

CLIVIAS FOR ALL SEASONS

Can interspecifics flower throughout 12 months of the year?

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From time to time I see reference to claims that *Clivia* bloom for their Australian owners over eight months of the year. However, as my own collection of *Clivia* – including interspecifics – grew, I had the impression that here in Melbourne, Australia, interspecifics, in conjunction with the other pendulous species (or intraspecific hybrids) available up to date (*C. caulescens*, *C. gardenii*, *C. nobilis* or *C. robusta*), resulted in flowers (or buds) throughout the full year. It was also my impression that the Australian forms of *C. x crytanthiflora* in my garden flower during any

of the four seasons, though slightly less so during spring.

Like other growers of *Clivia*, I am of course delighted to be able to enjoy *Clivia* flowers or their buds, and frequently also berries, over many months of the year, but I became curious to understand a little of the patterns behind this flowering. I thus started to keep simple records of the months when interspecifics were in flower, commencing in December 2008 and continuing until the present (mid-November 2010).

My observations are from a hobbyist perspective, recording the flowering times of the interspecifics which I happen to be growing and where I have some knowledge of the plants' apparent background. I thus have not counted those plants just labelled as "interspecifics" or where they emerged from general "breeding mixes" or else where they are named cultivars for which I have no definite parentage background. My main interest was to identify the months when the interspecifics were in flower, and more particularly, to identify the parents involved in these flowering patterns.

To date, my own collection of interspecifics is primarily based on combinations of *C. miniata*

with three pendulous species – *C. caulescens*, *C. gardenii*, *C. nobilis* – with very few combinations with *C. robusta*, and, of course, some *C. x crytanthiflora*. I will employ the term primary interspecific hybrid for the first generation hybrids between different *Clivia* species, and am still searching for an appropriate term or terms to describe subsequent combinations.

Despite what I felt were fairly simple and worthwhile aims, when I came to do the analysis, the more I studied my records, the more problems I found with them. I was dealing with an unspecified number of plants, with unequal numbers in any of the varying combinations.

Also, I had not, for instance, differentiated between first and second flowers from the same rhizome in any one year, nor did I distinguish between flowers on the main rhizome in a pot, or offsets which flowered in the same pot. Quite a few flowers were counted twice, if they flowered in one month but continued flowering into the next, as was often the case.

Of most concern was the fact that I had insufficient knowledge about the backgrounds of some of the interspecifics. For instance, though a plant may have been grown from Nakamura seed which was labelled as *C. miniata* x *C. caulescens*, sometimes I was unsure if this is a primary interspecific hybrid or if the latter had been selfed or crossed back to *C. miniata*, since Nakamura produced all three kinds of interspecific hybrids. I wanted to include 'Moonchild' in the analysis, but because I am doubtful about it being a primary interspecific of *C. miniata* x *C. gardenii*, I have omitted it from the analysis, though obviously have been more lax with other cases where ignorance reigns.

Because of all of these problems, at times I felt like abandoning any effort to analyse the

results, but given the time put into the exercise to date, have proceeded anyway. A more rigorous observational study can be undertaken by others in the future.

I attempted to produce a chart which separated the primary interspecifics hybrids from other kinds of interspecifics. The primary interspecific hybrids were categorized according to the following simple patterns:

- (a) (*C. miniata* x *C. nobilis*) or (*C. nobilis* x *C. miniata*) or *C. x cyrtanthiflora*;
- (b) (*C. minata* x *C. gardenii*) or (*C. gardenii* x *C. miniata*); and,
- (c) (*C. miniata* x *C. caulescens*) or (*C. caulescens* x *C. miniata*).

Since I also have a number of interspecifics where a primary interspecific has been crossed again to *C. miniata*, in the main, and only very occasionally to another pendulous species, I analysed a further group which I have loosely labelled as "other interspecifics, for want of a better term.

Koopowitz (2002), followed by Duncan (2008), employ the term "advanced interspecific hybrids", but I have heard that such a label may apply more to orchids than to *Clivia*, so I remain unsure of a suitable alternative. As with the primary interspecific hybrids, three sub-categories were created, such as (*C. miniata* x *C. caulescens*) or (*C. caulescens* x *C. miniata*) which are crossed again to *C. miniata* (in nearly all cases).

The table that I produced, not surprisingly, shows fairly small numbers in some of the monthly cells, so I shall only descriptively summarize some of the main or interesting findings:

1. Of the 193 instances of flowering recorded (remember that this is over a two-year period and includes repeat flowering, multiple flowers in the same pot or divisions), 54% of this flowering occurred during winter, with July and August being the main months.
2. Spring was the next season to produce the highest number of interspecifics, with 20% of the flowers occurring at this time, the

majority of which flowered in September.

3. Summer and autumn together produced just under one-half the number of the winter flowers, slightly over 13% and 13% respectively.
4. A month by month sub-total shows substantial monthly variation. The month with the highest to the lowest number of interspecific flowers was as follows: August (50), July (40), September (25), June (14), December (13), January, March and May (9 each), October (8), April (7), November (5) and February (4) instances.
5. Primary interspecifics involving *C. miniata* and *C. gardenii* flowered in late autumn (May) and in winter (June, July and August) but never during the other months.
6. (*C. miniata* x *C. gardenii*) or the reverse cross, crossed again to *C. miniata* occurred mostly in late winter (August) and a little in mid winter (July), early spring (September) or mid summer (January), but only rarely in two of the other months (April or October).
7. Primary interspecific hybrids involving *C. miniata* x *C. nobilis*, its reverse cross or *C. x cyrtanthiflora* flowered over 10 months of the year, but not in October or November, even if the number of occurrences were low in some of the other months.
8. When crossed again with *C. miniata*, interspecifics from *C. miniata* and *C. nobilis* or *C. x cyrtanthiflora* flowered in every month except January, with the majority of instances occurring in early spring (September).
9. Primary interspecifics involving *C. miniata* and *C. caulescens* flowered in every month except October, but when crossed again with *C. miniata*, flowered most commonly in August and September, but not in December or in the period February to May.
10. Due to the small number of instances, I have not attempted to analyse other combinations such as (*C. miniata* x *C. gardenii*) x (*C. nobilis* x *C. miniata*), which were classified under "other combinations".



Mid-winter *C. miniata* x *C. caulescens*.



Early spring $[(C. miniata \times C. caulescens) \times miniata]$.



Mid-summer 'Mandala' (from *C. miniata* x *C. caulescens*).



Early autumn *C. caulescens* x *C. miniata*.

The re-blooming characteristic of interspecifics involving *C. nobilis* (or *C. x cyrtanthiflora*) and *C. caulescens* may account largely for their wider spread throughout the year in comparison with the more restricted flowering of interspecifics based on *C. gardenii*. Since I wish to extend the flowering season over early autumn, mid to late spring and summer, this means that *C. gardenii* or its interspecific hybrids should not be my first choice in further crosses.

This exercise was an observational one of the plants in my collection and is quite different from a rigorous one, where, for example, equal numbers of plants of any particular combination would be used and much more rigorous recording criteria developed. I have not attempted to decipher any differences according to whether a particular species

was used as the seed/pod or pollen parent and nor have I analysed re-flowering, which I actually consider to be an important feature of interspecific flowering.

As I write this short text in the “quieter” period of early November, interspecifics in flower are limited to an unspecified one from a breeding mix and another involving (*C. miniata* x *C. nobilis*), crossed again to *C. miniata*. However, *C. nobilis* and *C. caulescens* are in flower, and some late flowering *C. miniata* are still displaying a few flowers – this year anyway.

Can interspecifics flower in every month of the year? I think I can give a positive answer, with the qualification that the frequency varies considerably according to the season or month. I hope that one will flower at Christmas time again this year. &