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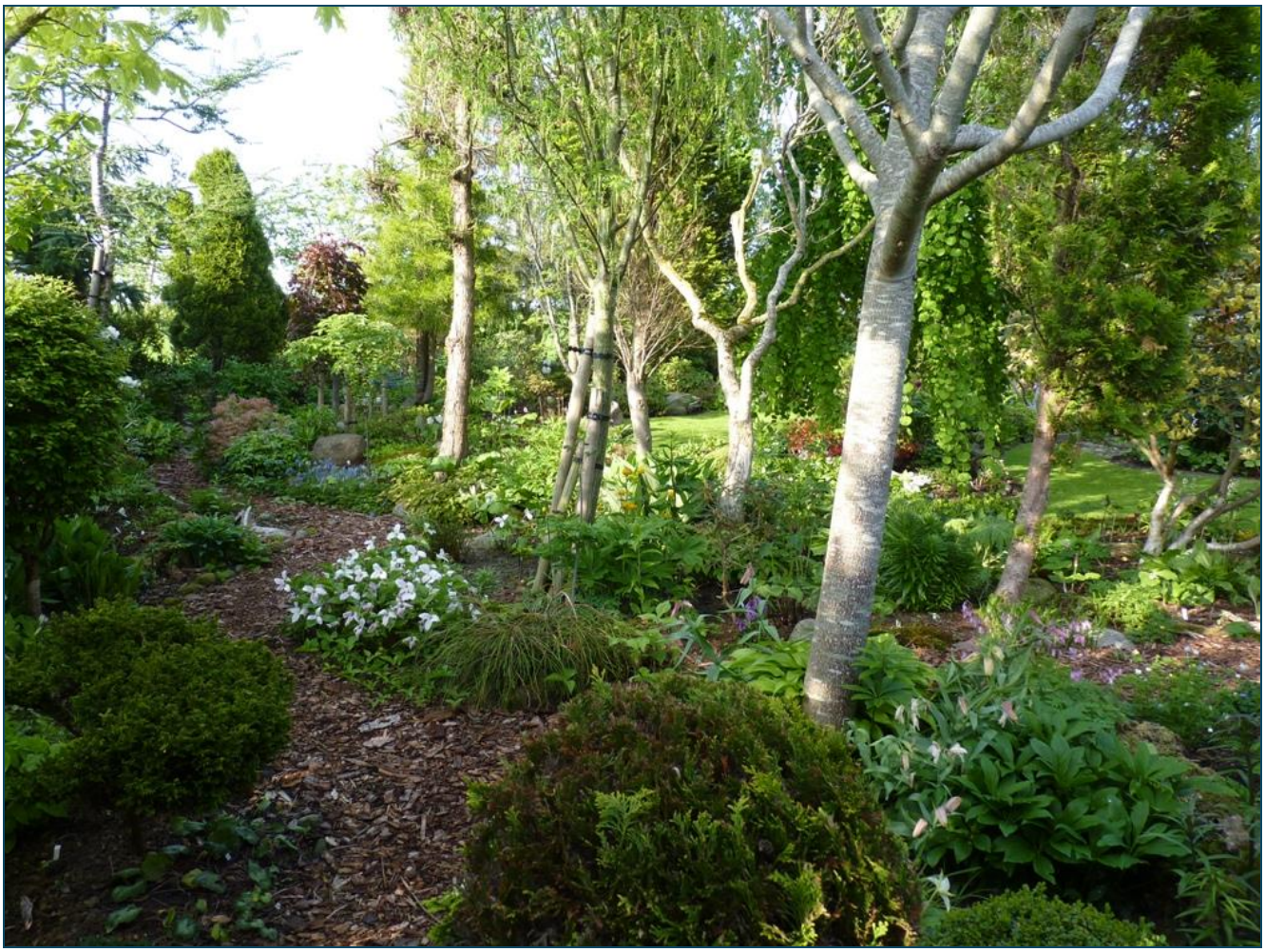
This month in IRG 175: Wim Boens writes about a very popular garden plant and its cultivars – *Trillium grandiflorum.* Wim, from Belgium, is a well-known plant collector and lecturer and a great fan of Spring flowering plants like Galanthus, winter Aconites, and Crocus, which of course have a long flowering season. Another of his passions is *Epimedium,* which he shares with his friend the plantswoman Daniëlle Monbaliu, who named this seedling in her garden after Wim. This plant may be a cross between *E. davidii* and *E. rhizomatosum*. The yellow flowers are intense in colour and have a reddish tinge at the base of the stem. The flowering has the elegance of *E. davidii*, but the growth is much more vigorous, there the influence of the other parent is clearly present.

Epimedium 'Wim Boens' - photo Daniëlle Monbaliu.

Gerrit Eijkelenboom returns to write of the early *Ophrys* of southern France. These are the orchids, flowering in March and April and comprises the first part of this article. Gerrit and his wife Iep travel extensively to photograph orchids and write enthusiastically about them wherever they find them.

Cover image: *Trillium grandiflorum* 'Kath's Dwarf' – photo Wim Boens.

--- Portrait of a Wake Robin ---



Trillium grandiflorum in the garden – photo Karl Kristensen.

The White Queen of the North American forests: *Trillium grandiflorum*

By Wim Boens.

The great white *Trillium* grows in the wild in the east of North America, from the Canadian provinces of Quebec and Ontario in the north, to the state of Georgia (U.S.A.) in the south and from the Atlantic coast to the state of Wisconsin in the west. They like a humus rich soil in deciduous and mixed mountain forests, where they grow to an elevation of 700 m. Partly thanks to this huge area of distribution, they aren't threatened in the wild. Many local populations are under threat of land development though, and rescue actions before they are bulldozed should be encouraged. Most plants have white flowers which turn to pink at the end of flowering, some populations have flowers which are immediately (intensely) pink, especially those growing in the Blue Ridge Mountains of Virginia. Populations with filled

(doubled) flowers can be found all over the area of distribution. Also, some forms/mutations can be found in nature that are mostly not stable and none of those have been named as far as I am aware, these are: Twin flowered forms, which are quite rare to be found. Leafy forms, with several whorls of leaves with normal flowers, which are uncommon. Quintrilliums, with all parts of five, quite rare to be found. Quadrillium, with all parts of four, quite commonly found. Dillium, with all parts of two, very rare to be found and Unillium, with all parts of one, very rare to be found.

A “Quadrillium” or “tetrallium” as some call it – photo Gabriela Costea.

In 1803 this species was described by the French botanist André Michaux as *Trillium rhomboideum* var. *grandiflorum* and in 1805 it was renamed as *Trillium grandiflorum* by the British botanist Richard Salisbury. Originally trilliums were placed in the lily family (*Liliaceae*), later they got their own family, *Trilliaceae*, after extensive genetic research they have now been placed in the bunchflower family (*Melanthiaceae*) and within that family they are part of the tribe *Parideae*, together with the genera *Paris* and *Pseudotrillium*. *T. grandiflorum* is the provincial floral emblem of the province of Ontario since 1937 and since 1987 it is the state wildflower of Ohio as well.

Description:

Chromosome number: 2n=10 (Diploid species). *Trillium grandiflorum* is easily distinguished from other trilliums, the wavy white petals, the white stamens, and the whitish green ovary are typical for this species. There is one species of *Trillium* with which *T. grandiflorum* can easily be confused, this is *Trillium ovatum*; this species grows on the west coast of North America. One difference is that the petals of *T. grandiflorum* are erect at the onset of flowering, forming a tube which hides the ovary, while those of *T. ovatum* are more open, which makes the ovary visible when viewed from above. In general, *T. grandiflorum* has broader and bigger petals, for the rest these species are remarkably similar.

The plant can be 15 to 30 cm tall, rarely up to 45 cm. From the short and thick rhizome an eye-catching white flower emerges on top of three subsessile leaves. The rhizomes, which are in fact the stems of the plant, often form a big clump in the garden, though not so much in nature. Between the leaves and the flower, there's a small stalk about 2-4 cm long, which makes this *Trillium* a non-sessile species. The odourless flowers are quite big, especially compared to other trilliums, having petals which are 4-7 cm long. The petals are shaped like the leaves and curve backwards. The overlapping base and the curve give the flowers their very characteristic funnel-shape. Between the veined petals, three acuminate sepals are visible, most of the time they are a lighter shade of green than the leaves, sometimes with maroon stripes or edges. The colour of the flowers shifts to pink as the flower starts to fade. The stamens of the flowers are slender, straight, and thin, getting thinner at the apex. The flowers have six stamens, growing in two whorls of three. The filaments are white and short compared to the 9-27 mm long anthers, which are light yellow coloured, and which turn a darker yellow when the pollen is ripe. The ovary is six-sided with three greenish/white stigmas. The round, slightly six-sided seedpod is pale green and can grow out to a diameter of 1.6 cm.

A well-known phenomenon in wild populations of this species (and many other geophytes), is that in some populations only non-clumping seedlings are found and, in some populations, clumpers are found, which is reflected in the selected cultivars. No hybrids with this species are known since they don't hybridise easily with other Trilliums. An interesting characteristic is the fact that the flowers of this species are both seasonally and daily heliotropic, in other words, the flowers track the suns motion across the sky. Seasonally, most flowers are oriented towards the south, during the day the flowers lift themselves up; to move back to the soil during the evening and they follow the sun from east to west. Studies have proven this helps with a better seed set.

In the garden:

In our gardens (just like in the wild) this species flowers between April and June. In the wild they grow mostly in lightly shaded deciduous forests on neutral to slightly alkaline soils but with a preference for neutral soil. As the forests mature and light becomes scarcer on the forest floor, the species declines. This is an indication of how the growing conditions in our gardens should be. In general, this plant is quite tolerant of different growing conditions, if there's enough humidity during the period of growth, some organic matter in the soil and they are protected from the full sun during midday. They love some granular fertiliser now and again, with not too much nitrogen and a high phosphorous content, given twice a year during their growing period. Giving them a layer of leafmould every year is very beneficial as well.

Sowing:

This *Trillium* is mostly pollinated by insects. Other *Trillium* species are often self-pollinated but from experiments with *Trillium grandiflorum* it became clear that self-pollination hardly sets any seeds in this species. Since the seeds have an elaiosome, they are spread by ants. In our gardens as well, the seedpods are often raided by ants which spread the seeds on their own. They take the seeds with the elaiosome to their nest, eat the elaiosome, after which they dispose of the "worthless" seeds outside of their nest. In the wild, they are often spread by the white-tailed deer (*Odocoileus virginianus*) and cattle as well, which, after eating the seedpods, dispose of the undigested seeds in their droppings. In the garden, we can collect the seeds ourselves of course, before they drop to the soil or before the ants rob them away. An average fertilised seedpod of *T. grandiflorum* contains 30 to 80 seeds. As soon as some of the seeds in the seedpod turn slightly brown, the entire pod can be harvested, and the seeds can be sown at once. It is best to remove the pod manually from around the seeds, so as not to damage the seed coat. It is recommended to sow the seeds immediately after harvesting, but if this is not possible, you can keep the seeds in some vermiculite in a glass or plastic jar in the fridge. Be mindful of the fact that the seeds do not tolerate desiccation during storage. Seeds may be sown close together, at a depth of about twice or three times the size of the seeds. It is best to use a well-drained soil mix that still retains some humidity, I use a mix of one-third of sharp grit and two-thirds of regular potting soil. You can put the seed pots outdoors in a shaded place. Germination takes place after the first cold period, but only the root and the start of a rhizome is formed at that point. The cotyledon is present as well, but it remains underground in the seed coat. After the second cold period, the cotyledon will emerge as well. Only after the third cold period the first true leaf will emerge. When the seeds are harvested at just the right time, i.e. still green but full size, they don't need a cold period to germinate, and they will do so in the same season. In the second year and after the

cotyledon has died down, you can prick out the plants. Pricking out is best done into individual 10 cm pots and with the small rhizome at the same depth at which it was found in the seed pot. You can use the same soil mixture as you used for sowing. With optimal watering and feeding conditions, the “first-true-leaf-stage” can be skipped, and you can have your first flower in the third year. During the growing period, it’s important that the pots don’t dry out and that they are fertilised sufficiently, the best regime during that period is once a week with a water-soluble NPK:20-20-20 fertiliser. With suboptimal growing conditions of the seedlings, it will take 5-6 years for them to flower.

Trillium grandiflorum capsule with seeds – photo by Gabriela Costea.

Germination can be induced under more sterile circumstances as well. For that, the biggest part of the elaiosome is removed and the seeds are soaked in a 3% hydrogen peroxide solution for five minutes. After they’ve been soaked, they are put between two slightly humid towels for 4 to 6 days at +/- 20°C. After those 4 to 6 days, rinse the seeds under running water while gently rubbing it against a fine sieve as to remove the rest of the elaiosome and disinfect the seeds with hydrogen peroxide. After this procedure, the seeds are put between two slightly damp paper towels for 60 days at +/- 20°C, until germination starts. It is best to check every week for possible fungal infection. When a fungal infection is present, repeat the last step of rinsing and disinfecting. After 60 days, the seeds are sown outdoors on a bed of 50% humus and 50% sand and covered with 1.5 to 2 cm of Seramis or Akadama. The root will keep on growing until temperatures drop, afterwards more energy goes into the cotyledon. If the seeds were to be kept at room temperature, the energy would keep on going to the root causing the seedling not to emerge and die down. From the 2nd year on the same regime as above is applied.

This might be of interest for people who want to create new forms of *Trillium grandiflorum*: when forms with six petals are crossed with other forms with six petals, many times you'll get a form with more than six petals, which retains its stamens and pistil, with which you can keep on crossing. I describe these forms as having six petals but in most of these particular forms, the flower consists of three petals and three petaloid sepals.

Division:

This, of course is the best method to increase named cultivars. With big clumps, it's easy to divide them, but some forms are very slow to increase and seem to grow from one rhizome with just one terminal bud. With these plants you can use a technique called girdling. The best way to girdle a *Trillium* seems to be this: Remove the rhizome from the soil immediately after flowering. The terminal bud with 2-3 cm of rhizome is cut off. The wounds at both end of the rhizome are dried in the open air for a couple of hours and treated with a fungicide (or covered in sphagnum), after which both pieces are replanted. The part with the terminal bud and the youngest part of the rhizome will flower again next year. On the oldest piece of the rhizome, some sleeping buds will be activated and develop. These buds will become terminal buds on their own, which can be cut off after two years and which will give a flowering sized plant after three or four years.

A lot has been written about the perfect time to divide Trilliums. Sometimes you'll read it's best to divide just after flowering, some will tell you to divide them when they are just in rest. After consultation with some talented Trillium growers from the United States and Canada, I must conclude that the best time to divide *Trillium grandiflorum* is when they are in flower, that's the moment when they are most vigorously in growth, and they are easily located in the garden as well. It's also the easiest time to replant them at the same depth as where they were found, something that is important for most Trilliums when you replant them, especially if you want them to flower again in the following year. If you want to divide them during flowering, it is best to lift the entire clump from the soil with a spade or garden fork. Big clumps will fall apart by themselves, which is an easy and "natural" way of division. Smaller clumps can be divided manually. It's important to replant them as quickly as possible, watering them in and mulching them immediately. With this technique the divided plants will come up and flower perfectly in the following year.

Diseases and pests:

In general, trilliums aren't very susceptible to disease and pests. Sometimes slugs and snails can eat through a stem but that is something that happens infrequently. And thrips infection can be a (in most cases minor) nuisance as well. The biggest threat is *Botrytis* (grey mould) during warm and humid periods in spring, the plant will not die immediately from this fungal

infection, but it will become weaker and a few years on a row with this infection can kill a plant. Bacterial phytoplasma infections can be a problem as well (see below, in the part on the green flowering forms). In principle this can be treated on an industrial scale with heat-treatment and antibiotics. For us gardeners though, it is best to destroy the plants that are infected with phytoplasma. Additionally, I should mention these two fungal infections, *Colletotrichum lineola*, causing a leaf spot disease, which can exhaust the plant after repeated infections and *Urocystis trillii* (Trillium smut) which is characterised by dark blisters on the stems and leaves that open to show a sponge-like body full of spores. These spores remain in the soil and will reinfect the green parts of the plant in the coming year, especially when small wounds have been created in the noses by consecutive freezing and thawing cycles. For this fungal infection, the same goes as for the other infections, non-lethal when just a one-off infection, lethal with consecutive infections.

Trillium grandiflorum cultivars; creating some clarity in the chaos.

Single flowered forms:

Trillium grandiflorum 'Dr McDaniels': single flower, with big, rounded petals which overlap almost completely. Quick to increase. Probably found in the area around Ithaca (New York, U.S.A.) in the 1920s/1930s by Professor McDaniels, who was a botanist at Cornell university. His successor at the university, Dr Bill Dress "inherited" these plants and gave them to Dr Robin Bell, who spread it around and named it for the original finder.

Trillium grandiflorum 'Dr McDaniels' – photo Karl Kristensen.

Trillium grandiflorum ‘George Young’: found by George Young (of Green Mountain Nursery in Irasberg, Vermont, U.S.A.). He found this form in the end of the 1970s in upstate New York. Named and propagated by Don and Lela Avery’s Cady’s Falls Botanical Garden (Vermont.). Tall growing form, up to 40 cm tall, with big flowers, that clumps up very quickly and produces flowering stems by the dozens form. Seedlings of this plant all inherit these wonderful traits. White flowering form but in some gardens, they very quickly turn a dark, uniform pink.

Trillium grandiflorum ‘Graham’: a regular looking seed strain, named by Tony Avent. Collected in the wild in Graham County, (North-Carolina, U.S.A.). Selected and named for its heat tolerance.

Trillium grandiflorum ‘Graham’ – photo Tony Avent.

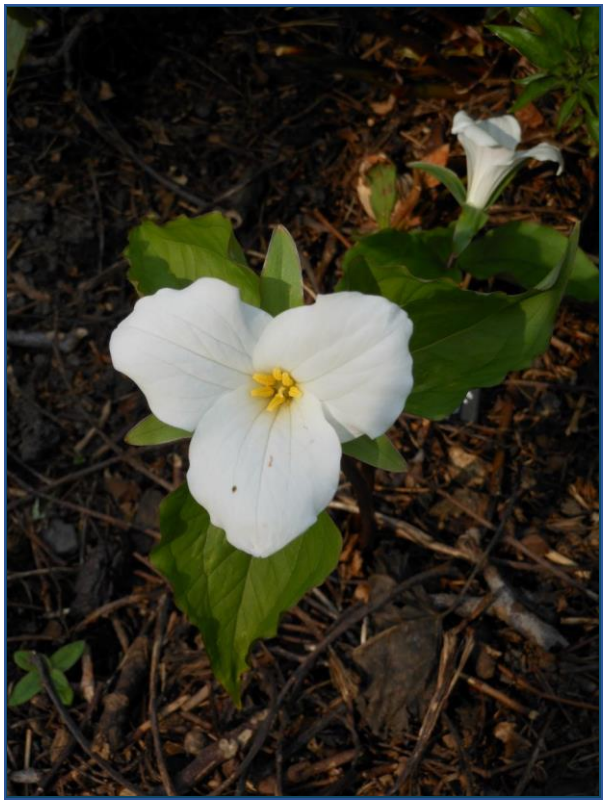
Trillium grandiflorum ‘Itty Bitty’: Named by Brian Carson. In this form the stamens are partially petaloid.

Trillium grandiflorum 'Itty Bitty' – photo Brian Carson.

Trillium grandiflorum ‘Jenny Rhodes’ – photos Karl Kristensen.

Trillium grandiflorum ‘Jenny Rhodes’: this cultivar has six petals, in contrast to the normal three. This form with six petals has no ovary and almost never any anthers. When the plant has been transplanted or when they aren’t strong enough, they often revert to a form with the normal three petals, which is fertile, and which can set seeds. In the heart of the flower, you can

sometimes see some small extra petals. The flower is white, sometimes turning a pale pink during flowering. Found by Frank Rhodes in 1971 during a picnic on the east side of the Blue Ridge Parkway (which passes through the states of Virginia and North-Carolina in the U.S.A.). He brought this plant with him to the U.K. and named it for his daughter who was born in the same year.



Trillium grandiflorum 'Kath's Dwarf' – photos Wim Boens.

Trillium grandiflorum 'Kath's Dwarf': a form which had been growing in Kath Dryden's garden for many years before being named by Askival Nursery. This is a dwarf form of the regular *T. grandiflorum*.

Trillium grandiflorum 'Morgan': a regular looking seed strain, named by Tony Avent. Collected in the wild in Morgan County (Tennessee, U.S.A). Selected and named for its heat tolerance.

Trillium grandiflorum 'Morgan' – photo Tony Avent.

Trillium grandiflorum 'Quicksilver': what makes this cultivar nameworthy is the fact that it increases very quickly, every year the clumps double in size. This cultivar was found in 1958 in the northeast of Pennsylvania (north of route 6, between Carbondale and Honesdale) (U.S.A.)). Dr Richard Lighty of Mt. Cuba Center (Delaware, U.S.A.) named this form, and it was sold for the first time in 1992.

Flore Pleno forms. (= f. polymerum/ f. petalosum)

Very often, forms sold as 'Flore Pleno'/ 'Plenum' are the cultivar 'Snow Bunting'. In other cases, they can be several of different unnamed forms. 'Flore Pleno' forms have anything between 15 and 36 petals and the flowers can be variable in shape and form on the same clump. The most attractive forms have 24 petals, giving them a geometrically pleasing form.

Trillium grandiflorum 'Brian's Best': filled flowering form, named for the original finder (Brian Winchell). Originates in Emmett County, Michigan (U.S.A.). The petals of this form do not recurve and form a very geometric flower.

Trillium grandiflorum, Daisy Double Group: dramatic doubles were discovered in West Quebec by Brian Carson. Has a range of flower forms. Camellia-flowering[1]: Probably originated from a mutation that occurred in a mother plant, which enables it to throw doubles. For many plants, the central petals of each of this clump of doubles are yellow for a few days. Increasing well vegetatively by spontaneously offsetting with tiny rhizomes and makes large axillary buds that are almost as large as the apical bud.

Trillium grandiflorum, Daisy Double Group 1 – photo Brian Carson.

[1] The filled flowering forms of *T. grandiflorum* are divided into two classes: "Camellia-flowering" with the side of the petals bent backward and "Gardenia-flowering", with the side of the petals bent forward.

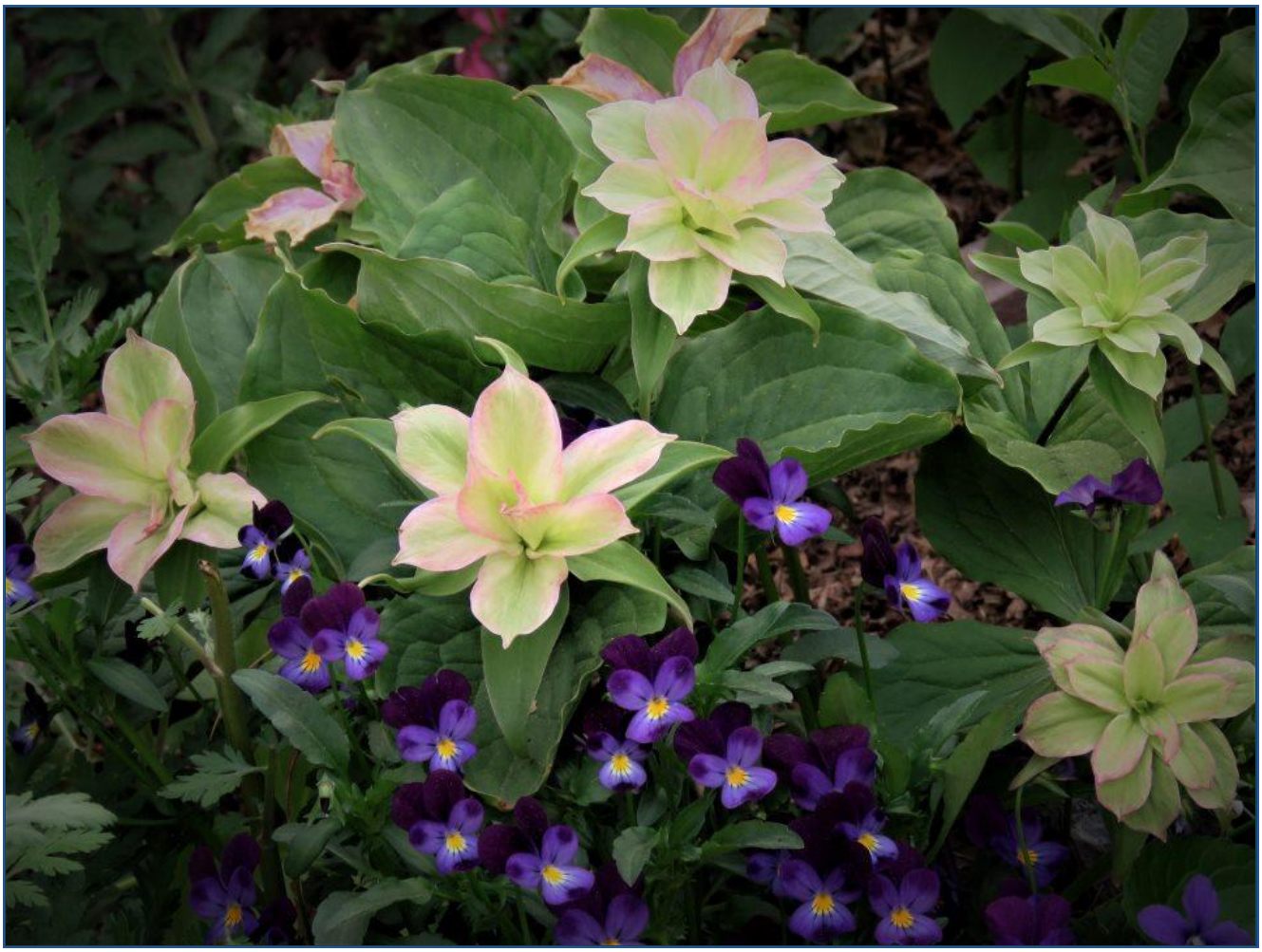
Trillium grandiflorum, Daisy Double Group 2 and 3 – photos Brian Carson.

Trillium grandiflorum ‘Delta Rose’: filled flowering form, found in Bay County, Michigan (U.S.A.). A Camellia-flowering form named by Brian Winchell.

Trillium grandiflorum, Double Loop: filled flowering form, growing in the Mt. Cuba Center in Delaware (U.S.A). There is only one plant of this form, which sadly hardly ever increases. The name given here is no cultivar name but a description. Originating in Fred Case’s collection and after his decease it was donated to the Mt. Cuba Center.

Trillium grandiflorum ‘Elkin’s Form’: double flowered form with narrow longer petals. Camellia-flowering. Probably named for Harry Elkin. Not a lot of information to be found.

Trillium grandiflorum 'Elkin's Form' – photo Karl Kristensen.



Trillium grandiflorum ‘Energizer Bunny’ – photo Brian Carson.

Trillium grandiflorum ‘Energizer Bunny’: green-pink double. Gardenia-flowering. These gems get better as they age, like the ‘Energizer bunny’ they keep going and going. They can keep on flowering until summer, even early autumn. Found and named by Brian Carson. This form is not as filled as many of the other doubles and has six sepals and smaller, tougher textured petals.

Trillium grandiflorum ‘Frilly Dilly’: a very frilly double discovered in the West Quebec woods at the Ottawa Valley (near a population of supersized *Trillium erectum* with 24cm leaves). Flowers are gardenia-like. The large blowsy petals are almost hose-in-hose. Found, named and photographed, by Brian Carson.

Trillium grandiflorum 'Julia': filled flowering form, introduced by Hitch Lyman (Temple Nursery, Trumansburg, NY). A friend of his had an aunt, Julia who had found this plant +/- 70 years ago. Hence the name. White petals with a green centre.

Trillium grandiflorum 'Otis Bigelow' – photo Karl Kristensen.

Trillium grandiflorum 'Otis Bigelow': found on the farm of Otis Bigelow, north of Syracuse (New York (U.S.A.)) somewhere in the 1930s. Kept in cultivation by Dr James Burlington, the former "Men's Garden club of Syracuse" and Frank Griffiths, eventually it ended up at the "White Flower Farm" nursery in 1989. Camellia-flowering.

Trillium grandiflorum 'Pamela Copeland' – photo Tony Reznicek.

Trillium grandiflorum ‘Pamela Copeland’: filled flowered selection. Camellia-flowering. Selected and named in 1996 by Roberta and Frederick W. Case. They named this selection for the foundress of Mt. Cuba Center (Delaware, U.S.A.), Pamela Cunningham Copeland.
Trillium grandiflorum ‘Pinwheel’: filled flowering form, found in Midland County, Michigan (U.S.A). As the flower ages, the petals all start to point in the same direction, giving it a pinwheel look.

Trillium grandiflorum ‘Pamela Copeland’ – photo Karl Kristensen.

Trillium grandiflorum ‘Rakestraw’s Double’ – photos Karl Kristensen.

Trillium grandiflorum ‘Rakestraw’s Double’ – photo Glen Pace.

Trillium grandiflorum ‘Rakestraw’s Double’: named by Glen Pace (Pace Gardens, Michigan, U.S.A.). Originated at the former alpine garden nursery of Agnes and George Rakestraw (Rakestraw’s Alpine Garden, Michigan, U.S.A.) and named in their honour. Glen received this plant from them in the 1990s, just before George passed away at the blessed age of 105. This plant had probably been found somewhere in the wild in the north of Michigan. Within the group of Flore Pleno types, this form has really big flowers (up to 13 cm in diameter).

These big flowers only appear on plants which have been left undisturbed for a couple of years, at least after three years, at their best after five years. This form is quick to increase as well, the rhizomes form buds on the growth rings. Gardenia-flowering.

Trillium grandiflorum 'Rakestraw's Double', division – photos Glen Pace.

Trillium grandiflorum 'Rakestraw's Double' – photo Wim Boens.

Trillium grandiflorum, Rats Hollow Group: named by Brian Carson for Rats Hollow, where he found a large colony of the fancy double forms. Camellia flowering. The place where they were found is unlike the idyllic *Trillium* carpeted old second growth maple and beech woods, where many of the other fancy doubles are being found in the Ottawa Valley. It is a wet scrub bush of tangled shrubs that Brian normally would not waste time exploring. The population is concentrated in an area of +/- 35m x 25m. The large blowsy flowers vary in shape throughout the colony. With some flowers the whorls of petals are aligned in an attractive hose-in-hose arrangement. Most are more random.

Trillium grandiflorum 'Snow Bunting' – photo Herman Mylemans.

Trillium grandiflorum 'Snow Bunting' (Syn.: 'Bressingham Clone', 'New York Double' & 'Smith's Double'): many of the forms sold as 'Flore Pleno' are this plant. This is the most famous and most widely spread completely white (with a cream white shine), filled flowering form. Gardenia-flowering. Found in May 1924 by James. L. Smith, the postmaster of Erin (New York, U.S.A.), who found it in the local forests near Rochester. He gave a few plants to William Smith of Robin Hill arboretum who in turn gave some to Dr Henry Teuscher, who was the director of the botanical gardens of Montreal in the 1950s. In 1966 this plant was awarded the 'Award of Garden Merit' by the RHS.

Trillium grandiflorum 'Snow Bunting' – photo Karl Kristensen.

Trillium grandiflorum 'Wise Double': discovered by Mrs. Wise while out picking a bouquet for Mother's Day near Kennebec Lake, Ontario. Mr. Wise contacted Brian Carson who named it for them. The petals are attractively arranged, hose-in-hose, each whorl directly above each other. Camellia-flowering. Similar hose-in hose mutations occur in the Rats Hollow Group, 'Frilly Dilly' and Daisy Double Group colonies.

Trillium grandiflorum 'Wolverine': filled flowering form originating in Cheboygan County, Michigan (U.S.A). Similar to 'Snow Bunting'. Nicely filled flower.

Green forms:

Many of these green flowering forms were originally described as separate wild forms, under these varietal and forma-names: var. *variegatum*, f. *chandleri*, f. *dimerum*, f. *elongatum*, f. *lirioides*, f. *striatum* and f. *viride*. Later it became clear that for most of these plants, the aberrations were caused by a phytoplasma infection, making these descriptions invalid. In the long run, these bacterial infections almost always prove to be lethal to the plant. The green flowering forms described here below are (most probably) not infected by phytoplasma.

Trillium grandiflorum 'Amazing Amazon': I put this one here since it most certainly is a green flowering form, but one without petals and with six sepals and with double the carpels fused in the ovary. A find by Brian Carson, while he was looking for doubles together with Robin Bell. He didn't collect it on the first trip, but he went back the year after and found it again, even without a GPS, Brian says: "*it was like looking for the proverbial needle in a haystack. You can imagine my excitement when I somehow found it. Looking around me I got quite a chuckle. I would have a hard time missing it. There were over a hundred of these apetalous Trillium grandiflorums in the immediate vicinity. It was more like finding the farmer's daughter in the haystack than the proverbial needle. But I now hike with a GPS.*" In the garden they are very vigorous with four stems from each rhizome and somehow, without petals, they still attract pollinators. So, Brian dubbed this fertile, super female his "Amazing Amazon".

Trillium grandiflorum 'Amazing Amazon' – photo Brian Carson.

Trillium grandiflorum 'Elgin Form': Full foliose green double from a city in Illinois of that name. Possibly the same as the 'Lundell Form' but I haven't found anyone still growing the Lundell form, see further below.

Trillium grandiflorum 'Elgin Form' – photo Donald Rawson.

Trillium grandiflorum f. *roseum* – flowers and foliage, grown in Australia from Archibald seed – photos Viv Condon, who is a holder of the John Pascoe Fawkner Medal for horticultural excellence.

Roseum forms (= f. *roseum*)

Almost all *Trillium grandiflorum* flowers change to pink at the end of flowering. Some forms though, are pink coloured from the start of flowering. In the wild the most intensely pink coloured forms are found in the Blue Ridge Mountains in Virginia. There, one can find forms with pale to a deep pink coloured flower, some of them even with undertones of salmon or peach. The colour in these forms is a lot more attractive than the pink that appears in flowers at the end of their flowering time. Some of these roseum forms do have a wine-red shine on their green leaves, indicating a higher production of anthocyanins by these plants. For some roseum forms, the intensity of the colour depends on the planting location as well, more iron in the soil and cooler temperatures intensify the colour in certain forms. Most pink flowering forms in cultivation (especially in Europe) probably originate from the area around Chesapeake Bay in Maryland.

Trillium grandiflorum ex Blue Ridge Mountains – photos Karl Kristensen.

Trillium grandiflorum ex Blue Ridge Mountains: form(s) selected in the area mentioned above. Good, intense pink flowering form.

Trillium grandiflorum 'Daisy Hill': form which originates from Thomas Smith's Daisy Hill Nursery (1887-1990) in Newry, Northern Ireland, where it was sold from at least 1914 onwards. The

exact origin is not known, except that it comes from somewhere in the state of Virginia. A good light pink flowering form.

Trillium grandiflorum, Edinburgh Form – photo Karl Kristensen.

Trillium grandiflorum, Edinburgh Form: this wonderful, pink flowering form grows in big groups in the botanical garden of Edinburgh. Quite possibly the same as 'Daisy Hill'. Seedlings often don't come back very pink, so this form is only increased by division. This form is often not as pink anymore when planted out in warmer parts of Europe.

Trillium grandiflorum 'Georgeous': this is a seed strain, meaning they are different forms (with a greater or lesser amount of pink in the flower). These were the only *Trillium grandiflorum* that survived the summer heat of North Carolina (Plant Delights Nursery, Raleigh). Because of that Tony Avent named this seed strain, which originated with the German plant expert Georg Uebelhart of Jelitto seeds. This photo is from Tony Avent.

Trillium grandiflorum, Göteborg form – photo Karl Kristensen.

Trillium grandiflorum, Gothenburg Pink Strain (Syn.: 'Gothenborg' & 'Göteborg form'): originating from a cross between the Edinburgh form and a new pink flowering clone from the Blue Ridge Mountains, collected by Fred Case in 1995, this seed strain was created at the botanical garden of Göteborg. The flowers of this form are pink when opening.

Trillium grandiflorum, Poly Hill clone: pink flowering form of unknown origin.

Possibly no longer in cultivation:

Trillium grandiflorum 'Charles O. Rhodes': filled flowering form, but not completely white. This form had flowers consisting of three layers of green outer petals, with on the inside white petals, making the flower completely filled, and with a green heart. The white of the flower turns to pink during flowering. This form was found by Charles Rhodes in the 1920s. Thoroughly described in October of 1954 in the magazine of the "American Rock Garden Society" (now the North-American Rock Garden Society). At that time, it was still growing in at least two gardens.

Trillium grandiflorum 'Eco Double Gardenia': filled flowering form, named by Don Jacobs of Eco-Gardens, he described it as a loosely filled flower, with multiple white petals, turning pink at the end of flowering.

Trillium grandiflorum ‘Lundell Form’: a full double green petalled form described by Karl-Otto Zita as growing in the Elkin’s garden but given to Elkin by Tage Lundell. Might have been a phytoplasma form and possibly the same as ‘Elgin Form’.

Trillium grandiflorum ‘Pink Chiffon’: quite a tall *Trillium*. With intense pink, almost red double flowers that start green but quickly turn pink. Slow to increase. Found in late 70/80’s in woods in Ohio or Kentucky by Edith Dusek.

Trillium grandiflorum 'Silver Jubilee': a seedling named by Kath Dryden in 1995/1996, this form is quite similar to the cultivar ‘Jenny Rhodes’ but without the extra petals in the middle, just the six petals on the outside, making it a semi-pleno. Another version of the story goes that it is a completely filled flower, with smaller and more densely packed petals than ‘Snowbunting’ and that Kath Dryden named it to differentiate it from that one.

And for some of them I just have a the name without any description, I am certain they exist(ed) but I could find no information about them: T. g. ‘Charlie’, T. g. ‘Ed’s selection’, T. g. ‘Gyer’s selection’, T. g. ‘Linden striped’, T. g. ‘Marion Smith’, T. g. ‘Tucker‘s Form‘.

Trillium grandiflorum, multi leaved form – photo Glen Pace.

Trillium grandiflorum, weird flower – photo Glen Pace.

Conclusion:

Of course, there are many Trilliums in all kinds of colours and of all kinds of sizes but for me this species remains one of the best within this incredible, imagination sparking genus. After reading this article and checking out the many forms of *Trillium grandiflorum*, I hope everyone will have found a suitable white queen, or maybe for some of you a blushing queen, for their garden.

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Cultivar list

Trillium grandiflorum ex Blue Ridge Mountains

Trillium grandiflorum 'Amazing Amazon'

Trillium grandiflorum 'Brian's Best'

Trillium grandiflorum 'Charles O. Rhodes'

Trillium grandiflorum 'Charlie'

Trillium grandiflorum 'Daisy Hill'

Trillium grandiflorum 'Delta Rose'

Trillium grandiflorum 'Dr McDaniels'

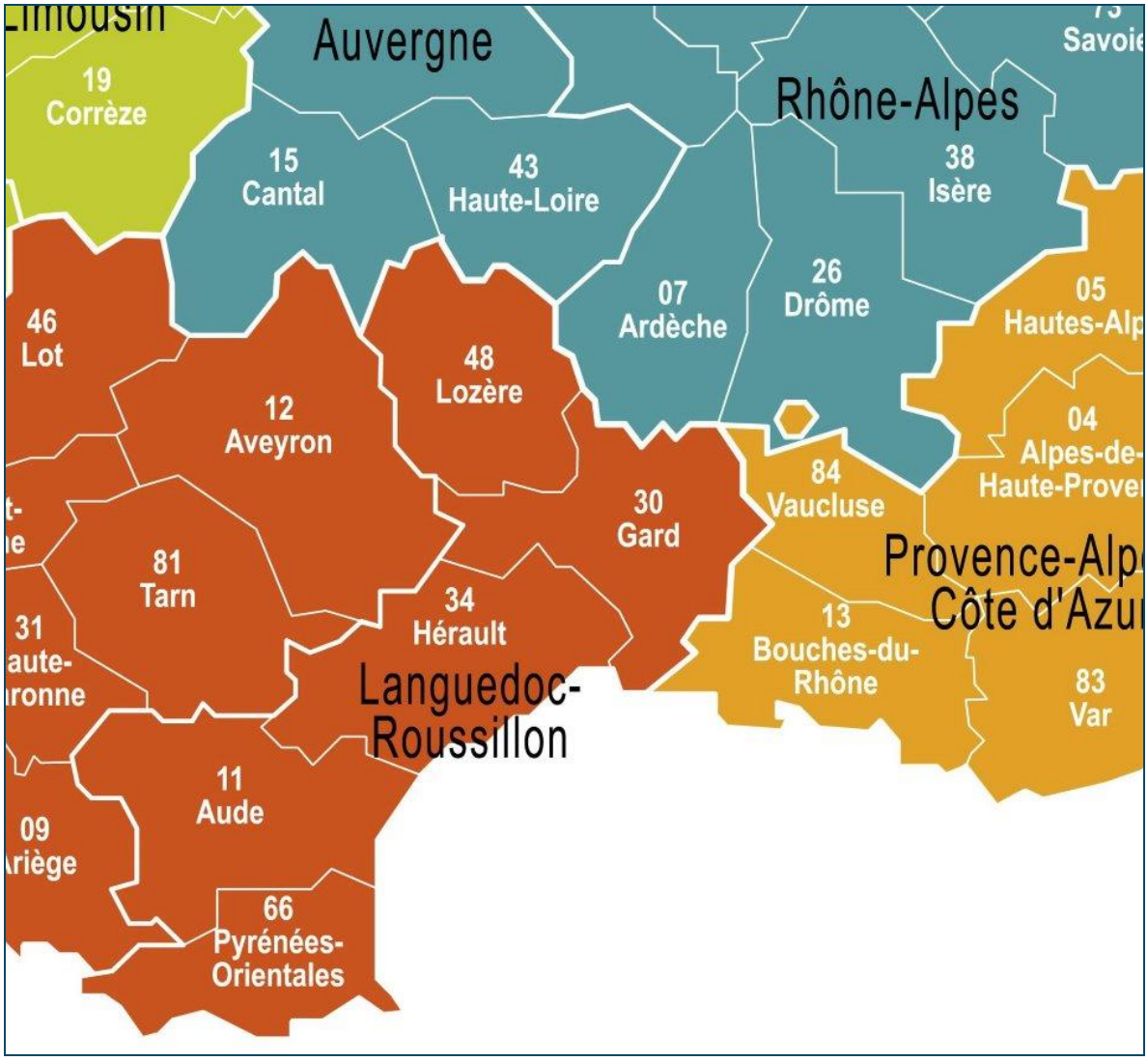
Trillium grandiflorum 'Eco Double Gardenia'

Trillium grandiflorum 'Ed's selection'
Trillium grandiflorum 'Elgin Form'
Trillium grandiflorum 'Elkin's Form'
Trillium grandiflorum 'Energizer Bunny'
Trillium grandiflorum 'Frilly Dilly'
Trillium grandiflorum 'George Young'
Trillium grandiflorum 'Georgeous'
Trillium grandiflorum 'Graham'
Trillium grandiflorum 'Gyer's selection'
Trillium grandiflorum 'Itty Bitty'
Trillium grandiflorum 'Jenny Rhodes'
Trillium grandiflorum 'Julia'
Trillium grandiflorum 'Kath's Dwarf'
Trillium grandiflorum 'Linden striped'
Trillium grandiflorum 'Lundell Form'
Trillium grandiflorum 'Marion Smith'
Trillium grandiflorum 'Morgan'
Trillium grandiflorum 'Otis Bigelow'
Trillium grandiflorum 'Pamela Copeland'
Trillium grandiflorum 'Pink Chiffon'
Trillium grandiflorum 'Pinwheel'
Trillium grandiflorum 'Quicksilver'
Trillium grandiflorum 'Rakestraw's Double'
Trillium grandiflorum 'Silver Jubilee'
Trillium grandiflorum 'Snow Bunting' (Syn.: 'Bressingham Clone', 'New York Double' & 'Smith's Double')
Trillium grandiflorum 'Tucker's Form'
Trillium grandiflorum 'Wise Double'
Trillium grandiflorum 'Wolverine'
Trillium grandiflorum, Daisy Double Group
Trillium grandiflorum, Double Loop
Trillium grandiflorum, Edinburgh Form
Trillium grandiflorum, Gothenburg Pink Strain (Syn.: 'Gothenborg' & 'Göteborg form')
Trillium grandiflorum, Poly Hill clone
Trillium grandiflorum, Rats Hollow Group

Orchids of southern France

part 1: The early *Ophrys* of southern France by Gerrit Eijkelenboom

The first orchids coming into bloom in southern France are the ophrys. I visited the area every year, when driving home from Spain towards the Netherlands. The orchids have been found in the departments Aude (11), Hérault (34), Bouches-du-Rhône (13) and Drôme (26), from 26 March till 8 April, in the years 2022, 2023 and 2024.



Departments of France

Ophrys sphegodes.

Characteristic for this species is the colour of the basal field, maroon (reddish-brown), with some green in it. It can be olive coloured as well. Somewhat different than the colour of the lip. Photos from the 4th of April, Aude.

Ophrys sphegodes April 4. Aude

Ophrys sphegodes April 4. Aude

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Ophrys arachnitiformis.

The distinguishing feature of this species are the whitish perianths. Petals are usually pale whitish, sometimes whitish green or (rarely) pink. The lateral sepals are spreading. The centre of the petals is darker, the margins broadly, brightly coloured. The lip is dark brown, entire or obscurely 3 lobed, with rounded basal swellings and a marginal band of brown hairs. The speculum is usually marked with an H.

Above and left: *Ophrys arachnitiformis*
March 30. Bouches-du-Rhône

Ophrys arachnitiformis April 5. Aude

Ophrys arachnitiformis April 4. Aude

Ophrys arachnitiformis f. *specularia.*

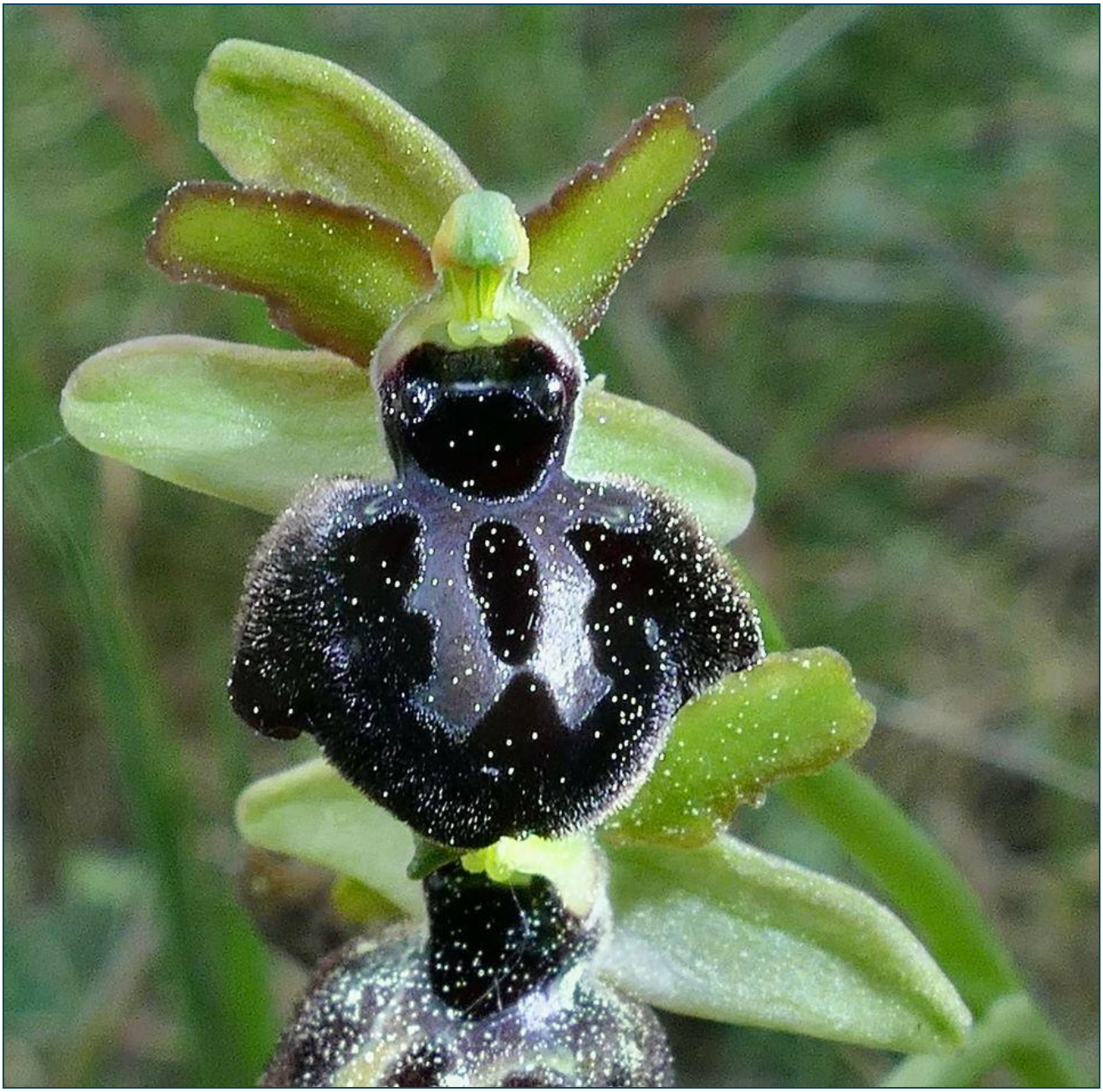
As above, but the speculum is shield-shaped, in the middle of the lip.

Ophrys arachnitiformis forma *specularia* March 30. Bouches-du-Rhône

Ophrys arachnitiformis forma *specularia* April 8. Bouches-du-Rhône

Ophrys occidentalis.

Ophrys occidentalis is a species, already well known as *Ophrys arachnitiformis* subsp. *marzuola,* or *Ophrys marzuola*, but there is not much consensus about the nomenclature. In the guide I used for this article, Delforge uses the name *Ophrys arachnitiformis* var. *occidentalis.* But it is now considered as a taxon of its own, *Ophrys occidentalis.* The major features are the less colourful lip and the virtual absence of a yellow margin. It can easily be separated from *Ophrys arachnitiformis* by the green perianth, whilst the latter has a whitish-green perianth.



Ophrys occidentalis April 7. Bouches-du-Rhône

[All *Ophrys* photos by Gerrit Eijkelenboom]

Ophrys occidentalis April 6. Bouches-du-Rhône

Ophrys passionis.

Its name refers to the Easter flowering time. This species is also known as *Ophrys exaltata* subsp. *marzuola* and *Arachnitiformis* var. *passionis*. But it is now considered as a taxon on its own, *Ophrys passionis.* *Ophrys passionis* is a more colourful species than *Ophrys occidentalis.* A broad yellow margin is the characteristic feature.

Ophrys passionis. April 7. Bouches-du-Rhône

Ophrys passionis. April 4. Aude

Ophrys passionis. March 30. Bouches-du-Rhône

Ophrys passionis x Ophrys aurelia
The typical horseshoe on the speculum made me think of *Ophrys aurelia* as a parent.

Ophrys passionis x Ophrys aurelia
March 26. Bouches-du-Rhōne

Ophrys linearis.
This is a beautiful and spectacular *Ophrys*. The lip is entire or obscurely 3-lobed, surrounded by a band of honey-coloured submarginal hairs and more or less prominent basal swellings. The speculum is complex and extensive.

The main characteristics in identification are the petals which as its name suggests are long, thin and pointed

Ophrys linearis
April 7.
Bouches-du-Rhône

Ophrys linearis

April 7. Bouches-du-Rhône

Ophrys linearis

April 7. Bouches-du-Rhône

Ophrys linearis is also known as *Ophrys pseudoscolopax*. Pseudo, because of the shape of the lip, somewhat scolopaxoid (woodcock shaped) and somewhat fuscifloroid. The picture shows clearly its scolopaxoid shape. The name *Ophrys pseudoscolopax* is no longer used.

Ophrys linearis 1st of April 2024. Bouches du Rhône.

Ophrys lutea.

The most significant feature is the abruptly kinked lip. Furthermore, it is an easily recognizable species with its yellow colour.

Ophrys lutea

April 8. Bouches-du-Rhône

Ophrys massiliensis.

Ophrys massiliensis is a very early flowering species. You have to be lucky finding an individual in March or April. Its name means 'from Marseille.' The lip is long and somewhat reddish. Thick hairs grow on the upper half of the lip. The basal field is somewhat darker than the lip. The speculum is a simple H.

Ophrys massiliensis
April 26. Hérault

Ophrys provincialis
The colour of the lip is reddish-brown. The basal field is not concolorous with the centre of the lip. The speculum is extensive, bluish grey or reddish, broadly edged white, forming a thickened H or X. Around the lip there is a band of long hairs.

Ophrys provincialis March 26. Bouches-du-Rhône

Ophrys provincialis April 4.Aude

Ophrys lupercalis.

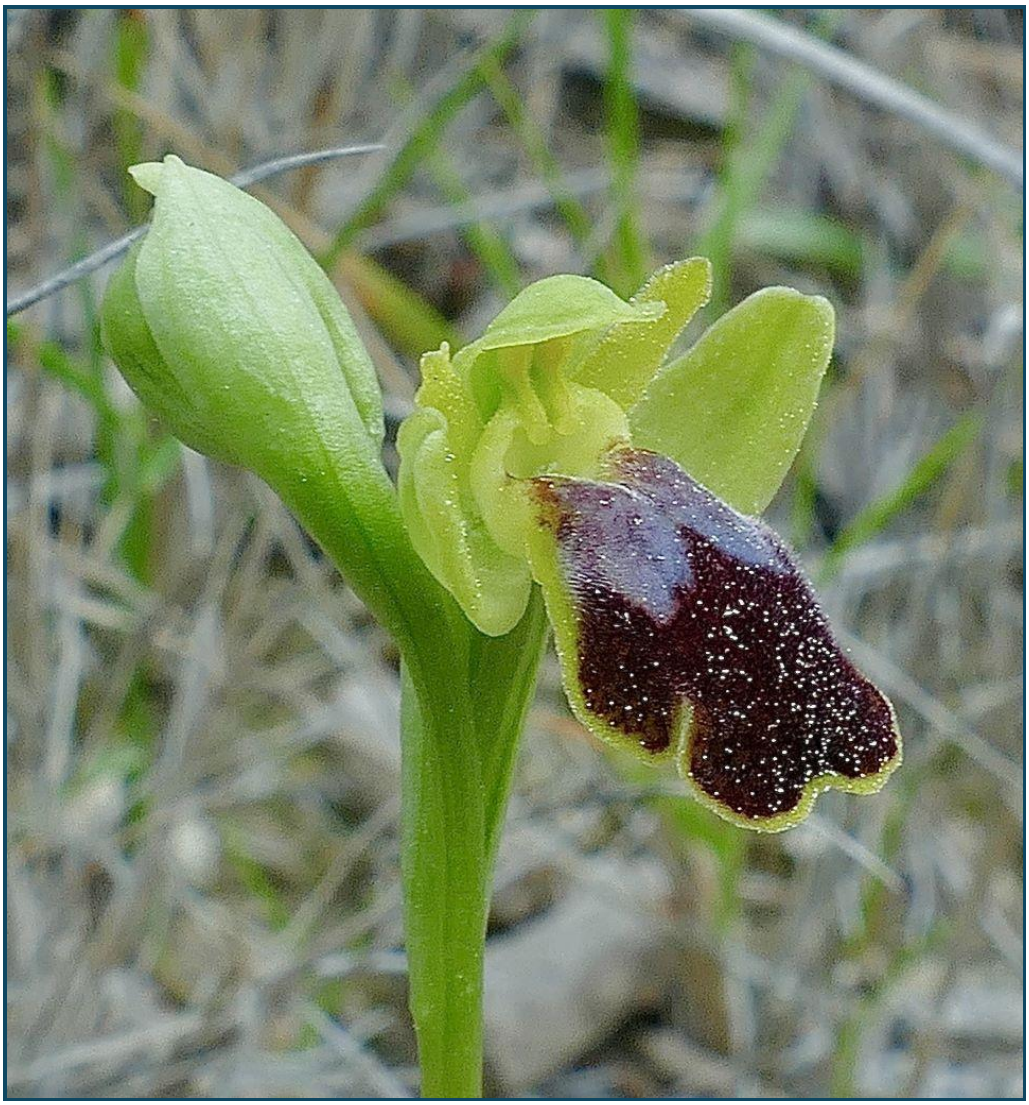
After Lupercalia, an ancient Roman festival, celebrated on 15 February, an allusion to its early flowering. A tall plant, up to 10 flowers, rather large, with a longitudinal prominence towards the tip, which is slightly curved downwards. The colouration of the lip is somewhat drab.

Ophrys lupercalis March 29. Bouches-du-Rhōne

Ophrys delforgei.

A rather new species resulted from further study of work undertaken by Delforge. But still there is hardly agreement among the experts, concerning the early flowering ophrys in Southern France.

The distribution of *Ophrys delforgei* is centred on the department of Bouches-du-Rhône. It is a small plant, with small colourful flowers. The speculum is blue and brilliant. The edges of the lip are yellow.



Ophrys delforgei March 26. Bouches-du-Rhône

Early ophrys of the Drôme

Ophrys araneola.

Rather robust plants with small flowers. The margins of the petals are undulated. The border of the lip is often broad yellow. It is an orchid without swellings. Once you have seen it, it is easily recognisable. A lovely species.

Next pictures are from the 30 of March and found along the river Rubion.

Ophrys araneola

Ophrys araneola

Ophrys massilensis

Ophrys passionis

Ophrys arachnitiformis

Ophrys occidentalis

Books: Pierre Delforge, Orchidées de France, de Suisse et du Benelux.2021

Website: [Welcome to the orchids of Britain and Europe.]

Gerrit Eijkelenboom