

## **OPEN POLLINATED SEED**

New members of the Group and those new to seed-raising rhododendrons could well be flummoxed or concerned by the terminology used in the attached Seed List. Others may be bothered by perceived wisdom about the likely illegitimate (to be polite) progeny of such seed.

Dealing with the first is simple: an explanation of terms appears in the introductory pages of the seed list. To address the second, two seasoned rhododendron growers who have raised countless plants from seed offer their thoughts below. Russell Beeson kindly composed his offering especially to accompany this year's mailing and I thought a reprisal of Barry Starling's article for the March 2017 Bulletin would complement it nicely.

Above all, raising and growing on rhododendrons from open pollinated seed is a perfect way to hone your skills for the longed for day when we can once again lay our hands on rarer fruit from the wild. There are some choice offerings in the list which should yield some quality offspring, so give it a go!

**Pam Hayward**

### **Some thoughts on open pollinated (OP) seeds of rhododendron species**

Every year we are, quite correctly, encouraged to hand-pollinate our choicest rhododendron species in order to obtain good quality seeds for the seed list. Every year most of us do not find the time or opportunity to comply with this counsel of perfection and accordingly deliver OP seeds. It is possible that the potential purchaser of seeds will think that OP seeds are just going to produce worthless hybridised plants and are therefore not worth bothering with.

There are many OP seeds in the seed list, many of them relating to interesting and rare species, often with collectors' numbers attached. I would like to put the issues into perspective, in the hope that growers will understand that OP seeds are not necessarily rubbish and present opportunities to obtain very fine plants. Firstly, let's look at some definitions and then delve a little deeper. Seeds can be produced by three routes:

**Open pollination (OP):** in this case the seeds are simply produced naturally by the plant with no human intervention, but certainly with assistance by insects and wind.

**Hand-pollination (HP):** the gardener transfers pollen from the anthers of one plant to the stigma of another plant of the same species.

**Selfing:** a variant of HP, whereby the pollen is transferred from anthers to stigmas on the same plant. Some species are self-infertile and therefore will not set viable seeds. Technically, it would also be regarded as selfing if the pollen parent and the seed parent were separate plants but of the same clone (in other words propagated vegetatively from the same plant, so genetically identical).

We can already see how complicated this business is becoming.

We should also consider how seeds are produced in the wild where, of course, only open pollination occurs. Nevertheless, wild-collected seed has a certain cachet to it which suggests it is inherently superior to garden OP seed. There is some justification for this in the sense that rhododendrons in the wild tend to grow in communities where there are groups of several or many plants of the same

species growing together, so it is not unreasonable to suppose that plants are more likely to have been pollinated by others of the same species.

Let us also consider the implications of collectors' numbers which we often see on labels attached to cultivated rhododendron species. What exactly is the horticultural importance of the collector's number? The original seeds may have been gathered by, say, George Forrest in Yunnan (or more probably by one of his local employees). They may have come from just one plant or possibly from several plants growing near each other. They would have ended up in a bag labelled, say, F14058, and would ultimately have been distributed to subscribers to that particular expedition. Many seedlings would then have been grown from these seeds, all of which could quite correctly have been labelled F14058. Would they have been identical plants? Certainly not. The whole point of sexual reproduction is to produce variability. It is likely that they would all have been recognisably of the species from which the seed was collected, but it should not be expected that they would be identical. Furthermore, there is always the possibility some or all of those original seeds might have resulted from cross-pollination from other species growing nearby, in other words natural hybrids, which would probably produce plants very different indeed from the parent from which the seeds came. A collector's number in itself is therefore no guarantee of either identity or quality.

In some famous old gardens there are plants still alive which were grown from seeds sent back by the great collectors of the early 20th century, but the great majority of plants we come across with those collectors' numbers attached have been vegetatively propagated (or cloned, to use the American term), and will therefore be genetically and horticulturally identical with the original plant. Unfortunately this is not a perfectly reliable business, and it is not uncommon for collectors' numbers still to be shown against plants grown from seed taken from the original seedlings, possibly over several generations. It is essential to understand that the only plants to which a collector's number can be attributed are seedlings from the original wild-collected seeds or plants grown vegetatively from those plants. Unfortunately, bad practice and ignorance are not uncommon, so there are no guarantees that the number means what it is supposed to. Plants grown from seed (whether OP or HP) from a plant with a collector's number should not themselves have that number appended to them, but it would be interesting and useful for their origin to be known. For this purpose, the expression "ex F14508" may be used.

We also need to understand the wider implications of clones. As we have already established, there will be natural variation in the plants originating from just one packet of wild-collected seeds. Over the years, discerning growers have selected what they believe to be the finest forms of these plants, which have then often been given clonal names. So, to use my original hypothetical illustration, we might have F14058 'Tower Court' or F14058 'Red Rum', which might then be propagated vegetatively, (ie by cuttings, layering, grafting or micropropagation) to ensure the continuation of that particular clone, which would be sought after by connoisseurs of the most outstanding plants.

Against this background, how should a seed-list user approach the many OP seeds listed? Perhaps the most important piece of information is the source of the seeds. A good example would be Deer Dell, which has been an important contributor of seeds for the 2021 list. Many of these seeds have collectors' numbers and, in this case, there is some certainty that the plants will all have been the finest forms which could be obtained, because John McQuire, the late owner of Deer Dell, established a reputation for selecting only the best forms of species for his outstanding collection – and this applies whether or not collectors' numbers are present. The same considerations will apply to many other seed donors. There can be no guarantee as to the quality of the plants likely to result

from these seeds (and the same applies also to HP seeds) but the experience of many growers is that there is a good chance that the majority will come more or less true to type. The purist may well avoid any seed-grown plants and will wish to grow only vegetatively propagated specimens of known clones. However, for the majority of gardeners, these plants will in many cases be unobtainable through normal means or prohibitively expensive. Growing plants from carefully selected OP seeds presents an exciting opportunity to obtain really fine garden plants, as well as the thrill and satisfaction of growing beautiful flowering shrubs from seed.

**Russell Beeson**

### **To bee or not to bee**

With the ill-advised Nagoya Protocol preventing the collection of seed from the wild we must increasingly look to our cultivated plants of rhododendron species to enable this means of propagation. We are urged to hand pollinate the flowers on our plants to ensure that their seed produces plants true to that species but I would question whether this is necessary. Since the early 1960s I have been raising rhododendrons from seed, often open pollinated, and have had very few little strangers.

One of the first batches was from seed of the dwarf form of *R. keiskei*. This was not the prostrate *Rhododendron keiskei* var. *ozawae* which had yet to be introduced but was a shrub up to 1m in height rather than the type form which can attain 3m. All but one of the seedlings proved to be true to the seed parent while the odd one out was more robust, with larger, broader leaves. When it flowered it seemed fairly obvious that this was a hybrid with *R. ciliatum* or *R. 'Cilpinense'*. It was, nonetheless, an attractive shrub with an abundance of creamy white flowers lightly flushed with pink in early Spring. I called it 'Silky' and still have it today as .

A batch of open pollinated seedlings of *R. racemosum* F19404 produced among them two plants which appear to have *R. lutescens* blood but apart from that and the foregoing I cannot remember any others that did not come true to type.

Curiously, while seeking variation in the F2 generation of some hybrids, these too have produced lookalike seedlings. Seed of *R. 'Carmen'* produced identical clones to the parent and I remember that Dutch nurserymen raised the azalea 'Homebush' from seed with very little variation in the progeny.

We must remember that even seed of a particularly good specimen of a species in the wild will not necessarily give us the qualities of its parent. The parent plant will be growing in a colony containing less spectacular forms with one of these being the pollen parent.

During the busy Spring season in the garden it is sometimes difficult to find time to hand pollinate to any great extent and open pollinated seed should not be dismissed as unworthy.

**Barry Starling**