

Edgewood Gardens 2019 Dormant Snowdrops

Species List No. 1

Please find below, Edgewood Garden's first 2019 dormant species snowdrop list.

All of these bulbs have been raised from seed collected in habitat and are flowering size. Bulbs are in perfect health and excellent condition. Do not confuse them with the dried bulbs shipped by Dutch bulb merchants that have been stored under poor and dry conditions for several months between collection and distribution!

I do not sell bare-root snowdrops 'in the green'. Even with the best treatment to minimize root damage, and shipment as fast as possible, the bulbs are inevitably set-back very considerably.

This is the first species list in 2019. As I continue to go through the collection and repot bulbs, I will issue a second species list, as well as a list of cultivars that are available. I will leave lists on my website as long as material is still available. Bulbs not shipped dormant will be potted, and available for purchase in pots until they go dormant next season.

Please order as soon as possible because quantities may be very limited. Please email your orders to info@edgewoodgardens.net. Payment by check or PayPal is preferred.

For photographs of most of the listed snowdrops, you can look at my website - <http://preview.tinyurl.com/ybjpqlqv>. An excellent, authoritative source is Judy's Snowdrops: <http://www.judyssnowdrops.co.uk/>. You will see that I make frequent reference in the descriptions to the 'snowdrop bible'. This is a reference to 'Snowdrops' by Matt Bishop, Aaron Davis and John Grimshaw.

Snowdrops

Glossary

Segments and other flower features - snowdrop flowers typically have six 'petals' in two whorls. The outer whorl has three long 'petals' and the inner whorl has three shorter ones. The 'petals' are in inverted commas because they aren't, technically, petals at all. So, they are referred to as '(perianth) segments'. **Inner segments** are the shorter inner whorl of 'petals' and **outer segments** are the longer outer whorl. Sometimes the inner segments are multiplied indefinitely, and the result is a **double** snowdrop flower. Very rarely mutations cause the inner segments to resemble the outer segments. the result is a **poculiform** flower. When the opposite happens - the outer segments mutating to resemble inners - the result is an **inverse poculiform**.

Apex and base - although these words have perfectly clear English meanings, their use can sometimes be confusing. If you picture a snowdrop flower, hanging like a bell, the **base** of the segments is, of course, at the top, and the **apex** at the bottom!

Sinus and Claw - at the apex of the inner segments is a notch, called the **sinus**. Above the sinus there are usually one or more green (or rarely yellow) splashes of color. These are referred to as **marks**. Marks are generally confined to inner segments but some of the most desirable snowdrop cultivars are notable for marks on the outers. An individual outer segment consists of a narrow 'neck', which joins the ovary and the main, bowl-shaped section of the segment. The narrow neck can be short and broad or long and narrow. It is referred to as the **claw**. Marks on the inner and outer segments and the shape of the claw are among the best ways of distinguishing cultivars.

Vernation - almost all snowdrops have two leaves per bulb. The way in which the leaves are arranged is a good way of distinguishing among species. The simplest arrangement is called **applanate**, in which the two leaves are flat and the margins (side edges) of the leaves are also more-or-less flat. This is the form of vernation in *G. nivalis*.

In **supervolute** vernation one of the two leaves is wrapped around the other. This is exemplified by *G. elwesii*. Finally, in species with **explicative** vernation, such as *G. plicatus*, the margins of the leaf are folded back in a sort of pleat.

Spathe, Scape, Ovary and Pedicel - the stalk of a snowdrop is referred to as the **scape**. At the top of the scape is a structure called the **spathe**, which encloses the developing flower bud. When the flower is mature, it breaks free from the spathe and dangles on a thread-like **pedicel**. Between the end of the pedicel and the flower is a roughly conical structure, universally referred to as the **ovary**. Again, various combinations of these features of the plant can be diagnostic.

Galanthus Species

The number of snowdrop species is a matter of botanical taste. About 23 is a good number currently. In their native habitats they start to flower in early October, in the Peloponnese of southern Greece, and the last species to flower in the wild, *G. platyphyllus*, doesn't come up through the melting snow in Georgia until late May. Very few of these species are cultivated in gardens, except by a few specialists but this is not, in most cases, because they are hard to grow. It is simply that they haven't previously been available as seed grown plants. There are species that are genuinely challenging to grow. The aforementioned alpine species *G. platyphyllus* is a good example. Others, however, such as *G. peshmenii*, *G. cilicicus* and *G. graecus* are just as easy as the more familiar species and hybrids, once you understand their needs. For several years now, I have been growing snowdrop species from seed collected in wild populations. This is a game for the patient, as it takes a minimum of four years to get a flower and six is not uncommon. The project is beginning to bear fruit, literally, and in this list, I offer un-named plants of 14 species, grown from seed with known provenance. This is a great opportunity to grow several of the less well-known species, some of which are likely to do well in gardens that are not suited to the widely grown trio of *G. nivalis*, *G. elwesii* and *G. plicatus*. Because snowdrops are listed in Appendix II of CITES, international trade in their seeds is legal and by growing genetically diverse samples of populations that are rare and often threatened by development in their native habitats, we can make a big, positive contribution to their conservation. In the descriptions, I've given summaries of the most salient characteristics for gardeners of each species but bear in mind that wild snowdrops are hugely variable both within and among populations. Most of this vast pool of genetic diversity has not been available to galanthophiles previously and I hope that many more people will start to appreciate the merits of gardening with a much wider range of species.

Name	Description	Price (\$)
<i>G. alpinus</i>	<p>As is the case with the much better-known <i>G. nivalis</i>, this is a single name that conceals a great deal of hidden structure and variability. Its range is vast, spanning the entire Caucasus (though north of the ridge, in the central Caucasus, it is generally replaced by its close relative <i>G. angustifolius</i>) and south into north west Turkey, Armenia and Azerbaijan. It grows from near sea level on the Black Sea, to true alpine elevations above 2,000m in Georgia, sometimes as a strict chasmophyte, sometimes under deciduous forest and sometimes in alpine grassland. All populations share supervolute vernation, glaucous leaves, with hooded tips and flowers with a single mark at the apex of the inner segments. Populations vary immensely in stature, however. Some of those growing close to the Black Sea become enormous after flowering, with leaves 15 inches long or more, whereas alpine forms are some of the smallest of all snowdrops. Cultivation requirements vary enormously, depending on provenance and its reputation for being difficult to grow is only partly justified. If you know where the seeds were collected, it is much easier to provide appropriate conditions for each clone.</p> <p>Populations from near Lake Shaori in Georgia, with particularly broad leaves, have been named <i>G. schaoricus</i>. This is a handsome plant, well-worth growing, but it represents just one point on a continuum of variation. An interesting population in the Kamenka River catchment in Kabardino-Balkaria, Russia, has been named <i>G. alpinus</i> var. <i>bortkewitschianus</i>. It is apparently triploid and sterile, spreading clonally. It flowers well nonetheless and is one of the easier forms of this species to grow. The collection offered in this list is a particularly large form.</p> <p><u>Seed Collection</u> ACQ13465 – Turkey, Kackar Mountains, 1260m, on grassy SW-facing slope among scattered buildings. Plants in this population are particularly large and broad-leaved, forming small clumps. The leaves have distinct grooves on the lower surfaces, similar to but less pronounced than <i>G. koeneniianus</i>.</p>	60 each 150/3 225/5
<i>G. fosteri</i>	<p>This fascinating, rare species, with its unique combination of features, is a personal favorite of mine. It has an unusual distribution range, running north-south, from north-central Turkey in the north to the mountains of northern Lebanon and Syria in the south. It grows exclusively on limestone, as a chasmophyte or under scrubby oak forest and populations are far apart and small. Surviving populations are likely relicts from a period with a different climate. The leaves are a bright, glossy green, with distinctly grooved lower surfaces, similar to those for which <i>G. koeneniianus</i> is better known. The vernation is clearly supervolute. The crystalline white flowers are marvelously beautiful, with two inner segment marks, bottle green in color, one at the apex and one at the base, the latter often extending over more than half of the segment and sometimes merging with the apical mark.</p> <p>One variety, <i>G. fosteri</i> var. <i>antepensis</i>, has been named, for a population in the south of the range and this is by far the best form for cultivation, being much larger in stature and flower than other populations of this species, which is typically diminutive. All are worth growing and it is remarkably hardy and not difficult in the garden, though the smaller forms are perhaps best in a pot.</p> <p>The two collections offered below are both var. <i>antepensis</i>, from the vicinity of Gaziantep, and are the largest forms of this species I know.</p>	50 each 120/3 200/5

Seed Collections

ACQ13462 – Turkey, W of Gaziantep, 1250m, on N-facing limestone cliffs and rubble, growing in shady crevices, often forming clumps.

ACQ13466 – Turkey, W of Gaziantep, 1220m, on N-facing limestone cliffs and rubble, growing in shady crevices, often forming clumps.

G. gracilis

Plants that resemble *G. gracilis* occur in many, widely separated populations in western Turkey and each population is distinctive. In its best incarnations, it is my favourite snowdrop species. The features that distinguish *G. gracilis* from the closely related *G. elwesii* are appanate veneration and narrow to very narrow glaucous leaves, which are more-or-less helically twisted, like the thread of a corkscrew. These features are often rather ambiguous, however, and the two taxa are similar, except in their extreme forms. The flowers vary vastly in size within and among populations, but all have two marks on the inner segments, a narrow V at the apex and a larger teardrop shaped mark at the base, usually extending right to the base, without a white gap below the ovary. In some, but not all, populations there is a distinctive olive cast to the ovary and inner segment markings. Many clones produce two scapes per bulb. Wild populations occur in a wide range of habitats, from damp, low elevation woodland, to heavily grazed *Paliurus* scrub, to north-facing cliffs in the mountains. It is always associated with limestone, sometimes growing as a chasmophyte, in pockets of soil on limestone cliffs, where it can form sizeable clumps and these populations sometimes have exceptionally narrow leaves. Generally, however, it is not a clump-forming species. It is well worth trying a range of un-named forms of this species, which can occasionally be extraordinarily vigorous and, in other cases, frustratingly hard to grow well. I do not yet know enough about its cultivation in American gardens to predict which forms will do best where, but I have seed-grown strains from many different wild populations in the pipeline.

50 each
120/3
200/5

Seed Collection

ACQ13471 – Turkey, Yamanlar Dag, 890m, in shady, damp N-facing dell among limestone boulders. This is a classic location for the finest, tallest form of *G. gracilis* that I know. The well-known cultivar ‘Yamanlar’ originates from an old Colin Mason collection from this location but most plants under that name are now seedlings. Here is an opportunity to obtain genetically diverse seedlings from this amazing population.

G. graecus

There is a long and interesting story to be told about the origin, validity and applicability of the name *G. graecus*, but this list is not the place to tell it. Suffice it to say, for now, that the name is not currently officially accepted as valid, but it is nevertheless the best one, in my opinion, to use for snowdrops, closely related to *G. gracilis* and *G. elwesii*, which occur on certain islands in the eastern Aegean, on many mountains in northern Greece, in Bulgaria, Romania and Ukraine. As might be expected, a species with such a wide geographical range is highly variable. The best examples are bewitchingly beautiful plants, among the finest of all snowdrops. The flowers are large, often highly scented and typically have two dark green marks on the inner segments. The apical mark is a narrow V over the sinus and the basal mark is a much larger, teardrop shape, often extending over two thirds of the segment and sometimes meeting and fusing with the apical mark. The basal mark often starts a little way from the base of the segment, leaving a conspicuous white gap. The glaucous leaves more closely resemble those of *G. elwesii* than *G. gracilis*, being relatively broad, with supervolute veneration. This plant almost always occurs over limestone rocks, usually at fairly high elevations but does well in cultivation and is not hard to grow.

50 each
120/3
200/5

Seed Collections

ACQ13451 – Greece, Mount Pangeo, 1270m, on grassy, S-facing slope over limestone and under *Fagus*. Large plants, with broad leaves, typically single or in small groups but sometimes forming moderately large clumps.

ACQ13455 – Greece, Mount Vermion, 1180m, on bracken bank and under *Fagus*. The largest plants of this species that I know, with broad leaves, strongly supervolute vernation and often strongly inflated outers. Superb!

G. koenenianus An exciting, recently described species, closely related to *G. alpinus*, which occurs only in a handful of populations in a single valley in NE Turkey. It is a small plant, typically no more than 15cm tall but with flowers that are disproportionately large. They have a dark green mark at the apex of the inner segments and usually, but not always, a paler smudge at the base of the inners. The defining characteristic of the species, however, is the deeply grooved lower surfaces of the leaves, a feature not present in any other snowdrop species except *G. fosteri*, in which it is much less developed. It occurs under *Corylus* trees at elevations of about 1600m, flowering as the snow melts. Successful cultivation requires a cooler situation, which does not get totally dry, even in summer.

60 each
150/3
225/5

Seed Collection

ACQ13461 – Turkey, SW of Trabzon, 1600m, on steep, E-facing rocky slope under *Corylus* coppice. Small plants, with disproportionately large flowers, almost always occurring as single bulbs. Strongly grooved lower leaf surfaces.

G. krasnovii An exquisite species, known from rather few sites in Turkey, Georgia and Abkhazia, in the coastal mountains rising from the eastern margins of the Black Sea. These mountains receive enormous annual precipitation, which falls as snow in the long winters, burying the populations under a dozen feet or more of snow, where they presumably remain insulated from extreme cold. They occur in very wet places under alder or beech, often with running water at their feet in the growing season. As with *G. platyphyllus*, the leaves are long, bright green and exceptionally broad, sometimes as wide as a hand. The plants form large clumps, bearing abundant flowers which are exceptionally elegant, the outers sporting long, narrow claws that expand abruptly into a spoon-shaped blade. The inner segments entirely lack a sinus and the apices are in fact distinctly pointed. The inner segments have a small, dark green mark, often split into two, above the apex and the remainder of the segment is white, rarely with a little green shading at the base. This species is slightly easier to grow than the other two species in the clade (*G. platyphyllus* and *G. panjutinii*), naturally flowering a bit earlier, but it requires similarly exacting conditions to the others to thrive in cultivation. I have grown it very successfully in the driest part of a bog garden, where there is always some moisture at the roots but others have been successful growing it in ordinary garden soil that does not become too dry in summer.

125
each
320/3
500/5

Seed Collection

ACQ13461 – Turkey, Artvin, 1160m, in very wet patch of *Alnus* woodland on slope, with other damp-loving woodland species. Forms huge clumps.

<i>G. rizehensis</i>	<p>The north east corner of Turkey is a fascinating place for galanthophiles, with five snowdrop species (<i>rizehensis</i>, <i>woronowii</i>, <i>alpinus</i>, <i>koenenianus</i> and <i>krasnovii</i>) growing within a few dozen miles of one another. The first two on the list are the commonest and both occur from just above sea level, where they are often to be found at the margins of tea plantations or in hazel coppices, to riverbanks and cliff edges high in the mountains. Around the town of Hopa are several populations that appear to contain plants that are morphologically intermediate between <i>G. rizehensis</i> and <i>G. woronowii</i>. I am growing seeds from these populations, and it will be fascinating to see, a few years from now, what emerges. <i>G. rizehensis</i> has matt to slightly glossy mid or dark green leaves, sometimes with a slightly paler median stripe on the upper surface. The flowers have a single apical mark on the inner segments. This species is fairly well known in cultivation and it has a reputation for being easily grown but shy flowering. I think the explanation for this is that some wild populations do seem to spread mostly by clonal division, whereas others are not clump-forming and flower and set seed as well as any other snowdrop.</p> <p><u>Seed Collection</u> ACQ13469 – NE Turkey, Dikkaya, 940m, on N-facing igneous cliffs. Mostly single plants in this population, most of which seem to set seed, unlike some populations of this species that spread mainly vegetatively.</p>	50 each
<i>G. sp. nov. aff. rizehensis</i>	<p>An exceedingly exciting series of populations discovered only a few years ago, south of the main ridge of the Kackar Mountains in NW Turkey. No other snowdrop populations are known south or east of this point in Turkey. Morphologically similar to <i>G. rizehensis</i>, but with longer, fleshier leaves of an unusual mid green and slightly revolute leaf margins. Flowers are typical of <i>G. rizehensis</i> but unusually large. It remains to be determined whether these populations represent a new species or are a form of <i>G. rizehensis</i>, but their location implies that they must have been separated from other populations of that species for a very long time. Flowers early March in the wild but sometimes in fall for me, at least in pots. It should be completely hardy.</p> <p><u>Seed Collections</u> ACQ13464 – Turkey, southern Kackar Mountains, 1020m, on cliffs above fast-flowing stream, forming clumps. ACQ13468 – Turkey, southern Kackar Mountains, 1020m, on abandoned terraces above fast-flowing stream, forming clumps.</p>	125 each
<i>G. trojanus</i>	<p>An expedition by Kew Botanic Gardens to north west Turkey collected – as a <i>Scilla</i> species – a bulb that, when it flowered in cultivation was quickly recognized by the experts there as a snowdrop. What's more, it was clearly an undescribed species, having bright, matt green leaves, applanate veneration and a single apical mark on the inner segments, quite unlike the other species to be found in this corner of Turkey. Subsequent fieldwork by Turkish botanists located a few, mostly small populations in flower. Though rare in the wild, <i>G. trojanus</i> grows easily from seed and will hopefully become better established in cultivation, where it will be safer than in some of the wild populations, which are tiny islands of uncultivable land, surrounded by farmland. It is a beautiful thing, the pristine white flowers almost luminous above the green leaves. The small mark above the sinus is dark, bottle green, contrasting nicely with an often-paler ovary. Many clones are also deliciously scented. I am very excited to be able to offer a few bulbs from the first batch of seedlings to commence flowering. More are in production.</p>	95 each 240/3 360/5

Seed Collection

ACQ13460 – Turkey, near Canakkale, 470m, on dry slopes under *Quercus*. Growing almost exclusively as single bulbs.

- G. samothracicus*** The most recently described snowdrop species and still almost unknown in cultivation, *G. samothracicus* was discovered on the Greek Aegean island of Samothraki, where it grows beside streams and in pastures, where the sheep and goats seem very sensibly to ignore it. At first sight one could be forgiven for mistaking it for *G. nivalis*, to which it is surely closely related. The vernation is applanate, the leaves narrow and glaucescent, with a noticeable, blueish bloom, that is easily rubbed off. There is a single apical mark on the inner segment which is typically somewhat larger than the equivalent mark in *G. nivalis*. In most cases the pedicel is longer than the spathe, an attractive feature that makes the flowers dance in a breeze. It forms clumps, sometimes comprising dozens of bulbs and occasional clones produce two scapes per bulb. Its finest feature, from a horticultural perspective, is its incredible scent, which is among the best produced by any species in the genus. We await with bated breath the results of ongoing genetic studies to clarify the relationship of the plants on Samothraki to *G. nivalis* and two other near neighbors, *G. graecus* and *G. plicatus*. The morphological clues summarized above, taken together with evidence from nuclear mass studies suggest that the populations on Samothraki are distinct from its closest relatives.
- 95 each
240/3
360/5

Seed Collection

ACQ13459 – Greece, Samothraki, Therma, 45m, along banks of stream under deciduous woodland, among metamorphic rocks. Makes sometimes huge clumps.

- G. x valentinei*** In Thrace, Turkey-in-Europe, west of the Bosphorus are scattered populations of a very intriguing snowdrop, exceedingly variable from one place to another, with characteristics seemingly intermediate between *G. plicatus* subsp. *byzantinus* and one or both of two other species, *G. gracilis* and *G. nivalis*. In the academic paper that describes this putative natural hybrid, the authors write: ‘In Turkey, in the western part of the province of Istanbul, there are large populations of *Galanthus* that do not conform to any existing taxon, but instead appear to be a hybrid swarm’. The paper concluded that these populations are natural hybrids between *G. plicatus* and *G. nivalis*, a hybrid that forms readily in cultivation. Recent fieldwork has shown that populations of what appears to be the same taxon also occur in northern Greece, at least as far west as Mount Athos, the fascinating peninsula hosting an all-male monastic community that has been almost entirely shut off from the world for a thousand years. Populations recently discovered on the island of Samothraki (see above) are apparently closely related. It is also plausible that populations of snowdrops near the south-east coast of Bulgaria, that have previously been attributed to *G. nivalis* are in fact this taxon.
- 95 each
240/3
360/5

Its salient features are leaves that are glaucous, linear (parallel-sided), like those of *G. nivalis*, but typically with a slightly hooded (cucullate) apex and margins that vary from subrevolute to distinctly explicative (like *G. plicatus*). In stature, they vary from huge (more than a foot tall, with broad leaves) on and near Mount Athos, to diminutive, for example on the Black Sea coast near Bulgaria. The flowers are larger than those of most examples of *G. nivalis*, but could be confused with that species, except that every population contains a variable proportion of individuals with green smudges or eye marks at the base. In some populations, plants occur mainly as single individuals but elsewhere, especially on rich, alluvial soil, they can form large clumps. They are frequently found over limestone but, especially in northern Thrace, also form large

populations on sandy soils over metamorphic rocks. Many plants are highly scented, and the best are exceedingly beautiful, at least the match of the many hybrids in cultivation and they ought to be widely grown.

So, what are they? I am increasingly of the opinion that *G. nivalis* is not closely involved in the parentage of this taxon or, if it is, only by way of ancient introgression. There are three reasons for this, the simplest being that there are no extant populations of *G. nivalis* anywhere near Thrace, with Bulgarian coastal populations (which may well turn out not to be *nivalis*) the closest candidates. The other two reasons are technical, drawing on the results of the most recent available molecular phylogenetic studies and other studies of the DNA mass in different species, a measure of genome size. These studies are, however, consistent with the possibility that *G. gracilis* and *G. graecus* is closely involved in the ancestry of these populations. This suggestion is also biogeographically more plausible than the notion of involvement by *G. nivalis*, since there are populations of both *G. gracilis* and *G. graecus* scattered in Thrace and in adjacent Bulgaria and Greece. These speculations will be resolved by further molecular studies and, pending that happy day, I urge galanthophiles to explore the diversity in this hugely variable, exquisite and slightly mysterious plant.

Seed Collection

ACQ13467 – Greece, Athos peninsula, 10m, along banks of stream under *Platanus*, over limestone. Very large plants – the largest of this taxon I know – often forming big clumps. Large, often exceptionally long flowers.