

## Meconopsis integrifolia and its relatives

The Meconopsis Group has achieved almost all of what it originally set out to do – to sort out the nomenclature of the big blue poppies. We will continue this work, but also look more widely at the genus.

Investigation of *Meconopsis integrifolia* was prompted by questions about *M. xbeamishii* (*grandis* x *integrifolia*) and *M. xsarsonsii* (*baileyi* x *integrifolia*). Both have been reported to be fertile, seed has been circulated, but there have been questions about their identities, differences between them, and whether they are both still in cultivation.

### The yellow parents

In the beginning there was *Meconopsis integrifolia*, with big yellow flowers, hairy leaves, monocarpic. Then Kit Grey-Wilson separated *M. pseudointegrifolia*, and more recently has made two further splits, first describing *M. lijiangensis*, and most recently *M. sulphurea*. He has also separated *M. integrifolia* into subspecies *integrifolia* and *souliei*, *pseudointegrifolia* into subsp. *pseudointegrifolia* and subsp. *daliensis*, and *M. sulphurea* into subsp. *sulphurea* and subsp. *gracilifolia*. So the one name that applied to the hybrids with blue-flowered species has been replaced by seven. Which of these seven is the parent in each case?

Going back over our old photos and records, we find that we have seen, and probably grown, all four species.



*Meconopsis integrifolia* subsp. *souliei*



*Meconopsis sulphurea* subsp. *sulphurea*



*Meconopsis lijiangensis*



*Meconopsis pseudointegrifolia* subsp. *pseudointegrifolia*

And there is one more that we are growing, first found by Jens Nielsen, which keys out as being closest to *M. integrifolia* subsp. *souliei*, but really looks more like *pseudointegrifolia*. Could it be yet another species? Jens, tongue firmly in cheek, calls it "*pseudointegrifolioides*"!



*Meconopsis* "*pseudointegrifolioides*" – *M. aff. integrifolia* subsp. *souliei*

### The blue parents

The other parent of each of the hybrids is a blue-flowered species, which could be *grandis*, *baileyi*, *betonicifolia* or possibly *simplicifolia* – and including subspecies, there are now nine possibilities! Unlike *M. integrifolia* and its relatives, they are all normally perennial.

### The hybrids

8 yellow x 9 blue gives 72 possibilities, each potentially two ways round, so 144, just considering the first generation.

*Meconopsis xsarsonsii* was described originally as *betonicifolia* x *integrifolia*. At that time (1930) *betonicifolia* included what is now *baileyi*, and as *M. betonicifolia* was almost certainly not in cultivation, the seed parent must be *M. baileyi*, probably subsp. *baileyi*. But the pollen parent must remain unknown, because several species would have been grown at that time, all under the name *M. integrifolia*.

*M. xsarsonsii* can be monocarpic or perennial, and it is fertile. In habit and leaf shape it resembles *M. baileyi*, and it also has small seeds, like those of *M. baileyi*.



*Meconopsis xsarsonsii*

*Meconopsis xbeamishii* first flowered much earlier, in 1906, and was described as *M. grandis* x *integrifolia*. That early date indicates that the parents were almost certainly *M. grandis* subsp. *grandis* and *M. integrifolia*. It was said to be fertile and to have some purple-blue colour at the base of its petals. It was described as being "in appearance like *integrifolia* ... but more vigorous".

But how could it be fertile, when *grandis* and *integrifolia* are reported to have chromosome numbers  $2N = 164$  and  $\sim 74$ ? There are several issues here. First, that  $\sim 74$  could perhaps be as much as 82, in which at least the base number would be the same. Secondly, we do not know which of the *integrifolia*-related species was originally studied, and we do not know whether they all have the same chromosome number. And finally – we cannot be certain that it is always fertile. After this talk several people said that in their experience *M. xbeamishii* is infertile, while another said that it is fertile – and regularly grows plenty of seedlings, which seem to match the description well.



*Meconopsis xbeamishii*: photograph taken from Meconopsis World

*Meconopsis xharleyana*, which was produced in cultivation and first flowered in 1926, was described as *M. simplicifolia* x *integrifolia*. A similar plant was photographed by Kenneth Cox in Kongbo in Xizang (Tibet). The photograph shows something that looks like a creamy white-flowered *M. simplicifolia*, which is normally blue and is also seen in the same photograph. The only *integrifolia* relative that could be nearby is *M. sulphurea*. Kit Grey-Wilson gave it the new name of *Meconopsis xkongboensis*, on the grounds that the pollen parent of *M. xharleyana* could only be *M. integrifolia*. But by 1926 *M. sulphurea*, *lijiangensis* and *pseudointegrifolia* had all been collected, so the situation is more complicated. It would appear that *M. xharleyana* is a name that cannot be applied exactly, but that *M. xkongboensis* is clearly *M. simplicifolia* x *sulphurea*.

So that is three or perhaps four of the 144 possible simple hybrids that are known – up to a point. There is plenty more work to be done. So far, yellow x blue has always given plants with cream or white flowers.



But 144 hybrids is not the limit; there are also hybrids of hybrids.

*Meconopsis* 'Marit' was said to be *M. grandis* x (*xsarsonii*). The *grandis* at that time was probably 'Lingholm', which is believed to be *M. grandis* x *baileyi*.

Another interesting hybrid was recently produced by Brian Willett and his son Ben. Demonstrating fertilisation, they looked for pollen to apply to *M. "integrifolia"*, which we believe was actually *M. sulphurea*. All that was available was *M. 'Lingholm'*. A few seeds were produced, and four plants were raised. They are good perennial plants, one of them in particular, with the general appearance of white-flowered 'Lingholm'. But they are not fertile. The best of them is being propagated vegetatively, which is a slow process.



*Meconopsis 'Marit'*



*Meconopsis sulphurea* x 'Lingholm'

#### What next?

- Given the multiplicity of "*integrifolia*" taxa, it is very important to record the origins of cultivated plants. There may be further changes in taxonomy, so even the careful application of the correct current name may not be sufficient.
- The widest possible range of taxa should be cultivated. That requires careful study of what is already grown, and introduction of more taxa whenever they are available. That applies to both the "*integrifolia*" and the blue-flowered parents.
- Hybrids should be created or recreated, again with very careful and complete recording of as much information as possible about both parents. Full descriptions of the hybrids (and not just of selected single plants) and photographs should be made and preserved.
- As always, genetic work (both chromosome counting and DNA studies) could shed light into dark corners.

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