

The Mathers Foundation

Conserving Orchids Species & Hybrids

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The Mathers Foundation (TMF) has been operating since 2019.

From an initial collection based around the Oncidiinae genera, the Foundation has expanded to include over 5,000 oncidiums and odontoglossums, 9,000 pleiones, 600 stanhopeas and 500 masdevallias, holding two of the UK's national collections of orchids. It has its own laboratory with over 100 crosses in progress, has won numerous awards for the quality of its plants and their cultivation and has welcomed numerous visitors to its Spring Open Days. Set up as a 'not-for-profit', with its own endowment, the Foundation aims to preserve, grow and propagate these rare and endangered plants for the future, developing best-in-class growing techniques and working with other institutions and individuals to encourage interest in these plants. Recognising the limits of *ex situ* conservation, the Foundation is also keen to support *in situ* conservation. With the Foundation now entering its fifth year, the team is now adding a dedicated 1,250 square feet warm house to expand the range of genera that it can grow, as well as looking at additional space for its seedling population.

The genesis of the Foundation was the founders' concerns over the demise of many historic UK orchid nurseries and the fate of these plants and of the collections held privately by many individuals. The UK has a pivotal and unhappy role in orchid collection in the 19th century, over collecting many of these plants during the colonial period. To lose these plants and their descendants, both species and hybrids, merely compounds these errors. David



The Mathers Foundation logo.



Jim Durrant, Gill and David Mathers.



Cool House - Yellow oncidium hybrids (previously *Odontoglossum*).

and Gill Mathers, together with their expert grower, Jim Durrant, formerly of McBeans Orchids, decided to set up a new charitable foundation to provide a long term and sustainable future for these plants. The aim was to complement the work being done by other institutions such as the Eric Young Orchid Foundation (EYOF) in Jersey, the Royal Botanic Gardens Kew and RHS Wisley, as well as key growers in the Americas. They leased new glasshouse space that had been designed and built in West Sussex by a leading nursery automation and services company.

The initial plants were sourced from EYOF, focusing on an important group of orchids that have been grown in the UK since the 1880s, namely cool-growing odontoglossums. Although now subsumed into the larger *Oncidium* genus, *Odontoglossum* species and hybrids represent an identifiable sub-group centred around *Odontoglossum crispum* (now *Oncidium alexandrae*) with 120 years of breeding (and 10-15 generations) since their introduction. They are now rare in cultivation, as their original habitat is in the Andes, means that they are ill-suited to warmer modern homes. EYOF, one of the world leaders in orchid breeding and growing, has continued to hybridise with these plants and agreed to provide divisions of their plants that date back, in some cases, to Victorian collectors such as Sanders. Since 2019, the TMF team have sought

out more of these species and hybrids, including from the broader *Oncidiinae* genera, from other nurseries around the world and now looks after over 5,000 plants. It was recognised as having the UK's National Collection of *Oncidium*s in 2021 by Plant Heritage. The nursery also includes another important group of plants that have been bred since the 19th Century, namely cymbidiums. While the large size of these plants limits how many can be grown, TMF has about 300 fully mature plants, including standard cymbidiums that each take up 1-2 square metres of space and have over 200 flowers.



Oncidium Ardentissimum alba 4N reg. 1898
(*alexandrae* x *nobile*).



Oncidium Queen Mary FCC/RHS 1911.



Oncidium La Ville Abbe.



Cymbidium Moulin de Nicholle.



Oncidium deburghraevanum.

The next stage in the Foundation's development came in 2021 when they were approached by Ian Butterfield and Dr Phillip Cribb and asked if they would take responsibility for the unique collection of pleiones that Ian had developed over sixty years. Ian is responsible for making half of the registered *Pleione* hybrids in the world and his collection also included nearly all of the known *Pleione* species. These remarkable orchids, native to the mountains of the Himalayas, require careful growing to reflect both the warmer monsoon months of their home countries (such as Bhutan and Nepal) and the cool but dry conditions of the winter. The plants are sheltered in a dedicated greenhouse and are now also recognised as a National Collection.

In 2022, Dick Hartley, owner of another similarly famous collection, this time of stanhopeas and acinetas, donated his plants to TMF. These plants originate from the same Andean mountains as TMF's oncidiums and odontoglossums and can therefore be grown in the same glasshouses. Unlike oncidiums, however, these plants flower from the base of their pseudobulbs and need to be grown in hanging baskets to allow



Cymbidium Highland Dimension 'Jersey'.



Pleione Nyiarongo.



The Pleione House.



Pleione Zeus Weinstein 'Egret'.



Stanhopea Foxdale Sunset.



Stanhopea Penelope.



Cymbidium Chilton Common 'Hermitage Vert' CCC/RHS and Best Specimen at The RHS Wisley Orchid Show 2023.

their flower spikes to emerge. Dick Hartley's collection, like Ian's, is unique, including nearly all of the known *Stanhopea* species as well as many of their hybrids.

Jim Durrant's expertise is critical to the success of the Foundation. During his tenure at McBeans, while he has specialised in odontoglossum and cymbidium cultivation and hybridising, he has grown nearly all of the main orchid genera and his work has been exhibited at all the major UK shows, including 47 displays at the RHS's Chelsea Flower Show. He was awarded the Westonbirt Medal in 2022 and then named this year as an Associate of Honour for his services to horticulture by the RHS, a title limited to only one hundred members at any time.

Jim's work has at the TMF has already resulted in a number of cultural awards, as well as two Gold Medals for the exhibits at the RHS Wisley show. Jim leads our hybridisation program, as well as working on new growing techniques, including new composts, to improve the health of the plants and the sustainability of the collection. He also works closely with the site's owners to optimise the overall growing conditions, particularly dealing with

Photographer: H. Peters



Pleione Hertha Kretz 'Innocence' CCC/RHS.

the challenges presented by global warming. Sussex, though originally the home of *odontoglossum* breeding in the UK, now often has summer conditions that are too warm for these plants, necessitating the use of cloud misting systems and other techniques.

The nursery itself is designed to be as sustainable as possible. An early decision to use wood chip as the primary heating material has been well-founded, particularly with an excess of waste material resulting from the fungal disease, Ash Dieback, in neighbouring woodlands. This heating source is supplemented by air and ground source heat pumps. All rainwater falling on the site is collected with sufficient storage to supply the plants for three months. While the nursery is not organic – given the dangers of virus transmission from aphids and similar insects – pesticides are used rarely, with a focus instead on preventative measures.

Underpinning the collection is a significant investment in technology. Not only are the different zones of the nursery fully computer controlled, including multiple shading, ventilation, and misting systems, but all of the plants are catalogued and tagged with

a QR code in a central database. All plants are photographed on flowering and linked to the database. This enables the health and progression of the plants to be monitored and supports the outreach program to growers and other interested parties on social media. Furthermore, with the help and support of several leading experts, a laboratory was commissioned last year, allowing the team to germinate successfully asymbiotically seeds of both species and hybrids. The program is now in its third year with the first generation of seedlings recently de-flasked and growing under LED lighting systems.

The Foundation is also proud to support *in situ* conservation, providing funds for the Colombian Orchid Society's cloud forest reserve. While the collection is an important sanctuary for these rare plants, it should be recognised that supporting the conservation of these plants in their original habitat within their complete ecosystem is critically important.

TMF has more than achieved its original goals in its first four years. Its three founders and their trustees are focused on ensuring that it has a sustainable future, building an endowment to fund the



First oncidium seedlings.

charity for the future. The Foundation has benefited hugely from the help and advice of orchid experts across the world and is very focused on how it can reach out and support other institutions and growers working with these plants. They continue to add plants to the core genera of the collection and will be shortly commissioning a new warm house to expand the range of orchids that can be cultivated successfully. The results of the propagation program will only be evident from 2025 onwards but will likely require more space to accommodate these plants. They are readily accessible via social media and can be visited during their Spring opening days at their nursery outside of Pulborough.

ABOUT THE AUTHORS

David and Gill Mathers are two of the three founders of The Mathers Foundation, the third being their head nurseryman, Jim Durrant, formerly of McBean's Orchids. Both are members of the Orchid Committee of the Royal Horticultural Society. David Mathers has grown orchids, principally Paphiopedilums, for over forty years, gaining a number of awards for these plants. Gill Mathers, a chartered accountant, has been a governor of a London school and a trustee of a major housing charity.



Masdevallia Anne Crothers.



Masdevallia Bella Donna.



Disa Betty Arnold.



Bulbophyllum Jersey.

Photographer: H. Peters



Bulbophyllum Sagarik.

Photographer: H. Peters



A wasp visiting a flower of *Bulbophyllum schinzianum*.