatum* plant (1 month after germination)

## References and Resources

- The status of Coral-necklace *Illecebrum verticillatum* L. (Caryophyllaceae) in Great Britain; D. A. Pearman (2008)
- The Vascular Plant Red Data List for Great Britain. Species Status 7: 1-116. Joint Nature Conservation Committee, Peterborough (Revised 2021)
- *Illecebrum verticillatum* L. 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.xnw> [Accessed 13/12/2023]

**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.brahmononline.kew.org/msbp](http://www.brahmononline.kew.org/msbp)

Follow the UK Team on Twitter: @Kew\_MSBUK