



**MAKING
BABIES
(ORCHIDS
OF
COURSE!!)**



AT EUROBODALLA ORCHID CLUB
September 2012 General Meeting
with Neville Roper

There are three ways of increasing the number of orchids in the world:

BY DIVISION – ‘breaking-up’ a relatively large plant into smaller pieces resulting in multiple pots of the same plant (clone): all identical

BY CLONING – a laboratory procedure where a very small piece of plant tissue is grown into a ‘blob’ (my term) that can be cut into several pieces which can then be manipulated with chemicals to become either tiny plantlets or continue forming more ‘blobs’ to later create an even greater number of plants with the sky being the limit as to the number of plants possible from this method. Experience has shown that the greater the number of clones produced the greater the likelihood of the resulting clones being altered from the original. Essentially cloning is, in theory at least, a hi tech way of mass producing divisions. The resulting plants are called clones or mericlones and remain clones for the rest of their entire life.

BY MAKING BABIES – This too becomes a laboratory procedure as growing orchids from seed is a little more complicated than for most other plants. The result of this process is potentially a large number of genetically similar (but slightly different) plants which can be regarded as brothers and sisters (siblings). Unlike the above two methods breeding new orchids creates the possibility of producing improved new forms of existing species and an infinite number of new hybrids, Existing hybrid crosses can even be remade using improved parents. The resulting baby plants are called seedlings until they have finished their first flowering season.

HOW TO MAKE BABIES

This can best be detailed as a series of steps:

- **Set An Objective** – *what do you hope that your babies will achieve. This could include one , several or all of the following points identified by the members at the last meeting.*
 1. *Better , new or different colours*
 2. *Bigger flowers*
 3. *Novelty values – pelorism, miniatures or different shapes*
 4. *Vigorous growth*
 5. *Longer racemes with more flowers*
 6. *Better arrangement of flowers on the raceme*
 7. *Earlier or later flowering times to extend flowering season.*
 8. *Smaller plants or foliage*
 9. *Increased flower life*
 10. *Better shaped flowers.*
 11. *Improved (heavier) flower texture*
 12. *Disease and pest resistance*
 13. *Heat or cold tolerance*
- **Decide which plant will be the mother (carry the seed pod) and which will be the father (provide the pollen).** *There is no reason why you could not swap pollen so the each plant plays both roles. Many hybridists do this every time they make a cross. Note that carrying a pod can be a strain on a plant so motherhood should only be for established/ robust plants*
- **The Act** – *to accomplish this you will need some ‘sex aids’ in the form of tooth picks. Using a BRAND NEW toothpick the pollen cap and pollen need to be removed from the tip of the column of the mother flower.*



- *This is best done in a single motion from behind the pollen cap towards you to minimise any chance of pollen fouling the stigmatic cavity of its own flower. The tooth pick with the pollen attached should be discarded or put aside for future use, the pollen cap usually comes loose and falls to the ground.*

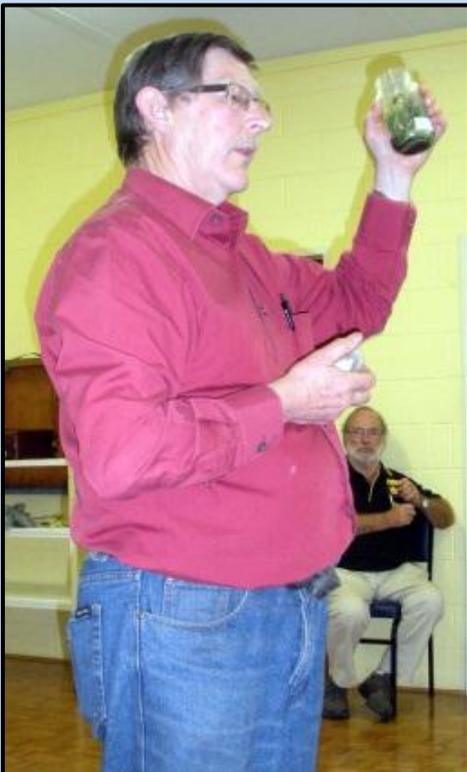


- You now need to collect the pollen from the plant being assigned the father role. This is done with another **BRAND NEW** toothpick using the same procedure that was just outlined. The pollen now needs to be placed in the stigmatic cavity of the mother flower – this is a gluey sunken area just behind where the pollen cap was but on the underside of the column.



- Job done, have a cigarette!

- Label the flower with the name of the parents and the date of pollination
- The plant should put aside for the gestation period (until the seed pod ripens). The pregnancy period varies from one species to another and depends on the weather but can be as short as one month or longer than one year.
- Sowing the seed – in nature an orchid seed that germinates and survives to flower is an absolute fluke, for us it becomes a technical laboratory procedure. There are several ways that might allow a few seeds to germinate but these are really impractical.



There are two options available at this stage; sowing green seed or dry seed and you will need to locate a lab well in advance that will sow your seed and you will need to ask which option they prefer. 'Dry' seed is seed that has been allowed to fully mature in its pod while on the plant, this results in a fully ripe pod beginning to split open exposing the tiny seeds inside to the air and therefore potential contamination. This seed needs to be sterilised in something like weak bleach before it is sown in a flask. 'Green' seed is taken from a pod before it is fully ripe but the seeds inside are mature enough to grow. As the seeds inside have not been exposed to the air they remain sterile so only the outside of the pod needs to be sterilised and because it will ultimately be discarded it can be sterilised with really strong bleach and/or a flame.



POST POLLINATION

So the choice is yours, if you want more of the same you have the first two methods at your disposal but if you want improvement or different plants then you will need to practise your pollinating technique.

The only difficult parts are finding a laboratory that will do your seeds and remembering to constantly use new toothpicks.

Neville Roper





Thanks
Neville!