

FJELLFLORA I MIDTNORGE
The Mountain Flowers of Middle Norway

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Attendance at a conference in Trondheim gave me an opportunity to explore some of the mountain flora of the Oppdal district of central Norway in the first week of July 2001. This article provides an indicative description of some of the more conspicuous flora of the region seen at that time.

The mountains of central Norway were heavily glaciated in the last Ice Age, with only a few peaks being ice-free. Today, there is one residual ice-cap, Jostedalbreen, the largest in Europe outside Greenland, but the ice in the Dovrefjell-Trollheimen area has almost entirely melted, leaving behind lofty, "moorland" plateaux and deep dales scoured by the meltwater streams, with the snowy peak of Snøhetta (2286m) being the highest point. The area is divided by the valley of the Driva River. To the west of the river are pre-Cambrian rocks, essentially volcanic ash, compressed under high pressure and temperature, and acidic; to the east, the rocks are calciferous, forming more fertile soils.

Mountain flora in Norway are either unicentric or bicentric, having spread as the ice melted from the two geographically separate regions with ice-free refuges. One of these regions is centred in Middle Norway, the region covered by this article. Today, there are over 40 species growing in the high-alpine areas (*høggfjellbeltet*) above 2000m. In all, 420 plant species have been found in the Kongsvoll landscape-protection area and the adjacent Dovrefjell National Park, mostly in the lower sub-*(løv-)* and mid-alpine belt (*mellomfjellbeltet*). The flora of this area was first investigated by the Danish-German botanist Georg Christian Oeder, who visited Dovrefjell in 1756, gathering information for his monograph, "*Flora Danica*" (Norway being part of the Danish realm at the time). While many of these alpine plants are found elsewhere, some are highly local in occurrence, such as the various species of the mountain poppy (*Papaver radicum*) and the dandelion named after the district, (*Taraxacum dovense*). Dovrefjell is also home to the glacial buttercup (*Ranunculus glacialis*), with its 30mm-diameter, white flowers. It is a high-alpine plant, being recorded on Galdhøppigen in Norway at 2370m and at 4275m in the European Alps (Gjærevoll and Jørgensen 1991).

Winters are long, and plants must make most of the extensive daylight hours of the short, cool summers. The earliest-flowering ones, like the purple saxifrage (*Saxifraga oppositifolia*) and the spring pasque-flower (*Pulsatilla vernalis*), bloom in May as the snow is disappearing. By mid-August, the floral splendour is over. At the beginning of July, when I visited the area, perhaps the largest numbers of plants in flower can be seen.

Oppdal (550m) in Drivadalen is at the crossroads of valley routes north and south and to the coast, and has been settled from pre-Viking times. Numerous small farms contour the mountainsides on the warm slopes beside roads that probably have been used for centuries, whereas the modern north-south road and railway follow the valley bottom of the Driva. Agricultural practice has been benign, and the roadsides are

thick with wildflowers: prominent components are cow parsley (*Anthriscus sylvestris*), white and red campion (*Silene alba* and *S. dioica*), dandelion (*Taraxacum* sp.), the white-leaved, “melancholy” thistle (*Cirsium helenoides*) and wood cranesbill (*Geranium sylvaticum*). This cranesbill varied in colour from blue-violet to white, with some plants with striped petals like *G. traversii*. Gardens in the outskirts of Oppdal often merge with the roadside verges, resulting in extensive carpets of wildflowers. Floral gems discovered within the “built-up” area included the orchid (*Dactylorhiza fuchsii*), with its spike of spotted purple flowers and upturned spurs, and the large yellow globeflower (*Trollius europaeus*). Another interesting plant of the roadsides is the bistort, *Bistorta vivipara*, with its single-stalked, white flowers. (I assume from the botanical name that the plant produces bulbils in the flower clusters, although this feature was not observed, and the roots are convoluted or “twice-twisted”).

Common trees in the gardens are birch (*Betula pubescens*), rowan (*Sorbus meinichii*) and the Scots pine (*Pinus sylvestris*), with the alpine dwarf pine (*Pinus mugo* var. *pumilo*) used as an edging plant! Its Norwegian name of buskfuru or bush pine is very apt. In the surrounding forest, the commonest tree of the lower slopes is the Norway spruce (*Picea abies*), with Scots pine in the wetter areas, both being managed species, mixed with birch and willow (*Salix* spp.). At higher levels, the forest becomes almost exclusively birch, diminishing in height with altitude to the tree line.

A gondola give ready access to the small knob of Hovden (1125m) from Oppdal centre, with trails leading to Blåøret (1605m). The tree line is 900m hereabouts. On Hovden summit, the occasional birch is dwarfed and becomes in sheltered spots a low, prostrate shrub (*Betula nana*) together with mountain juniper (*Juniperus communis* ssp. *nana*). In the wetter areas, there are various dwarf and creeping willows: green-leaved (*Salix phylicifolia*), silver (*S. glauca*) and woolly willow (*S. lanata*) being identified, tentatively.

Colour in the alpine flowers is provided by the deep pinks of the moss campion (*Silene acaulis*), the reddish hues of the opposite-leaved saxifrage (*Saxifraga oppositifolia*) and the yellows of the louseworts (*Pedicularis lapponica* and *P. oederi*), the latter being named after the botanist, Oeder. Close inspection of the low-growing herbfield revealed other beauties: the deep blue rock speedwell (*Veronica fructans*) and the insectivorous butterwort (*Pinguicula vulgaris*), whose leaves are arranged in a basal rosette to entrap unwary insects by rolling inwards. Very noticeable plants in bloom were the various saxifrages, which find niches among the rock rubble, principally *S. cespitosa*, with flowers that vary between white and lemon. The habitat of these plants has given rise to their name of “stone-breakers”. A particularly striking flower of the fellfield is the mountain avens, or the “pure-white rose” of the fells, (*Dryas octopetala*), with its eight white petals, a plant that can be prolific in dry, partially snow-free areas, in loose schist or chalk.

My wife and I also walked along the Vårstigen, the old royal spring road along the Driva valley from Kongsvold (King’s Fold or Enclosure), where there is a field station for the Norwegian University of Science and Technology (NTNU) located at Trondheim. Once the only highway in the valley and used as a pilgrim trail from the south to Olav’s shrine at Nidaros (Trondheim), the track is rocky and steep in places, but gives extensive views of the high-alpine meadows of Dovrefjell (and incidentally

treating us to distant views of grazing musk-oxen (*Ovibus moschatus*), animals which look like hairy bison). The track goes mostly through birch forest at 900-1100m, although the highest point is above the tree-line.

The *seter* or summer farms along the Vårstigen are now abandoned, allowing the birch forest to reclaim the old pastures, giving an open woodland in which herbs can flourish. In some parts, the forest floor was a continuous carpet of monkshood (*Aconitum septentrionale*), with wood forget-me-not (*Myosotis decumbens*) and water avens (*Geum rivale*) being also common. The forest floor is also home to the *skogstjerne* or “forest star”, *Trientalis europaea*, with its “star-like” flowers similar to those of a wood anemone. One English common name is more prosaic, chickweed wintergreen, possibly because it could provide green feed for fowl in wintertime. Formerly, in Europe, the plant was applied to wounds to prevent blood poisoning (Sutton 1988).

Plants found beside the track included the Lapland sorrel, *Rumex acetosa* ssp. *lapponicus*. Its Norwegian name, *setersyre*, suggests that it might have been used by those occupying the summer farms as an acidifying agent. At another place, in the middle of the track, one orchid escaped our boots: the small, yellow-flowering coral root (*Corallorhiza trifida*), just a few centimetres tall. Another small trackside floral gem was the mountain primrose, *Primula scandinavica*, with its pinkish cluster of stalked flowers, and its even smaller relative, *P. stricta*.

A list of the plants identified is summarised below:

Table 1. Species list of flowering plants growing in the Oppdal kommune July 2001

Botanical Name ¹	Norwegian Name ¹	English Name ²	Place
Pinaceae, Pine Family			
<i>Picea abies</i>	Vanlig gran	Norway spruce	O
<i>Pinus sylvestris</i>	Furu	Scots pine	O
Cupressaceae, Cypress Family			
<i>Juniperis communis</i> ssp. <i>nana</i>	Fjelleiner	mountain juniper	H
Salicaceae, Willow Family			
<i>Populus tremula</i>	Osp	aspen	O
<i>Salix glauca</i>	Sølvier	silver willow	H
<i>Salix herbacea</i>	Musøre	mouse-eared (dwarf) willow	H
<i>Salix lanata</i>	Ullvier	woolly willow	H
<i>Salix phylicifolia</i>	Grønvier	green willow	V
Betulaceae, Birch Family			
<i>Alnus incana</i>	Gråor	grey alder	S
<i>Betula pubescens</i>	Fjellbjørk	mountain birch	O, V
<i>Betula nana</i>	Dvergbjørk	dwarf birch	O
Polygonaceae, Dock Family			
<i>Bistorta vivipara</i>	Harerug	bistort, knotweed	O

<i>Rumex acetosa</i>			
ssp. <i>lapponicus</i>	Setersyre	Lapland sorrel	V
Carophyllaceae, Pink Family			
<i>Cerastium alpinum</i>	Fjellarve	mountain mouse-ear	H
<i>Cerastium fontanum</i>			
ssp. <i>alpinum</i>	Vanlig arve	common mouse-ear	V
<i>Lychnis viscaria</i>	Tjæreblom	sticky catchfly	O
<i>Silene acaulis</i>	Fjellsnelle	moss campion	H
<i>Silene alba</i>	Hvit jonsokblom	white campion	O
<i>Silene dioica</i>	Rød jonsokblom	pink campion	O
<i>Silene wahlbergella</i>	Blindurt	blindwort	H
<i>Stellaria nemorum</i>	Skogstjerneblom	wood starwort/stitchwort	H
Ranunculaceae, Buttercup Family			
<i>Aconitum septentrionale</i>	Tyrihjel	monkshood	O,V
<i>Caltha palustris</i>	Soleihov	kingcup	V
<i>Ranunculus acris</i>	Engsolie	meadow buttercup	O
ssp. <i>pumilus</i>	Fjellsolie	mountain buttercup	H
<i>Thalictrum alpinum</i>	Fjellfrøstjerne	mountain meadow-rue	V
<i>Trollus europaeus</i>	Ballblom	globeflower	O
Papaveraceae, Poppy Family			
<i>Papaver redicatum</i>			
ssp. <i>ovatilobum</i>	Dovrefjellvalmue	Dovrefjell poppy	O
ssp. <i>relictum</i>	Urvalmue	mountain poppy	O,V
Brassicaceae, Cabbage Family			
<i>Arabis alpina</i>	Fjellskrinneblom	mountain rock-cress	H
Crassulaceae, Stonecrop Family			
<i>Sedum rosea</i>	Rosenrot	roseroot	V
<i>Sedum villosum</i>	Lodnebergknapp	pink stonecrop	H
Saxifragaceae, Saxifrage Family			
<i>Saxifraga adscendens</i>	Skåresildre	upright saxifrage	V
<i>Saxifraga aizoides</i>	Gulside	yellow saxifrage	H
<i>Saxifraga cespitosa</i>	Tuesildre	tufted saxifrage	H
<i>Saxifraga oppositifolia</i>	Rødsildre	purple saxifrage	H
<i>Saxifraga stellaris</i>	Stjernesildre	starry saxifrage	V
Rosaceae, Rose Family			
<i>Alchemilla alpina</i>	Fjellmarikåpe	alpine ladies' mantle	H,V
<i>Dryas octopetala</i>	Reinrose	mountain avens	H
<i>Geum rivale</i>	Enghumbleblom	water avens	O,V
<i>Potentilla crantzii</i>	Flekkmure	Crantz's cinquefoil	H
<i>Sibbaldia procumbens</i>	Trefingerurt	"three-fingerwort"	H
<i>Sorbus aucuparia</i>	Vanlig rogn	rowan	O
Fabaceae, Peaflower Family			
<i>Astragalus alpinus</i>	Setemjelt	alpine milk-vetch	O
<i>Asragalus frigidus</i>	Gulmjelt	yellow alpine milk-vetch	V
<i>Astragalus norvegicus</i>	Blåmjelt	blue milk-vetch	O
<i>Lotus corniculatus</i>	Fjelltiriltunge	birdsfoot trefoil	O
<i>Trifolium pratense</i>	Rødklover	red clover	O

Umbelliferae, Carrot Family

Anthriscus sylvestris Hundekjeks cow parsley O

Geraniaceae, Cranesbill Family

Geranium sylvaticum Skogstorkenebb wood cranesbill O

Polygalaceae, Milkwort Family

Polygala amerella Bitterblåfjær bitter milkwort H

Violaceae, Viola Family

Viola biflora Fjellfiol twin-flowered violet H

Viola canina Engviol heath dog violet O

Viola tricolor Stemmorsblom heartease O

Pyrolaceae, Wintergreen Family

Pyrola norvegica Norsk vintergrønn Norwegian wintergreen V

Ericaceae, Heath Family

Arctostaphylos uva-ursi Melbær Arctic bearberry H

Phyllodoce caerulea Blålyng blue heath H

Primulaceae, Primrose Family

Primula scandinavica Fjellnokleblom Scandanavian primrose V

Primula stricta Smalnokleblom small upright primrose V

Trientalis europaea Skogstjene chickweed wintergreen V

Polemoniaceae, Phlox Family

Polemonium caeruleum Fjellflokk Jacob's ladder -

Boraginaceae, Borage Family

Myosotis decumbans Fjellforglemmegei wood forget-me-not V

Lamiaceae, Labiate Family

Thymus serpyllum Tanatimian thyme O

Scrophulariaceae, Figwort Family

Bartsia alpina Svarttopp alpine painted-cup V

Linaria vulgaris Lintorskemunn common toadflax O,S

Pedicularis lapponica Blekmyrklegg Lapland lousewort H

Pedicularis oederi Gullmyrklegg yellow lousewort H

Veronica fruticans Bergveronika rock speedwell H

Veronica officinalis Legeveronika heath speedwell S

Lentibulariaceae, Butterwort Family

Pinguicula vulgaris Tettegras common butterwort H

Campulaceae, Bellflower Family

Campanula rotundifolia Blåklokke harebell (Scottish bluebell) O

Asteraceae, Daisy Family

Achillea millefolium Ryllik yarrow O

Achillea ptarmica Nyseryllik sneezewort O

Artemisia norvegica Norsk malurt Norwegian wormwood V

*Centaurea cyana*³ ? cornflower O

*Centaurea scabiosa*³ ? greater knapweed O

Cirsium helenoides Hvitbladistel melancholy thistle O

Crepis paludosa Sumphaukekjegg marsh hawksbeard O

Hieracium spp.⁴ Vere hawkweed O

Saussurea alpina Fjellistel alpine sawwort V

Solidago vigaurea Gullris golden rod O

Taraxacum spp.⁴ Løvetann dandelion H,O

Liliaceae, Lily Family

<i>Convallaria majalis</i>	Liljekonvall	lily-of-the-valley	O
<i>Tofieldia pusilla</i>	Bjørnebrodd	Scottish asphodel	V

Orchidaceae, Orchid Family

<i>Corallorhiza trifida</i>	Koralrot	coral root	V
<i>Dactylorhiza fuchsii</i>	Skogmarihånd	common spotted orchid	O
<i>Dactylorhiza incarnata</i>	Flekkmarihånd	southern marsh orchid	S
<i>Nigritella</i> sp. ⁵	“Blåkurle”	“blue orchid”	V

Cyperaceae, Cottongrass Family

<i>Eriophorum schechzeri</i>	Snøull	snowy cottongrass	H
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Notes

Locations:	H	Hovden (1100m), an outlying peak of Blåøret.
	O	Oppdal (550m), roadsides in valley.
	S	Sundalsøra (0m), at the head of the fjord in the neighbouring kommune.
	V	Vårstigen (900-1100m), track in Dovrefjell National Park.

1. Botanical and Norwegian names are those given by Nilsson (1995).
2. The English names are those given by Sutton (1988) to similar species wherever these exist; in other cases, the names are indicative.
3. Seen growing on the roadside, but not recorded by Nilsson (1995), these plants may be of horticultural origin.
4. A large number of species and microspecies exist in these genera.
5. Similar in form to *Svartkurle* (*Nigritella nigra*), but flowers of plant seen were deep blue.

REFERENCES

- Gjærevoll, O.; Jørgensen, R. 1991: Fjellflora 10th edn, Trondheim, Bruns Forlag. P.84.
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