

Great-granny's Garden: a living archive and a sensory garden

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Abstract Since 2003, the Botanical Garden in Oslo has been involved in a project coordinated by the Norwegian Genetic Resource Centre. The wide range of work supervised by this centre includes conservation of ornamental plants. Our garden has been responsible for the registration and collecting of ornamentals in Southeast-Norway and has a special responsibility for the conservation of *Paeonia* species and cultivars. As a result of the project, Great-granny's Garden was opened to the public in 2008. It has two objectives. Firstly, it shall be a living archive of Norway's horticultural heritage. Although proven hardy, easy to grow, and long-lived, old varieties of traditional ornamentals are rapidly disappearing. We aim to keep these old-fashioned varieties for sustainable use in future horticulture and encourage people to use them in present day gardening, both in new gardens and in the restoration of old ones. Secondly, the garden is designed as a sensory garden for people with dementia, in cooperation with Oslo's Resource Centre for Dementia and Psychiatric Care of the Elderly. It is enclosed by a picked fence and by shrubs, offers rest on several benches, and has a paved and easy to follow round-walk among traditional garden elements and plants with a lush variety of colours, forms, and scents. A sensory garden stimulates many senses, evokes pleasant emotions, brings out long-forgotten memories, and stimulates communication. Sensory gardens are therefore considered an important tool in the therapy of dementia.

Keywords Conservation · Cultivars · History · Genetic resources · Hortitherapy · Dementia

Why a living archive of traditional ornamentals on public display?

Since 2003, the Botanical Garden in Oslo has been involved in a national project, The Plant Heritage project, coordinated by the Norwegian Genetic Resource Centre, aiming to

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conserve old ornamentals in Norway. Similar projects have been funded in other botanical gardens in Norway as well. Our garden has been responsible for the registration and the collecting of ornamentals throughout Southeast-Norway and has a special responsibility for the conservation of *Paeonia* species and cultivars.

In the south-eastern part of Norway in particular, long-term experience has shown that both the wild flora and traditional ornamentals are under threat due to increased urbanization (Kålås et al. 2006). In order to get public awareness of the urgent need to conserve the genetic resources represented by the old and rapidly disappearing cultivars of traditional ornamentals, the Botanical Garden in Oslo decided to display its collections of such plants for the public in a garden called Great-granny's Garden. People remember many of these plants from the gardens of their grandparents or their great grandparents. The garden was opened to the public in 2008. Great-granny's Garden provides information about the collecting location and the history of each plant and on the work of the Norwegian Genetic Resource Centre.

Old cultivars differ both morphologically and genetically from plants in trade today. Experience tells us that they seem to be hardy and long-lived and are mostly easy to grow. Nevertheless, they are rapidly disappearing due to new trends in horticulture, neglect by garden owners, construction of new houses in old gardens, and general urbanization. Horticultural experience has shown that most cultivars do not breed true through seeds and therefore cannot be conserved as seeds in a seed bank. They must be kept as clones in a living archive.

For many of the old cultivars, The Plant Heritage project represents their last opportunity for survival. We believe that the old cultivars have a potential for use in the restoration of old gardens, in the construction of new gardens, and in future plant breeding programmes. We therefore try to encourage the use of these traditional ornamentals in present-day gardens by distributing some of them to both private persons with affection for gardening or garden restoration and to commercial nurseries for propagation and sale. We hope that these historical plants can be cultivated and cared for in the years to come.

Our main objectives have thus been to save old ornamentals from extinction, to make our horticultural heritage known to the public, and to introduce old cultivars in today's horticulture and encourage their use in present-day gardens.

Why a sensory garden?

A garden with a variety of forms, colours, and scents stimulates many senses and old-fashioned plants and traditional garden elements may evoke pleasant emotions in people. In people suffering from dementia, sensory gardens can bring out long-forgotten memories and stimulate communication with other people (Kaplan and Kaplan 1989; Berentsen et al. 2007). A sensory garden thus offers people with dementia and their companions a positive, shared experience, regardless of whether the person with dementia still lives at home or in a nursing home. Sensory gardens are therefore used more and more in the therapy of people with dementia (Berentsen et al. 2007).

We realised that our collections of traditional ornamentals could be an excellent basis for establishing the first Norwegian public sensory garden for people with dementia.

In 2005, we discussed the sensory garden idea with GERIA, The Resource centre for Dementia and Psychiatric Care of the Elderly in the City of Oslo. They were very positive to the idea and have given us valuable advice for the design of Great-granny's Garden as a sensory garden and have also made a substantial contribution to its funding. In return, we

produce selected historical plants for sensory gardens at local nursing homes in Oslo each year and take part in sensory garden educational programmes and public relation activities.

Sensory garden elements

The most important sensory garden element is a secure, closed garden room, surrounded by fences or shrubs (Fig. 1). It is also important to have a paved and easy to follow round-walk that leads back to the starting point (Fig. 2) so that people with dementia can walk on their own without getting lost. Of course, it is also important to have a variety of stimulating colours, forms, and scents. Some traditional garden elements, like a gazebo, a water pump, and several benches (Fig. 3), contribute to a nice sensory garden atmosphere.



Fig. 1 The sensory garden is enclosed by a picket fence and by shrubs. Photo: Dag Inge Danielsen



Fig. 2 The sensory garden has a paved and easy to follow round-walk. Photo: Ane S. Guldahl



Fig. 3 A gazebo and several benches contribute to a nice atmosphere in the sensory garden. Photo: Dag Inge Danielsen

The plants in Great-granny's Garden

In total, ca. 500 ornamental plants have been collected throughout South-East Norway during the project. Collecting location and cultivation history of each plant, including its local vernacular names, are documented in our database (<http://www.nhm.uio.no>), but details are not publicly available.

An important criterion for each accession has been that the plant's history dates back to at least 1950. We have selected this year as the end of the period of interest because traditional gardening in Norway persisted up to then. Sometimes the history can be traced as far back as around 1900. Before 1900, the history of a particular plant mostly fades away in peoples memory but in a few cases, it can be followed further back through written sources.

The plants have seldom been bought but have either followed people from home to home, or have been received as a gift or through plant exchange among neighbours, families, and friends. Some cultivars are therefore rather local.

The collections in Great-granny's Garden include cultivars of many different species of trees, shrubs, perennials, and bulbs. People have also collected plants in nature and used them as ornamentals, e.g. *Convallaria majalis* L., *Hepatica nobilis* Schreb., *Primula veris* L., *Polemonium caeruleum* L., *Trollius europaeus* L., *Rhodiola rosea* L., and *Hylotelephium maximum* (L.) Holub. Some of these species collected from the wild are also included in Great-granny's Garden. Here, only a few examples of the plants we grow are highlighted.

Examples of plants grown in Great-granny's Garden

The flowering season in Great-granny's Garden starts in late April with a diversity of *Primula* × *pubescens* Jacq. cultivars (Fig. 4a–d). In Norway, their cultivation dates back to



Fig. 4 The flowering season starts in April with a variety of Garden Auricles, *Primula* × *pubescens*. Photos: Oddmund Fostad

at least the seventeenth century (Balvoll and Weisæth 1994) and we know that they were very common in Central Norway in the eighteenth century (Baade 1768) and in Northern Norway, north to Lapland, in the nineteenth century (Schübeler 1886–1889). Nowadays, many of the old *Primula* × *pubescens* cultivars are either lost or are on the verge of disappearing. Interestingly, most variation is still found in the central and northern parts of the country where cultivation has been most extensive.

One of the rarest plants in Norwegian gardens is *Scopolia carniolica* Jacq. (Fig. 5). It flowers in early May. It was first published in 1760 as ‘*Atropa2*’ in Joannes Antonius [Giovanni Antonio] Scopoli’s *Flora Carniolica* (Scopoli 1760) and later described under its current name by Jacquin (1764). Scopoli sent his flora to Linnaeus and offered him plants from the Slovenian province of Crain in 1760 (Stafleu and Cowan 1985; The Linnaean Correspondence: L27982009). On top of Linnaeus’ list of desiderata was ‘*Atropa2*’, which Linnaeus found uttermost paradoxical and unique. Linnaeus introduced *Scopolia* to Uppsala in 1764 (The Linnaean Correspondence: L3397 2009) but did not succeed to have plants in flower until 1767 (The Linnaean Correspondence: L3945 2009).

Fig. 5 *Scopolia carniolica* is known from old times in a few gardens in Southeast-Norway. It was introduced to Uppsala by Linnaeus in 1764. He found it an uttermost paradoxical and unique species at the time. Drawing: Mari Marstein[©]



Scopolia is rarely mentioned in Norwegian horticultural literature but it is known from old times in some gardens in East Norway (Marstein 2009). Nobody knows from where it originally came. People say: ‘it has always been here’ and it has been speculated if the Norwegian plants have originated from Linnaeus’ original introduction to Uppsala. Local names are rare but it is sometimes called e.g. ‘belladonna’ or ‘brown bells’. It contains the same medicinal and hallucinogenic alkaloids as some of the other plants in the nightshade family and people know that *Scopolia* is poisonous.

Peonies (Fig. 6) have been and still are popular ornamentals in Norway, particularly in the south-eastern part of the country. From a national perspective, Oslo therefore has the responsibility for the conservation of species and cultivars of Peonies. Cultivars of *Paeonia lactiflora* Pall. are plentiful and have at least been grown since the 1820s (Rathke 1823). It is, however, a real puzzle to find out their correct cultivar names.

Several species and cultivars of Irises have been collected but for many of them, the correct cultivar name is often difficult to verify. The cultivation of *Iris x germanica* L. may date back to medieval times and is recorded with certainty in 1694 (Balvoll and Weisæth 1994). *Iris sibirica* L. and hybrids in the *Sibiricae* series are more recent introductions, dating back at least to the nineteenth century in Norway (Rathke 1823).

Daylily cultivars are found in many old gardens. They were introduced to Norway before 1772 (Hammer 1772). Both *Hemerocallis fulva* (L.) L., the Orange Daylily, and *H. lilioasphodelus* L., the Lemon Daylily, have been cultivated in the Botanical Garden in Oslo since the early 1820s (Rathke 1823). *Hemerocallis fulva* is rarely cultivated in Norway nowadays and has only been found in or near a few old gardens but *H. lilioasphodelus* is still commonly cultivated.

Southernwood *Artemisia abrotanum* L. is an aromatic shrub, probably dating back to medieval times in Norway (cf. Aasen 2009). It has certainly been grown since the 17th century (Balvoll and Weisæth 1994) and has mostly been cultivated for its nice scent.



Fig. 6 In the end of June, many Peonies flower, here ‘Edulis Superba’. Photo: Oddmund Fostad

‘Ambra’ is one of its local names. It was often planted at doors of cow barns to rinse unpleasant smell off hands, or at kitchen doors to rinse hands before people went into their houses. People also placed a bouquet in the living room and even brought a twig with them to church, either to avoid the neighbours smell, or to hold them selves awake. The plant has been widely used as a moth repellent and to give scent to linen. In folk medicine, it was used as a remedy for several ailments (Reichborn-Kjennerud 1922). It is not hardy in northern Norway, is little-known in western Norway, and is rare nowadays in southern and eastern Norway.

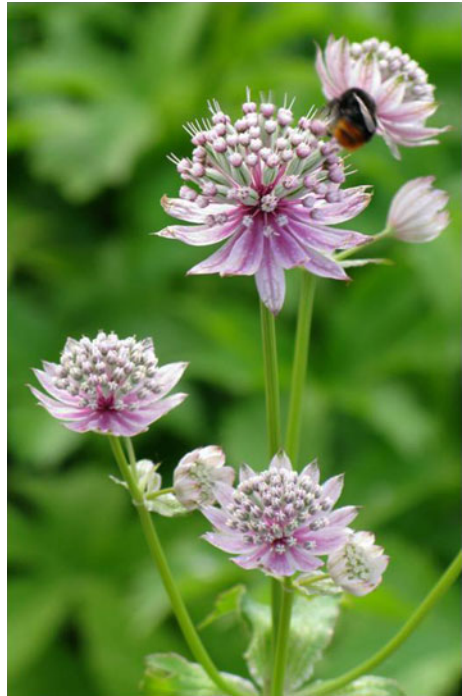
The first cultivation record of Masterwort *Astrantia major* L. (Fig. 7) in Norway is from the Botanical Garden in Oslo in the 1820s (Rathke 1823). Later in the nineteenth century, it seems to have been cultivated all over Norway, even as far north as Lapland (Schübeler 1886–1889). Today it is still found sporadically in gardens all over the country as far north as Lapland. Local names are ‘Great-granny’s flower’ or ‘Grey Lady’. In addition to being a charming plant, it is a good symbol for Great-granny’s Garden.

Conclusions

Being botanists, we have great concern regarding the conservation of our wild flora but it is important to have in mind that these old ornamentals also have biological value and that they are threatened by extinction and need publicity, concern, and conservation. Great-granny’s Garden’s main objective is the conservation of threatened ornamentals. Through its exhibitions, the garden also contributes in raising public awareness of the horticultural heritage and the need to take care of old plants for sustainable use in the future.

In addition, Great-granny’s Garden is designed as a sensory garden and is frequently used therapeutically by nursing homes with patients suffering from dementia. It is the only public sensory garden in Norway. Old fashioned plants, with a lush variety of colours, forms, and scents, in combination with traditional garden elements, stimulate the memory

Fig. 7 Masterwort *Astrantia major* is locally called ‘Great-granny’s flower’. Photo: Knut Langeland[©]



of people suffering from dementia and promote communication with other people, which is a major goal in the therapy of dementia (Berentsen et al. 2007).

Great-granny’s Garden was opened to the public in 2008. The combination of our main objective, conservation, with public awareness and therapy has functioned well and made this new garden a great success. It has received a lot of publicity in the Norwegian media and has been very popular among visitors of the Botanical Garden in Oslo. In 2009, at least 3,000 people have been guided through the garden and it has frequently been used by institutions working with people suffering from dementia and by GERIA in their educational activities. It is open all year round during the opening hours of the Botanical Garden, i.e. from dawn to sunset.

We have found that a good garden for people with dementia is a good garden for everybody, old as well as young. This is probably the main reason why Great-granny’s Garden has become such an attraction in the Botanical Garden in Oslo.

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