

Geophytes Rock! The Geophyte Collections at Royal Botanic Gardens, Kew  
NARGS Rocks: Geophytes online Webinar. Nov 2022. Thomas Freeth

1. Title

2. Intro to speaker:

Thomas Freeth BSc (Hons) Dip. Hort. Kew

Head of Plant Records and Collection Support at the Royal Botanic Gardens, Kew

Assist with the plant curation across the Kew and Wakehurst sites.

Supervisor of the Rock Garden, Alpine House and Rock and Alpine Living Collection for 5 years.

Alpine Garden Society Trustee

3. Structure

What is a geophyte?

Which groups are well represented geophytic collections at Kew and Wakehurst?

How do we grow them?

How do we display them?

4. Subtitle slide: What is a geophyte?

5. Wikipedia definitions with citations

**Bulb:** 'is a structurally a short [stem](#) with fleshy [leaves](#) or leaf bases<sup>[1]</sup> that function as [food storage organs](#) during [dormancy](#).'

**Corm:** 'A corm, bulbo-tuber, or bulbotuber is a short, vertical, swollen underground [plant stem](#) that serves as a [storage organ](#)'

**Tuber:** 'Tubers are a type of enlarged structure used as [storage organs](#) for [nutrients](#) in some [plants](#)...stem or root...'

**Rhizome:** 'a rhizome ([/'raɪzoum/](#); from [Ancient Greek](#) [ρίζωμα](#) (*rhízōma*) 'mass of roots',<sup>[1]</sup> from [ρίζω](#) (*rhizōō*) 'cause to strike root')<sup>[2]</sup> is a modified subterranean [plant stem](#) that sends out [roots](#) and [shoots](#) from its [nodes](#).'

6. Anna Pavord's definitions, taken from 'Bulb'.

7. Plants of the World Online definition of a geophyte

8. Comparison of POWO lifeform and Kew Living Collections Database, 3 peaks corresponding with bulb, tuber and rhizome, but then many many other geophytes that we think about less than the monocotyledonous geophytes.

9. Examining some of the inconsistencies in the POWO lifeform category – one Juno Iris described as a bulb, another a tuber

10. Examining Juno Iris storage organ

11. Subtitle slide: What geophytes are grown at Kew?

12. 8 images of monographs written in part from collections at Kew.

13. Chart of geophytes grown at Kew grouped by Family

14. Chart of geophytes grown at Kew grouped by Genus

15. Simplified Angiosperm phylogeny pointing out that geophytic habit occurs in many different clades.

16. Iridaceae collage 1. *Iris galatica*, *Iris khassanovii*, *Iris caucasica* ssp. *caucasica*, *Iris aucheri* 'Olof' x *I. stenophylla*, *Iris persica* ssp. *mardinensis*, *Iris nusairiensis*, *Iris aitchisonii*, *Iris stocksii*

17. Iridaceae collage 2. *Iris variegata* 'Bozhimir Davidov', *Iris dichotoma*, *Iris hoogiana*, *Iris korolkowii*, *Iris afghanica*, *Ferraria divaricate*, *Iris sari*, *Crocus biflorus*.

18. Iridaceae collage 3. *Iris edomensis*, *Calydorea nuda*, *Iris stenophylla*, *Tigridia pavonia*, *Iris stenophylla*, *Gladiolus carmineus*, *Crocus tournefortii*, *Dierama dracomontana*.

19. Amaryllidaceae collage 1. *Narcissus viridiflorus*, *Narcissus elegans*, *Narcissus gaditanus*, *Allium macleanii*, *A. nevskianum*, *Acis autumnalis*, *Allium mirum*.
20. Amaryllidaceae collage 2. *Galanthus peshmenii*, *Gethyum atropurpureum*, *Gilliesia graminea*, *Allium tripedale*, G. 'Selborne Green Tips', *Strumaria chaplinii*, *Galanthus 'Wendy's Gold'*, *Habranthus aff. tubispathus*.
21. Subtitle Slide: How do we grow them?
22. All weather frame, built 1987. Still our main resource for growing geophytes in pots.
23. Cultivation – Composts. Alpine mix, bulb mix, multipurpose and green roof mix
24. Cultivation – Practices
25. Cultivation Issues
26. Liliaceae collage. *Tulipa linifolia*, *Fritillaria aurea*, *Fritillaria straussii*, *Fritillaria hermonis*, *Fritillaria oliveri*, *Tulipa lehmanniana*, *Calochortus catalinae*, *Lilium humboldtii*.
27. Asparagaceae – Scilloideae collage (Hyacinths). *Prospero autumnale*, *Lachenalia pauciflora*, *Dipcadi serotinum*, *Lachenalia splendens*, *Eucomis autumnalis*, *Prospero talosii*, *Ornithogalum polyodontulum*.
28. Araceae collage. *Arum palaestinum*, *Arisaema tortuosum*, *Arisaema ringens*, *Amorphophallus titanium*, *Biarum dispar*. Tubers of *Amorphophallus titanium* and *paeonifolius*.
29. Subtitle slide: How do we display them?
30. Alpine House construction slide
31. Cyclamen genus-only pot display
32. Assorted pot displays showing staging
33. Rock Garden geophytes
34. *Iris cycloglossa*
35. Colchicaceae collage. *Colchicum kesselringii*, *Colchicum speciosum*, *Colchicum lusitanum*, *Colchicum feinbruniae*, *Androcymbium vanjaarsveldii*, *Androcymbium rechingeri*, *Androcymbium gramineum*.
36. Less common geophyte collage. *Gymnospermium albertii*, *Sinningia tubiflora*. *Nymphaea 'Sunfire'*, *Roscoea 'Kew Beauty'*, *Epimedium x perralchicum*, *paris japonica*, *Cyclamen graecum*, *Asarum minamitanianum*
37. Summary slide.