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AUSTRALIAN SEEDBANK PARTNERSHIP

Omeo Stork's-bill (*Pelargonium* sp. Striatellum (G.W.Carr 10345))

Introduction

Omeo Stork's-bill (*Pelargonium* sp. Striatellum (G.W. Carr 10345)) is a small tufted perennial herb plant in the Geranium family (Geraniaceae), with leaves in basal rosettes and clusters of pale pink flowers produced from October to March. The species has a restricted distribution, known from only four locations in NSW and one in Victoria. It is known to occur in habitat usually located just above the high-water level of irregularly inundated or ephemeral lakes. Omeo Stork's-bill is listed as Endangered both nationally (*Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act)) in New South Wales (*Biodiversity Conservation Act 2016*), and Vulnerable in Victoria (*Flora and Fauna Guarantee Act 1988*).

In 2023, the Australian National Botanic Gardens (ANBG) investigated methods for propagating this species both vegetatively and from seed. This fact sheet presents results of this work to inform any future recovery actions for this threatened species.

Propagation and cultivation

The ANBG successfully propagated Omeo Stork's-bill both from seed and cuttings/plant divisions.

Seed germination

While the seeds of many horticultural *Pelargonium* varieties readily germinate, many native Australian species have seed dormancy mechanisms, which prevent them from germinating until environmental conditions are suitable. Previous research on related species indicated that Omeo Stork's-bill would likely have a physical seed dormancy mechanism, whereby a hard seed coat limits water absorption that is necessary for germination to occur. Methods for breaking this dormancy are described below.

Seed germination *in vitro* (in the National Seed Bank)

Under laboratory conditions, Omeo Stork's-bill seeds were carefully nicked under a microscope to break the seed coat without damaging the embryo. Seeds were then placed on sterile 1% water agar in 90mm petri dishes and moved to a laboratory incubator at 20/10°C, 12hr photoperiod. These temperature conditions reflect the colder environment where this species naturally occurs. Using this method, up to 100% germination was recorded within three days, compared to less than 10% of untreated seeds. These results confirm this species has physically dormant seeds.

Seedlings in Nursery, 20 days (left) 23 weeks (right). Images © Parks Australia.

Seed germination in the nursery

Under nursery conditions, seeds were scarified by slowly rubbing the coat with fine sandpaper at a pressure that removes enough of the seed coat without destroying the seeds. Using this method, an average 66% germination was recorded. An additional batch of seeds were soaked in hot water (immersion in 90°C water for 3 minutes, followed by soaking in room temperature water for 30 hours), however these did not germinate. It may be that hot water treatment did not sufficiently scarify the seed coat and thus overcome the physical dormancy mechanism. After treatment seeds were be sown in rectangular punnets containing seed raising mix (10 seeds per punnet), and kept moist and maintained at 20°C via bench heating.

Vegetative propagation

Below we outline two methods for propagating Omeo Stork's-bill vegetatively from cuttings and by division.

Cuttings	
Propagation method	Herbaceous cuttings
Propagation material	New tender growth
Method	Trim cuttings to approximately 70mm long and reduce leaves to about one third of their size. Dip cuttings in hormone and plant in punnets. Water in and place on heat bench.
Propagation media	7:1 mix of Perlite:Coir
Growth hormone	Clonex Purple rooting hormone gel (contains 3g/L Indole Butyric Acid (IBA) and antifungal agents)
Growing conditions	Maintain at approx. 20°C in a propagation house with bottom heat and overhead misters. Hand water twice a day. Will likely tolerate a range of growing conditions and should be easy to grow in standard nursery conditions.
Strike rate	50% strike rate for successful cuttings.
Potting on	When cuttings establish sufficiently sized roots (about 2 months) pot on into forestry tubes of native potting media with a small amount of native controlled release prill fertiliser, and top dress with coarse sand to reduce losses from damping off, deter fungus gnats and suppress weeds. Keep in propagation house conditions for 7+ days.
Cultivation	After potting on, plants can be moved to and maintained in a more open environment such as a poly tunnel. Potting on to larger size can be done after approximately one year. Several re-propagations can occur throughout the year if growth is strong enough.

Plant division	
Propagation method	Plant division
Propagation material	Whole plants
Method	Upend plants carefully then divide into portions before separately re-potting into separate containers
Propagation media	Standard native potting mix, top-dressed with gravel to suppress weeds and control fungus gnats
Fertiliser	At potting, add prills of a controlled-release fertiliser for native plants. Water in newly potted plantlets with a liquid rooting stimulant (Multicrop Plant Starter)
Growing conditions	Maintain at approx. 20°C in a propagation house. Will likely tolerate a range of growing conditions and should be easy to grow in standard nursery conditions.
Potting on	When plants expand to the edges of the pot, repeat steps above to continue division process. Many plants can be produced through repeated division.
Cultivation	When plants are established in pots, maintain in a more open environment such as a poly tunnel.

Nursery cultivation notes

- Plants received hand watering as needed, fortnightly liquid fertiliser during the growing season and an application of iron chelates every month.
- Plants should be hardened off for ~2 weeks before planting.

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More information

For more information about Omeo Stork's-bill and the Rare Bloom Project™, see:

- Conservation Advice for *Pelargonium* sp. Striatellum (G.W.Carr 10345) (Omeo Stork's-bill) http://www.environment.gov.au/biodiversity/threatened/species/pubs/84065-conservation-advice.pdf.
- Omeo Stork's-bill species profile - NSW office of Environment and Heritage https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=20147
- The Rare Bloom Project™ webpage www.seedpartnership.org.au/initiatives/bushfire-recovery/the-rare-bloom-project.
- October 2023 issue of the Hort Journal - Rare Bloom Project article. All issues online at: www.hortjournal.com.au.