

***Eremophila* fruit collection protocol for Citizen Scientists Travelling in Queensland - 2022**

Background

The project is led by the University of Queensland in conjunction with the *Eremophila* Study Group and is supported by Native Plants Queensland through its Geoff Simmons Trust.

The project is investigating seed production in wild *Eremophila* and the degree to which wild seed is fully formed and is capable of germinating under current and potential future climatic conditions.

We require collections of fruit from the wild, following a scientifically valid protocol in order to examine fruit and their enclosed seed using non-destructive x-ray techniques. We will then link seed viability to the environment in which the fruit was collected (using Bureau of Meteorology climate data) to better understand if climate is a factor effecting seed viability.

In parallel, University staff will also collect pollen and soil samples from the same area where some of the fruit were collected, in order to determine the impact of soil biota and climate on pollen formation (both of these can influence seed formation and viability).

The project arose out of a realisation that many fruit on garden *Eremophila*, though fully formed, are empty of seed. We wondered whether this is due to particular garden conditions or is a more general fecundity issue, as previous studies have also noted low “seed fill” in wild collected specimens. Low fecundity will have implications for survival of *Eremophila* as a genus given climate change.

Which species to collect

Fruit of all *Eremophila* species growing in natural habitats **IN QUEENSLAND** can be collected, with two exceptions. The two vulnerable species that cannot be collected in Queensland from any locations are *Eremophila stenophylla* and *Eremophila tetraptera* (Queensland Nature Conservation regulation 2020, Schedule 1).

Where can fruit be collected from?

Fruit may only be collected from *Eremophila* growing **IN QUEENSLAND** on public land (e.g. road verges) or from private land with the permission of the owner.

Fruit may not be collected from Queensland National Parks or Queensland Nature Reserves.

It would be desirable to collect fruit from the same species from different geographical locations.

How to collect fruit

For each species, fruit should be collected from a natural stand (or within walking distance) comprising of at least three separate plants.

Collect at least 10 and no more than 20 fruit from each plant from no more than three plants in the stand (that is, at least 30 fruit in total and no more than 60 fruit). Fruit from each plant must be stored separately (see below). It is not necessary to remove the seed from the fruit. Anything fewer than 10 fruit per plant will not provide useful results and should not be harvested, so collections that could result in 9 or fewer fruit per plant should be abandoned.

For each stand of plants, collect fruit that are visually similar and likely to be of the same maturity (that is, all green, or all woody and brown). Knowing the age of each fruit is not expected.

It is important that you take a photo of each plant from which you collect fruit and record the GPS location (see below). A mobile phone will record this information automatically.

Storage

Place each collection of fruit into a paper bag (brown paper lunch bags or envelopes are best; avoid waxy bags). As you will have 3 collections of fruit taken from 3 plants, you will need 3 paper bags for each species/stand.

At the same time, remove a small sample of each plant (containing stem and leaves) and place into the same bag as its own fruit. There is no need to wrap the vegetative sample or to try to keep it damp (the drier the better, so damp vegetation doesn't send the fruit mouldy).

Please ensure you keep the fruit from each plant separate and ensure you put each vegetative sample into the bag with its own fruit. The purpose of the vegetative sample is to enable the team to cross check collectors' field identifications if there is any doubt as to ID.

Keep the sample at ambient temperature (don't refrigerate) and out of direct sunlight.

Record keeping

On each paper bag write your name and contact details.

Inside each paper bag include a copy of the attached Fruit Collection Form, completed with the information shown.

If you don't have copies of the form to hand, you can write this information on the outside of the paper bag.

Inside each parcel sent, please provide your name, your address, your phone number, your vehicle registration (this is a requirement of the collection legislation) and an email address.

Where to send the fruit

Post your samples to:

Dr Robyn Cave, The University of Queensland, School of Agriculture and Food Sciences,
Building 8117a, Gatton, Queensland 4343

Email your photos (with enough information to enable us to match them to the samples; e.g. surname, date and species) to r.cave@uq.edu.au

Reimbursement of Costs

The Eremophila Study Group can provide \$50 towards petrol costs for each collector who contributes by sending fruit to UQ. Please email LTHORBURN@VIRIA.COM.AU for more details on how to claim your petrol subsidy.

Due date

All collected samples must be received at UQ by 30 SEPTEMBER 2022

EREMOPHILA FRUIT COLLECTION FORM 2022 – ONE FORM PER COLLECTION OF 10-20 FRUIT PER PLANT

Date of collection (DD/MM/YYYY)	
Time of collection (approx.)	
Species name	
Sub-species name (if relevant)	
Name of the property/location	
GPS of the property/location	
Your name	
Your phone number	
Total number of fruit in this bag	
Photo number for this plant (as recorded on your phone/camera)	



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