Miniature Paphiopedilum

For several years now miniaturization of orchids has continued to be pursued by hybridisers in the genera *Cattleya*, *Cymbidium*, *Phalaenopsis*, *Tolumnia* (equitant *Oncidium*) and other genera as demand increases and the area available to grow orchids in units, flats and smaller lot sizes increases preference for smaller or miniature orchids that can be accommodated on window sills, under lights or in small hothouses.

In orchids we find that increasingly popular miniature *Cattleya*, *Cymbidium*, *Phalaenopsis*, *Tolumnia* (equitant *Oncidium*) and other small genera are becoming more available. Whilst much progress has been made in these genera, it is relatively new and unexplored in the *Paphiopedilum* world. The few hybridisers and nurseries that have invested in breeding miniature *Paphiopedilum* are enjoying success.

The newest trend in orchid hybridisation and propagation may be miniature *Paphiopedilum*. They are the result of line breeding standard *Paphiopedilum* species and hybrids to produce tiny plants with small, compact flowers. The increasing number of hobbyists who grow under lights or have only room for small greenhouses, or choose to grow their orchids on house window sills due to limited space has driven the breeding of smaller plants with either medium sized flowers or flowers that match the size of the plant. The beauty of the orchid flowers has not been compromised by the reduction in size and has made it much easier to grow several in the space that would otherwise be required for a standard *Paphiopedilum*.

A few years ago Nancy Mount ford of Woodstream Orchids gave a talk in Perth on what they were doing to produce these smaller growing plants and flowers. She described them as tea cup *Paphiopedilum*. In essence, the whole plant in flower will fit into a tea cup. It is interesting to contemplate how we should refer to these small growing *Paphiopedilum* that have miniature flowers.

In an attempt to find a distinct name by which this group might be characterised, my first thought was just to call them Tea Cup *Paphiopedilum* but the botanical lexicon already makes use of the terms miniature, dwarf, micro or pygmy:

Miniature: anything represented upon a greatly reduced scale
Dwarf: an animal or plant much smaller than the average of its kind or species.
Pygmy: used in names of animals and plants that are much smaller than more typical kinds a very small or miniature plant is having flowers in proportion to the plant foliage.

I think in time, even though the term Tea Cup *Paphiopedilum* is currently used, I suspect that Pygmy *Paphiopedilum* or Mini *Paphiopedilum* may be more appropriate.

The intent of these breeding programs is to produce:

- Flowers that are less than 6 to 8 cm in size with foliage in the same scale
- Flower form similar to standard complex hybrids with filled in round shape with the flower above the foliage.
- Small plants that will mature in 50mm pots and produce flowers in proportion to the plant’s size. Harold Koopowitz suggests mini *Paphiopedilum* could mature and flower in a 50mm pot and a multi growth plant might only need to be grown in a 75mm pot.

The breeding path to achieving these goals will be:

- Line breed from small species, and select the smaller growth and flower progeny producing primary hybrids for use as a breeding platform.
- Hybridise small flower and plant size complex hybrids with miniature species.
- Careful selection of small flowered complex hybrids and cross with each other.

Compiled By T Burnett
• Continue to breed plants with the smallest flowers and growth habit to improve shape. This back breeding with smaller complex would take several generations to achieve the desired outturn.

So, when can we start to obtain these smaller *Paphiopedilum*? After Nancy Mountford’s talk on Tea Cup *Paphiopedilum* in Perth in 2008, and with my wife’s love of miniature orchid flowers, I wondered whether I could produce some of these plants. I had focussed for several years in breeding large complex hybrid *Paphiopedilum*, so this was a totally new challenge for me.

After some research, I concluded that the starting point would be naturally smaller species with small growth habits. This includes *Paphiopedilum* species such as

*Paphiopedilum barbigerum*,

*Paphiopedilum charlesworthii*

*Paphiopedilum fairrieanum*

*Paphiopedilum henryanum*

*Paphiopedilum helenae.*

*Paphiopedilum thaiinanum*

Harold Koopawitz also identifies the flowing *Paphiopedilum* species as suitable for miniaturisation:

*Paphiopedilum spicerianum*

*Paphiopedilum X hermanii*

*Paphiopedilum tranlilenianum*

*Paphiopedilum Greyi*

*Paphiopedilum concolor*

This species has been well used in many forms of breeding with some 96 offspring registered to date with primary hybrids creating a great variation in flowers. Some examples are:
The shape of these flowers whilst flowering on small plants lack the shape of the modern hybrid but still have appeal in their own way. When we cross Standard Complex Hybrids with *Paphiopedilum henryanum*, we end up with mixed results as under

Due to a bit of arm twisting, I bred one of my compact growth flowering complex hybrids with *Paphiopedilum henryanum* for my wife. The following photo shows the result.
Paphiopedilum henryanum x Paphiopedilum TB Ethan

This cross has not been registered until I flower several more. When this species is crossed with yellow standards of good shape such as Paphiopedilum Stone Lovely we achieve a much rounder flower on small growing plants.

Paphiopedilum Be Happy

Other interesting miniature growing Paphiopedilum will be produced by the use of Paphiopedilum charlesworthii. The crossing of Paphiopedilum henryanum and Paphiopedilum charlesworthii has produced Paphiopedilum Doll’s Kobold which will be used in future breeding lines.

Paphiopedilum henryanum x Paphiopedilum charlesworthii =Paphiopedilum Doll’s Kobold
At the 2017 WA Orchid Spectacular in Perth flasks of (Paphiopedilum Doll’s Kobold x Paphiopedilum Baby Booboo) were on offer for those who interested in this line of breeding. Paphiopedilum Baby Booboo was the result of crossing Paphiopedilum Doll’s Kobold with Paphiopedilum Coconut Candy.

The second cross that I did was:

![Image](image.jpg)

Paphiopedilum TB Ethan x *Paphiopedilum charlesworthii*

This crossed produced multi flowering small red flowers in small pots. Some have flowered in 50mm pots with the growth being compact. This cross has not been registered until I flower several more.

For several years Woodstream Orchids have been breeding to produce producing small compact growing Paphiopedilum that will flower in small pots that will fit in a tea cup.

Recent Notes from Woodstream Orchids say

“Woodstream orchids have tried several grexes with mixed results.

There are two options:

- Breeding with small species and selecting small complex Paphiopedilum
- From standard species out crossed.

The best results have resulted from the blend of these two approaches.

The best minis do have a standard complex Paphiopedilum in the background.

Harold Koopowitz has made similar observations. Here are a few images that may be useful.”

![Image](image1.jpg)

Paphiopedilum Barbie’s Candy
(Paphiopedilum Coconut Candy x *Paphiopedilum barbigerum*)

![Image](image2.jpg)

Paphiopedilum Angry Bird
(*Paphiopedilum helenae* x Paphiopedilum Jolly Green Gem)
Paphiopedilum Angry Bird
*(Paphiopedilum helenae x Paphiopedilum Jolly Green Gem)*

Paphiopedilum Garibaldi
*(Paphiopedilum Bronzino x Paphiopedilum Earl of Tankerville)*

All the above photo were supplied by Woodstream Orchids

Another interesting feature is that these little plants generally seem to bloom faster than the standard size; therefore it is possible to buy immature plants and have them bloom in a shorter time frame compared to the standard Paphiopedilum.

Compiled By T Burnett
Many standard Paphiopedilum become quite large and difficult for home growers to keep once they are mature due to limited space.

The small plants will give more hobbyists the chance to grow these wonderful and different orchids in a very confined space and still enjoy the beauty of the flower.

The breeding of small Paphiopedilum will be dictated by the interest amongst growers.

Today there are more people pursuing these breeding lines, and of course, as more people become interested in growing and displaying these unique little plants more plants will become available.

Harold Koopawitz is also breeding to produce small growing Paphiopedilum Tea Cup size, and has made some hybrids with *Paphiopedilum spicerianum*.

To me the logical step forward to produce many fine whites and soft yellows in small compact plants and nice shape would to use *Paphiopedilum thaianum* with small standard complexes. To date, little breeding has been made using this species with only 16 plants being registered, mainly primary hybrids. A recent registered cross made using *Paphiopedilum thaianum* is Paphiopedilum Giovanni Bellini.