

Oncocylcus Iris – How to Grow These Desert Beauties

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When we talk about aril irises, we generally consider two very different types of irises that are grouped together under the term “aril”. These are the *Oncocylcus* and *Regelia* irises of the Near East. Aril irises derive their name from the little cream aril, or a collar-like, fleshy appendage of their seed. Although they have beards like bearded iris, they are not classified with the bearded irises because they are so different in their appearance and cultural requirements.

Normally, the colours of aril blooms are extremely pure and clear. Alternatively, the blooms may have wonderful blotches that contrast with the colour of the flowers in an unbelievable range of colours. The falls of aril flowers

may have veins and dots or stippling in subdued or strong shades. These features may also appear in the standards of aril flowers. The dark, circular spot, also known as the “signal”, which appears at the end of the falls, is another typical trait of the flowers of *Oncocyclus* irises, which distinguishes them from other iris flowers. When arils are hybridized with the standard bearded irises, the progenies retain a number of these attributes, while some may have new, but mesmerizing hues, patterns and streaks. Unfortunately, aril irises are difficult to grow in all but the warmest and driest regions of New Zealand.

In this century, hybrids were produced by crossing the arils with the more common bearded irises. These are called “arilbreds” (ABs) and are usually very easy to grow yet still display the spectacular features of the arils. The arilbreds are as diverse in colour and form as they are in their genetic makeup and the combinations of these features make them an exciting and challenging group of irises. Unlike their aril ancestors, many arilbreds can be grown successfully in a wide range of climates. They give gardeners the opportunity to enjoy the beauty of aril-type flowers without having to provide the special environment required to grow the pure arils.

For awards purposes, the American Iris Society places arilbreds into two

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Left: *I. paradoxa*
mirabilis

Right: *I. acutiloba*
ssp. lineolata



N Z A G S



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classes (less than 1/2 aril content and 1/2 or more aril content) The Aril Society International uses a more detailed system of categories that tracks not only the amount of aril content, but also the type of aril content (Oncocyclus, Regalia, or both). This results in a complex classification of nine types of arilbreds. An arilbred with only Oncocyclus and bearded ancestry is an oncobred (OB). One with only Regalia and bearded ancestry is a regaliabred (RB). If both Oncocyclus and Regalia ancestry are present, it is an oncogeliabred (OGB). This is by far the largest category. If the arilbred has less than 1/2 aril content, it is marked with a - sign. If more than 1/2, with a + sign. This more complex classification system provides extra guidance as to the growing requirements of the hybrid.

CULTIVATION OF ARIL AND ARILBRED IRISES

Arils and arilbred iris have a reputation for being difficult to grow. This is partly deserved, but also partly the result of a misunderstanding of their requirements. Unfortunately, the word aril is often used rather carelessly to refer to both aril and arilbred iris.

Arilbred iris are hybrids between aril and bearded irises; two types of iris that have very different cultural requirements and which differ greatly in their ability to grow and thrive without special attention. In general, arilbreds with less than half aril content (this includes most arilbred medians) can be grown exactly like the bearded irises. Giving them special treatment is unnecessary and may even be harmful if it causes you to depart from the 'tried and true' practices on which your bearded irises thrive. Those arilbreds with more than half aril content should receive some preferential treatment though not the full-blown summer rain protection demanded by the pure arils. They will appreciate however the best drained, most open, preferably slightly raised location that your garden can provide. Generally today's arilbreds are not hard to grow in most climates. A selection of arilbreds interspersed among a planting of bearded iris will generally grow and flower without any special attention. However, some understanding of their cultural preferences and parental origins increases the odds, ensuring a greater rate of success.

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The aril irises are the Oncocyclus and Regalia species from the Middle East and their hybrids that have only aril irises in their ancestry. The Oncocyclus

Upper left: *I. aurenitica*

Lower left: *I. polakii*

in particular have always posed a challenge to gardeners living outside their native region. They go completely dormant in the summer which leaves them susceptible to rot in rainy climates. Furthermore, they don't apologise for being temperamental, sometimes thriving for four or five seasons and then simply dying for no obvious reason. The Regalia iris are much more adaptable but still prefer dry hot summers. Growing the pure arils such as the Oncocyclus and Regalia species successfully is a real challenge and is often a question of understanding their cultural requirements and adjusting for them accordingly. This is not always easy with our sometimes excessively wet and humid climate where we live in the Bay of Plenty of the North Island of New Zealand. The warm dry summers and cold winters of Central Otago of the South Island of New Zealand would provide a more suitable climate being more similar to their native habitats.

8 Many different methods have been used for growing and protecting Oncocyclus irises especially during their summer dormancy when they must be kept dry. In cool, wet climates, most growers make use of a shelter, cover, frame or greenhouse or any other form of protection. The structure I have built is open on both sides for extra ventilation, has an elevated bed for extra drainage, and is covered with a polycarbonate plastic cover to keep the rain out. I prefer to leave this cover on all season in our New Zealand climate to compensate for the often excessive rainfall, warm temperatures and high humidity at the wrong time during the summer, which could result in the rotting of the rhizomes. This way I can control the cultural requirements like watering when needed, air circulation, feeding, and spraying for any fungal or insect problems.

Right:

I. kirkwoodiae x
I. iberica



Knowing the cultural requirements of the pure arils, one can take a few basic steps to improve the rate of success with arilbreds. If you have a choice of planting locations, arilbreds should be placed where light and air circulation are best and where drainage is particularly good. Take steps to avoid or reduce excessive soil acidity. Don't make the mistake of coddling them in a sheltered corner for protection from winter cold; such locations may be shadier and damper during the summer months, and lead to more harm than good. It will not be necessary to dig them or protect them totally from rain during the summer, as most arilbreds do not go completely dormant and are not as vulnerable as the pure arils. However, it is still wise to practice a very clean culture and keep an eye out for densely overgrown clumps that could benefit from division. Plan on dividing arilbreds every other year; you may even find a few benefits from the annual division!

GROWING ARIL IRISES

Ideally, aril (and arilbred) irises should be planted when they are just getting out of their hibernation or dormant period. You should avoid planting irises during the summer heat as it is very stressful at this time of the year. Similarly, irises should not be planted during the late autumn just before the harsh winter months. I usually start tipping out in February or March or even later when I find they are just out of their dormant period and coming into growth. In fact, the best time for planting irises is subject to the climatic conditions in your region.

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Right: The raised beds made from recycled pallets, keep the plants at a good height and support the roof. This is essential for the dormant period of desert irises.



For all arils, first and foremost, sharp drainage is important and an absolute requirement for successful culture. Washed brick sand, granite, pumice, or other coarse material, can be worked into the soil to improve drainage. There should be a good supply of calcium. (Gypsum can be used to provide calcium and loosen heavy soil.) If the soil is acidic, lime should be added. Planting the irises on hills or ridges can help the drainage in marginal soils. Many people plant arils in raised beds where sharp drainage can be 'built-in.'

Arils are desert plants, so they need full sun for at least two-thirds of the day. Some protection, or shelter, from rain and cold is also helpful if possible. The pure aril irises must be kept absolutely dry without any watering during their summer dormancy so some protection from summer rain is also required.

10 The requirement for a dry summer rest means pot culture is a good option for a small collection of aril iris. Use a generous sized pot (3-4L for a decent sized rhizome) as a healthy plant will have proportionally large root system and a larger volume of potting mix will provide a more stable root environment. Place a thin layer of potting mix or compost (1-2cm) in the bottom of the pot and include some slow-release fertiliser. Then fill the pot one half to two thirds full with coarse grade pumice so that the rhizome can be planted just below the surface of the growing medium. Tamp this material down by tapping the pot, and then shape the pumice into a mound in the centre of the pot so that the iris roots can be splayed out in a circle over the mound and pointed downwards for a better start. Add further coarse pumice and tamp this down to fix the roots and rhizome in place. Complete filling of the pot with fine grade pumice to just cover the rhizome. This potting method provides both the aeration and the drainage around the roots that is required for these desert plants.

Remove dead leaf material once the plant has gone dormant over summer. A healthy plant will use up all the nutrition in the pot during the growing season so annual repotting plus supplementation with liquid fertiliser while in growth is recommended. Avoid watering directly onto the rhizomes as warm wet conditions about the rhizome may lead to rots. Depending on the species and your climate, aril iris are susceptible to aphids, black spot, rust and other fungal diseases. Fungal infection results in loss of the leaves and will debilitate the plant. Regular inspection of the plants and prompt and preventative treatment is crucial to get on top of any problems. An insecticide mixed with fungicide is a good idea.

To summarise, the crucial requirements for growing aril iris are:

1. Sharp drainage
2. Full sun
3. No water in summer while dormant

GROWING ARIL IRIS FROM SEED

Aril seeds as a rule are not easy to germinate being adapted by nature to germinate sporadically over several years. There are several methods that can be used to hasten germination including stratifying, temperature cycling, cutting and forced germination. Aril iris seeds can be germinated with the following forced germination technique.

“Forced germination” is a technique that is often used for pure aril seeds to hasten germination. This method removes a small part of the aril (micropyle) end of the seed and bypasses the need for any cold treatment. The forced germination procedure involves cutting with a scalpel or razor blade across the micropyle and the end of the endosperm and embryo to

Below: *I. paradoxa* x *I. sprengeri*

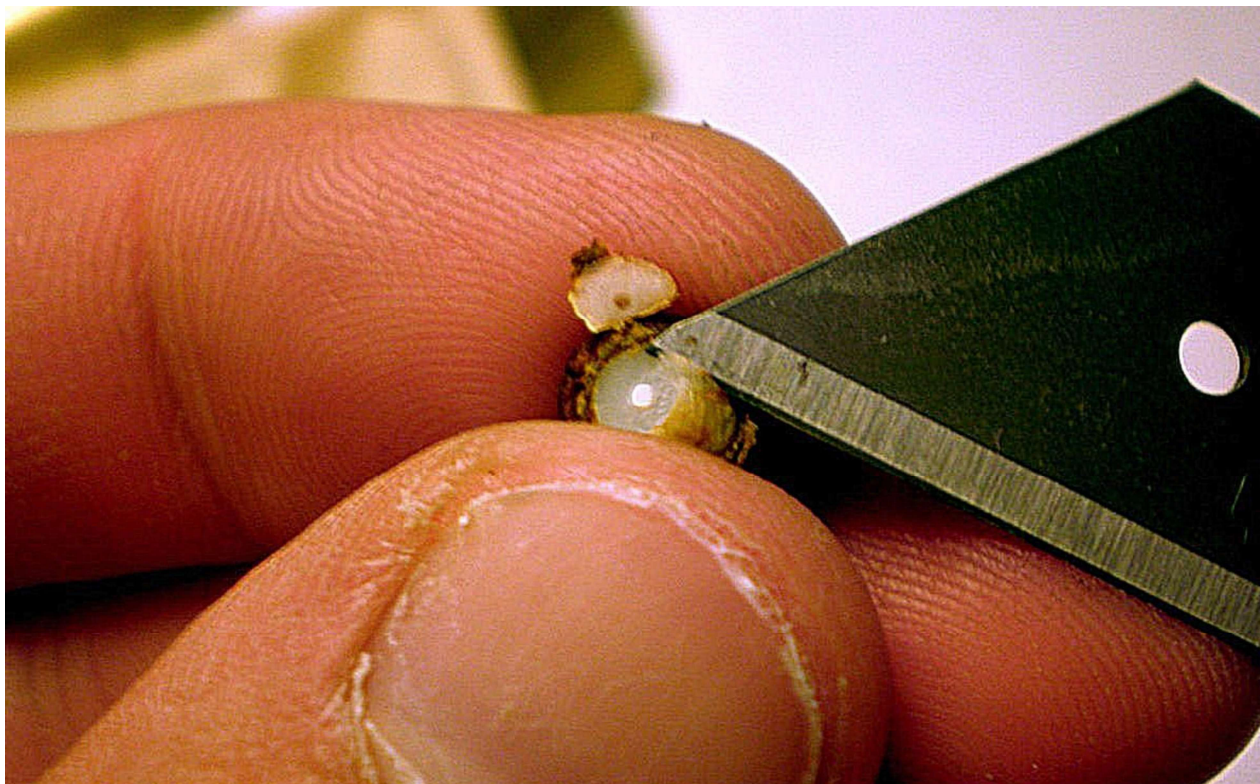


create an artificial rupturing of the micropylar barrier, which in natural situations could take a long time, sometimes years to achieve. I use a special sharp grafting knife which I personally find more reliable and safer to use than a scalpel or razor blade.

After soaking the seed for a few days in water (with some fungicide) to soften the seed, the aril and half the seed coat are removed, followed by cutting or slicing away enough of the endosperm to expose the end of the embryo visible as a white layer within the seed. I borrow my wife's art-craft 5X magnifying desk lamp with built-in lights for more close-up, hands-free detail when slicing or cutting the seed.

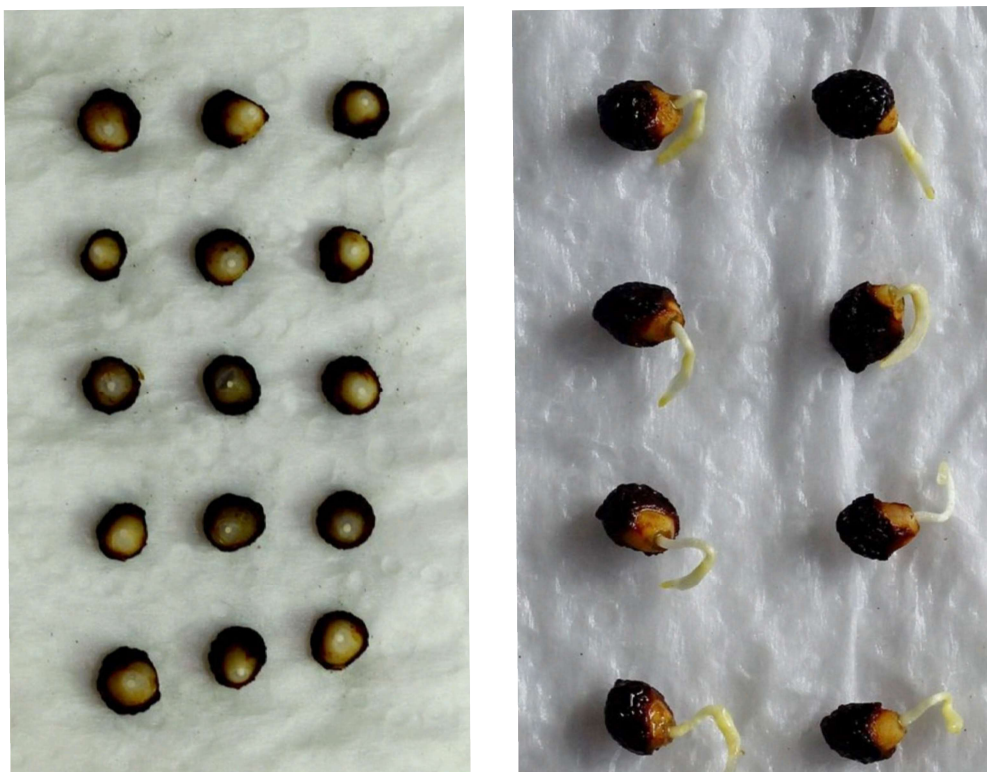
Most people do not do this with arilbreds, which germinate more easily. Some people try to stratify them and then see what germinates. Sometimes temperature cycling is used as well. After all of that, you could then try cutting or slicing them for faster germination. Be sure to sterilize the seeds before cutting them, especially for fungal protection when germinating seeds in plastic bags, damp sterilized paper towels or whatever method you decide to use to use.

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Above: A close up photo showing the micropyle end cut across exposing the sliced embryo. Practice helps to achieve the right amount of trimming of the softened seed.

Right: Prepared seeds and those that have germinated.



POINTS TO REMEMBER:

1. Hydration: Soak the seeds for up to a week in water with a fungicide.
2. Remove the aril carefully (if it is an arilated species), cut the skin beneath and slice a little layer to expose the embryo, which will be visible in the little hole of the endosperm. You need to be careful not to slice off too much of the endosperm or you will negatively affect root formation and also risk damage to the embryo.
3. Put the seeds in damp perlite or vermiculite in little plastic bags after cutting. After cutting/slicing I prefer germinating the seed in damp folded sterile kitchen towels, the moisture content when damp is just right for steady germination. I then place the folded kitchen towels in a 1L plastic ice cream container with the lid securely in place to prevent moisture loss, in a cool part of the nursery (10-15°C). I inspect the seed at regular intervals for any sign of germination. Many seeds show the radicle after 2-3 weeks in the damp kitchen towels.
4. After germination takes place, I then proceed to very carefully prick out the seedlings, one at a time, into 7cm x 9cm peat pots into a 50/50 mixture of compost/fine pumice. Water carefully using mist or from below to properly settle in the little seedling and place them outdoors in a cool, frost-free place

in semi-shade gradually introducing them to more sunlight. Don't forget to spray the young seedlings with a systemic fungicide at regular intervals to prevent any possible fungal problems. The great advantage of the peat pots is that no transplanting shock to the delicate seedlings occurs. Their roots will easily penetrate the peat wall with no loss of growth. Usually, the seedlings (5-10cm) will be ready for transplanting into their permanent place after 4-6 weeks.

Having initial success with the germination, either forced or by traditional methods, is just the start of the necessary and ongoing special cultural treatment required by the beautiful iris of the Oncocyclus/Regalia group. As is often the case with any specialist area of horticulture, complacency is the biggest killer and there is no substitute for constant observation, care and proper treatment. The Oncocyclus and Regalia irises constitute an incredible group of plants that deserve nothing but the best. Just a single flower takes your breath away and is a sight to behold.

To quickly summarise again:

*full sun - sharp drainage - dry for the pure aril irises
no water in summer while dormant.*

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These cultivation notes on how to grow the beautiful aril and arilbred irises are based on my experience in Tauranga New Zealand.

Editor- Seed of these Iris are available in the seed list this year from Bill.

An earlier version of this article appeared as "Aril iris - Bill Dijk 2019". Search for this or use...
<https://theamericanirissociety.blogspot.com/2019/07/talking-about-arilbred-irises.html>

Below left: *I. stolonifera* **Below right:** *I. atropurpurea*

