Plants of possible monastic origin, growing in the past or present, at medieval monastery grounds in Norway

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Abstract
Hagebruk var en viktig del av de daglige gjøremål ved flere av Europas klosterordener i middelalderen. Spesielt cistercienserne drev et velutviklet hagebruk, også i Norge. De egentlige klosterhagene var anlagt utenfor den indre klausuren med klostergården og korsgangen. Av Norges 31 middelalderklostre (1030-1536) er mulige klosterplanter omtalt fra 13 kloster i denne artikkelen. Mange av plantene er typiske medisinplanter. Det er lagt vekt på herbariebelegg, gjenstående reliktplanter og litteratur. Isop (Hyssopus officinalis), legekattemynte (Nepeta cataria), løvehale (Leonurus cardiaca), hunderot (Ballota nigra), akeleie (Aquilegia vulgaris), svaleurt (Chelidonium majus), bulmeurt (Hyoscyamus niger), oksetunge (Anchusa officinalis) surkirsebær (Prunus cerasus) og legevendelrot (Valeriana officinalis) er noen eksempler på mulige norske klosterplanter.

Introduction
Several thousand monasteries were founded in Europe in the peaceful times after the millenniumshift in the year 1000. Monastic gardens were common, and especially the Cistercian order developed highly advanced gardening (Coppack 2006: 107). The art of grafting were known and the cultivation of fruit-trees spread throughout Europe.

Some 70 years after the death of king Olav at Stiklestad in 1030, the first Benedictine monasteries were founded in Norway, and in total 31 monasteries were established in the middle ages (1030-1536), mostly along the coast, from Bohuslän in the south (today Sweden) to Trøndelag in Central Norway (Lunde 1987: 85). All the Norwegian monasteries were dissolved by 1536. See map for the Norwegian medieval monastic sites (fig. 1).

The monasteries were an important part of a European tradition, and according to Gunnes (1996: 135), the oldest Benedictine monasteries in Norway, were probably founded from England (East Anglia) c.1100. Also the Cistercians came from England. Fountains Abbey founded Lyse (1146) and Lyse founded Tautra (1207), Kirkstead Abbey (a daughter of Fountains Abbey) founded Hovedøya in the Oslo harbour in 1147. The English abbey had extensive gardens (Coppack 2006:107), and I assume that this tradition was continued in Norway, but most likely on a much smaller scale.

“All the monasteries had a garden, often several, and they were well tended. With a rare eagerness and endurance the monks brought with them fruit-trees, cuttings, herbs and flowers from abroad, in order to plant them in Norwegian soil. And still today one can find gardens by the monasteries that contain fruit-trees. The stately gardens of Lyse, Halsnø, Uist, Gimsø, Værne and Dragsmark are still extant» (Lange 1856: 154). Apparently Lange thought that the fruit-trees had been growing there since medieval times, but I consider that highly questionable.

The question now is what kind of plants grew in these “stately” gardens? Is it really possible to ever assemble a list with a fair amount of certainty of Norwegian monastic plants? The standard previous publications include papers on gardening and cultivation of fruit trees in the middle ages (Olafsen 1902; Olafsen and Nøvik 1898), the old monastic gardens (Nordhagen 1941), and the monastic contribution to the Norwegian flora (Fægri 1987). Höeg (1975) strongly suggested to take care of the monastic plants still growing in Norway. Based on these publications we can set up a list of plants that possibly grew in the Norwegian monastery gardens. However, we should keep in mind that most of these publications are rather old and somewhat outdated, and they do not really present any firm evidence of what kind of plants that were actually grown in the monastic gardens.

Medieval plants and monastery gardens
Outside Norway, several more or less detailed descriptions of medieval gardens and plants exist, e.g. McLean (1989), Harvey (1981), Stokstad and Stannard (1983), MacDougall (1983) and Landsberg (1998). Crisp (1924) compiled several illustrations from the middle ages where gardens and plants were included. Sillasoo (2006) has studied depictions of flowering plants in late
medieval religious paintings from southern central Europe, the study is based on a digitized online database.

Stannard (in Stokstad and Stannard 1983: 56) writes about the inner cloister garden. It was a place of retreat, containing a central lawn, usually quartered by paths. The gravel or sand covered paths could sometimes meet in the center of the garden, by a well. The lawn might have been bordered by a low growing hedge, maybe 1-3 small trees, and some roses in the corners. In the lawn proper daisies (*Bellis perennis*) and sweet violets (*Viola odorata*) might grow. Coppack (2006: 107) reports of a cloister garden excavated in York, England, with bedding trenches for box (*Buxus sempervirens*) hedges dividing formal plots. For many orders, the cloister garden may have been a late medieval introduction (Coppack 2006: 108). Both daisy and sweet violets are documented in the litterature from Trondheim, dating at least back to 1694 (Balvoll and Weiseth 1994: 64). Trondheim had 5 monasteries during the middle ages.

Outside the inner closure, but still inside the outer walls, were the actual monastery gardens, including orchards, vegetables and medicinal herbs (infirmary
garden), this is illustrated in the idealised St. Gall Monastery Plan from 816-837 (www.stgallplan.org/). It is also possible that the gardens could be located far away from the claustral buildings, like the medieval tree garden at Rein nunnery (Sundfør 1996: 43).

Medieval plant-lists

According to Stannard in Stokstad and Stannard (1983: 60) about 225 different species of plants can be identified as having been cultivated in the continental European medieval gardens. Harvey (1981: 163) compiled lists of all the plants that were more or less known in the Middle ages in Europe, in total more than 430 names, but these lists include among other things incense and exotic spices and the like. Lists can also be compiled using the earliest dictionaries (e.g. Fischer-Benzon 1894: 14; Fischer 1929: 70). From Denmark we can compile a fairly accurate list based on several publications, the most important ones are Henrik Harpestreng c. 1300 in Molbech (1826) and Lange (1999). In Denmark there is also a tradition of recording plant relicts growing in medieval localities, monastic sites and castles (Lind 1918; Lange 1972; Hedal 1987; Lind and Garner 1993; Løjtjant 2003; Løjtjant 2007a,b). Also from Sweden documented lists exist, e.g. Hjelmqvist (1991) and Heimdahl (2007). Most probably plants on a list of Norwegian medieval monastic plants can all be found on any of these lists, however, at present it is rather impossible to actually prove that a given plant species really is of medieval monastic origin in Norway.

Olafsen and Nøvik (1898) have shown that medieval documents contain some information on what kind of plants that were cultivated or were economic important in Norway in the middle ages. Archaeological excavations from the medieval towns in Norway, Oslo, Tønsberg, Bergen and Trondheim, give some very important evidence on what kind of plants that grew in the medieval towns (Griffin 1975/76; Griffin 1981; Sandvik 2000; Petersén and Sandvik 2006; Lindh et al. 1984; Griffin 1988; Sandvik 2000).

Herbarium material and plant relicts from medieval Norwegian monastery grounds

A list of herbarium specimens in the Norwegian Herb database (Pedersen 2002) from the municipalities where the monastery ruins are located, give us several possible taxa that could be designated as medieval plant relicts, however this does not prove anything.

As far as I know, only two old papers record plants actually growing in medieval ruins in Norway, the Hamar cathedral ruins in 1901 (Holmboe 1904), and Utstein monastery ruins and Sola church ruins in 1927 (Hanssen 1928). In a newer paper, Moe (1998) recorded some 100 taxa at the Halsnøy monastery ruins. A few possible medieval plant relicts can be extracted from these lists.

Between 1995 and 2008 I made briefly visits to most of the Norwegian medieval monastic sites (including the sites on the west coast of Sweden of today), see www.flickr.com/photos/candidum/sets/72157603544290296/ and map (fig. 1). Relict plants of possible medieval origin growing in or near the ruins were recorded.

In this paper, based on a paper read at a seminar on medieval plants near Nydala Cistercian Monastery ruins in Sweden in 2006 (see www.nyalakloster-targard.se/ and Åsen 2007), I will present some possible plants of monastic medieval origin, based on herbarium material, more or less referred to in the literature, and in addition some possible plant relicts still growing in some of the medieval monastic sites in Norway. The plant species with the respective monastic sites are presented below.

Kastelle monastery (Klosterkullen), Bohuslän, Augustinian, founded c. 1180

Cowslip (Primula veris) is abundant at the site. Even if this is considered a wild plant in Scandinavia, it is also a typical Marian herb and a medicinal herb,
and often mentioned in medieval plant lists (Harvey 1981: 163).

**Dragsmark monastery, Bohuslän, Premonstratentian, founded c. 1234**

According to Lange (1856) the rich and beautifully located Dragsmark monastery, no doubt had both a fruit and a herb garden. Lange mentions an apple orchard by one of the farms, and he states in 1856 that the garden of Dragsmark is still there and worth seeing. I visited the location in May 2004, and found yellow star-of-Bethlehem (*Gagea lutea*), Daffodils (*Narcissus pseudonarcissus* ‘Van Sion’) and daisies (*Bellis perennis*) growing near the ruins. Greater celandine (*Chelidonium majus*) actually grew in the crevices between the stones in the few foundations still left. I consider this a true monastic relict (also recorded in other Swedish monastic ruins, Ramundeboda, Varnhem, Nydala). In addition both daisy and daffodil could also be considered relics, both occur on medieval plantlists (Harvey 1981: 163), however they could more likely be later introductions to the site.

**Verne monastery, Østfold county, Rygge municipality, Knight Hospital, founded c. 1170-1270**

The ruins are located inside Verne manorial park (18th century). There has been a long history of farming, including park, gardens and nurseries. This makes it extremely difficult to conclude anything about possible monastic relict plants. Some interesting plants growing in the area include wild tulip (*Tulipa sylvestris*) (not considered medieval) and hautbois strawberry (*Fragaria muricata*). Growing directly on the ruins, just like in Dragsmark, is greater celandine. Some other plants considered possible medieval plant relicts, at least in Denmark (Løjtnant 2007a, 2007b), found in the wider area of Rygge municipality include sweet-flag (*Acorus calamus*), European white bryony (*Bryonia alba*), hound’s tongue (*Cynoglossum officinale*), henbane (*Hyoscyamus niger*), motherwort (*Leonurus cardiaca ssp. cardiaca*), lovage (*Levisticum officinale*) and dwarf mallow (*Malva neglecta*) (Herbaria O and KMN).

**Hovedøya monastery, Oslo, Cistercian, founded 1147**

The ruins of Hovedøya monastery, are located on an island with calcareous rocks in the harbour of Oslo. Hovedøya has for a long time been well known for its rich flora (Rustan 1981; Bjureke et al. 2007). According to Bjureke et al. (2007: 42) the flora in the ruins have been corrupted by “helpful” people by the introduction of supposedly “authentic” monastic plants 1950-1960. This makes it difficult, if not impossible, to accept observations of possible relics growing on the island of Hovedøya after about 1950. I will briefly mention the plants that I consider the most likely remnants of monastic cultivation (first year recorded in Herbarium O is indicated, second year 2008 observed by the author, other second year observations from Bjureke et al. (2007): greater celandine 1867-2008, barberry (*Berberis vulgaris*) 1878-2008, columbine (*Aquilegia vulgaris*) 1887-2008, valerian (*Valeriana officinalis*) 1854-2007, henbane 1892-2001, alkanet (*Anchusa officinalis*) 1912-2008, gooseberry (*Ribes uva-crispa*) before 1862-2001, gromwell (*Lithospermum officinale*) 1866, hawthorn (*Crataegus monogyna*) 1879-2007 and catmint 1933-1949 (*Nepeta cataria*). Black horehound (*Ballota nigra*) was last recorded at Hovedøya proper in 1949. Today it grows underneath the castle-wall of Akershus, on the mainland, fairly close to Hovedøya. According to Bjureke et al. (2007: 35), turf from Hovedøya was transplanted to Akershus castle in the 18th century, and most likely the black horehound originates from this transplantation. Catmint still grows in the streets of the medieval part of Oslo (Lindeberg 2001). Three other monasteries were located in the old city on the mainland. Motherwort (*Leonurus cardiaca ssp. cardiaca*) has been recorded in medieval deposits in the old part of Oslo (Griffin 1988: 68). Today it has a sporadic occurrence in the same area, and should, in my
opinion, definitely be included as a monastic plant relict, with reference to e.g. Løjtnant (2007 b).

The double cinnamon rose (*Rosa majalis* 'Foeundissima') was recorded near the Hovedøya ruins in 1954, and it was announced as a monastic relict (Anonymus 1954). We have no observation of this rose from Hovedøya in recent years. According to Gustavsson (2008: 96) the double cinnamon rose is not known before 1596, and I also doubt that this really is a monastic plant relict. The same goes for the eglantine rose (*Rosa rubiginosa*), recorded from Hovedøya in 1837 (see also Hamar below). The eglantine is very often used for ground stock for rose cultivars, having a vigorous growth, and most likely it originates from newer gardens associated with the military at the island (for a brief history of Hovedøya see Bjureke et al. 2007).

**St. Olav’s monastery in Tønsberg, Premonstratentian, founded c. 1191**

Greater celandine grows abundantly both in the monastery church ruins and in the streets of Tønsberg city (2008). In 2004 the medieval potherb, bristly oxtongue (*Picris hieracioides*) was common in the ruins. Some other plants considered possible medieval plant relicts (e.g. Lange 1999, Løjtnant 2007) found in the Tønsberg municipality, include alkanet 1885, birthwort (*Aristolochia clematitis*) undated, one of the very few finds in Norway, black horehound 1884, good-king-Henry (*Chenopodium bonus-henricus*) 1885, hemlock (*Conium maculatum*) 1865, hound’s-tongue (*Cynoglossum officinale*) 1909, henbane 1931, motherwort 1906, dwarf malva 1881, butterbur (*Petasites hybridus*) 1881 (Fægri 1992). Yellow figwort (*Scrophularia vernalis*) was recorded in Tønsberg in 1884. In Denmark this plant was introduced as a medieval honey plant, and still grows as a relict plant in or very near medieval sites (Faurholdt and Løjtnant 1999). Honey was produced at the Norwegian monasteries (Lange 1856: 155), also beeswax was an important product, needed for candles. Other information on plant life from the medieval city of Tønsberg include information that tithe was applied on apples, peas and turnips in 1277, and that the Franciscan community had a garden, mentioned in a letter dated 1551 (Lange 1856: 455).

**Hamar cathedral ruins and vicinity including St. Olav’s monastery and Helgøya (the Holy Island)**

In the middle ages, Hamar was an ecclesiastical centre, including cathedral, the bishop’s residence, monastery and hospital (Jordåen 2006). From this area we have one of the few – if not the only one – late medieval description of Norwegian monastic gardens: «Orchards, apple – and cherry-gardens, hop-garden, and one could smell the fragrance of the eglantine rose (*Rosa rubiginosa*) along the lake Mjøsa near St Olav’s monastery» (Knoff and Hedmarksmuseets venner 1976). Hamar was an important centre of fruit-growing during the middle ages according to Fægri (1960: 89), and he speculates that the escaped garden apples found not far from Hamar could be very old escapes, however the indication that these apples should originate from medieval cultivation, would be extremely hard to prove. Today garden apples are fairly commom escapes in S Norway (own observations 2008).

In 1901 Holmboe (1904) and 1927 Hanssen (1928) found gooseberry, elder (*Sambucus nigra*), greater celandine and wormwood (*Artemisia absinthium*) growing on the Hamar cathedral ruins. These plants could very well originate from a medieval cultivation in the area. A future study with analyses of past and present distribution would give a stronger basis for more decisive conclusions. Today the ruins have been cleared of all growth, and protected by glass.

Hyssop (*Hyssopus officinalis*) is still growing on cliffs in the area (Høiland 1995: 19) and in other localities that can be associated with the middle ages (Brendalsmo 1998: 11). The oldest herbarium record in O is from 1857. Based on the present Norwegian distribution, I consider this a true relict of medieval monastic cultivation. During excavations in the 1990’s (Sæther 1998: 16) in the area of the bishop’s residence and cathedral, henbane sprouted in the dug up soil (C. Jensen pers. comm.), the seeds of this plant are known for their longevity, and they may very well originate in medieval soil. According to Herbarium O, catmint (*Nepeta cataria*) was recorded in Hamar in 1846 and chickory (*Cichorium intybus*) in 1879. Catmint is considered a medieval plant relict in Denmark by Løjtnant (2007 b), and chickory has been found in medieval deposits in both Denmark and Sweden (Lange 1999: 90).

Other plants, considered possible medieval relics introduced by the monks according to Blytt (1864: 4), found in the Hamar-Helgøya area in 1863 include barberry and columbine. Blytt also found gromwell (*Lithospermum officinale*) at Helgøya in 1863, but does not include this as a posible medieval plant relict. Also Rud (1884: 19) recorded a large population of gromwell at Helgøya. According to (Often et al. 2005: 48) sweet-flag (*Acorus calamus*) has been recorded twice on Helgøya, in 1903 and 1951. Both gromwell and sweet-flag are mentioned on medieval plant lists from continental Europe from 1260 (Harvey 1981: 163). Sweet flag is growing by a Danish castle destroyed in 1439 (Løjtnant 2007a: 7).

Helgøya (Holy island) is located southwest of
Hamar. In the middle ages there was a church and hostel on the island. Recently the flora of Helgøya has been extensively studied by Often et al. (2005) and of about 800 taxa, the authors indicate that 14 could be of monastic origin, further suggesting wormwood, hound’s-tongue and gooseberry as the most significant medieval relicts, based on age of first finds and abundancy. No doubt further studies of the extensive botanical collections and literature from Hamar - Helgøya, would shed more light on the subject of possible medieval plant relicts.

Utstein Monastery, Rennesøy municipality, Rogaland county, Augustinian, c. 1263

In 1927 the ruins were surveyed for plants, and Hanssen (1928) found gooseberry, hop (Humulus lupulus) and daisy growing on the walls. All could be possible monastic plant relicts occurring on medieval plant list from continental Europa (Harvey 1981: 163). However, the plants could also be newer escapes from the nearby farm. Hop is mentioned in the Frostating law text from 1260 in Norway, indicating that hop was in use in Norway at that time (Borgen 1999: 49).

Halsnøy Monastery, Kvinnherad municipality, Hordaland county, c. 1163

The monastery had extensive landholdings in the southern part of Norway, the estate was turned into a manor after the Reformation. Moe (1998) did a botanical investigation of the area, and indicated that ramsons (Allium ursinum) and ground elder (Aegopodium podagraria) could be of possible medieval origin. Since ground elder is an extremely common garden weed in Norway, it is impossible make any conclusions with respect to origin. In Denmark ramsons is considered both indigenous and introduced, growing sometimes as a relict plant (Lojtman 2007a: 9). Columbine and gooseberry could also be considered medieval. Today a protected ash (Fraxinus excelsior) stands in the middle of the ruins. The tree could be a possible decendant of an orginal medieval ash on the site. In 1863 it had a circumference of 6 meters! (see also Rein Monastery below). Both garden and trees (ash?) are visible on a painting from 1676 (Original in Sko monastery, Sweden). An herb garden outside the gate is mentioned by Lidén (1967: 17). Some other plants, that can be considered possible medieval plant relicts, based on continental plant lists in Harvey (1981: 163), found in the Kvinnherad municipality include butterbur (Petasites hybridus) in 1927 (Herbarium O, Fægri 1992), sour cherry (Prunus cerasus) in 1924 (O) and hawthorn (Crataegus monogyna) in 1924 (O).

Lyse Monastery, Os municipality, Hordaland county, Cistercian, founded 1146, daughter of Fountains Abbey, England

Lyse monastery was one of the richest monasteries in Norway. It was dissolved in 1536, and the tearing down of the buildings started in the 1560’s. The stones were used for other buildings in Norway and Denmark (Nybø 1987: 171). In 1670 the area including the monastery was privatized and new gardens were established. Today the land is in private hands and included in the Lyse manor estate. Lyse Monastery also had activities in Opadal in Ullensvang municipality, including a farm (grangie), hostel and possibly they laid out stairs all the way to the top of the surrounding mountain plateau of Hardangervidda. The stairs are still present! The fruit-growing, including apples, plums, pears and cherries in the Hardanger area, originates from the monks in Opadal according to Olafsen (1900: 4). Lyse founded Tautra monastery in Trøndelag (see below), and likewise advocated the fruit-growing in that area (e.g. apples, sour cherries).

Lyse Monastery is well known for its growth of masterwort (Peucedanum ostruthium), first recorded in
1908. Today the plant grows fairly close to the actual ruins, together with the Martagon lily (*Lilium martagon*). Masterwort may be a true monastic relict, or it could be a garden escape from the manorial garden dating from the 17th century. Lundquist (2005) has shown that the Martagon lily is a post medieval introduction to Norway, it is well documented from Bergen in 1597. Another incident complicates this matter, at least in the early 19th century, waste from the city of Bergen was deposited on the fields surrounding the monastery ruins (Dunlop 1997: 12). This may also have added “new” plant material to the area, thus making it difficult to make any definite conclusions. The masterwort is known from several collection in the Bergen area from 1909 onwards.

The Dominican Monastery in Bergen, founded c.1245 and medieval city gardens

The monastery was located at the castle of Bergenhus (Lunde 1987: 105). Holmboe (1912) tells the history of a large beech (*Fagus sylvatica*) in Bergen, probably planted by the Dominicans c.1500 in the center of their cloister garden. The tree was felled by a storm in 1778. Bruun (2007: 29) mentions other examples of large city trees in medieval Bergen, and that most of the information we have about medieval Norwegian city gardens is from Bergen (the country’s largest city at that time). Several garden plots can be seen on an illustration from 1570 in Bruun (2007: 27). We can only speculate what they grew in these gardens, probably vegetables, some medicinal herbs and fruit-trees. In 1827 sweet cicely (*Myrrhis odorata*) was collected in Bergen (Herbarium O), buttebur (*Petasites hybridus*) was collected c. 1848 (O) and good-king-Henry (*Chenopodium bonus-henricus*) was recorded 1868 (BG). All are mentioned on medieval plant lists (e.g. Harvey 1981:163, Lange 1999), and could be associated with medieval garden activity in Bergen, but no firm conclusions can be made. In addition brooklime (*Veronica beccabunga*) was collected c 1848 (O), it was used as a medicinal herb in the middle ages (Grieve 1973: 123).

Selje monastery, on Selje island, Sogn og Fjordane county, Benedictian, founded c. 1100

The field about 200 m in front of the ruins shows signs of cultivation, even today, and Schnitler (1916:34) indicates that the monks’ garden were located here. The weather conditions would be rather harsh here, so the gardens were probably located at a more protected
locality. According to local people the monks had their garden on the sheltered side of Selje island where hop, columbine and angelica grow (Bruun 2007: 17). Columbine also grew in the actual ruins in 1995 (not observed in 2004), daisy was observed in 2004, hawthorn was recorded in 1877 (Herbarium TROM), brooklime grew in a brook close to the ruins in 1955 (TRH) and cowslip (*Primula veris*) was recorded in 1887 (O). All the plants can be associated with monastic activity.

**Trondheim**

Selvik and Sandvik (1999: 19) wrote about a garden that belonged to the *canonici* associated with the Nidaros cathedral in 1311, but we do not know what they grew in this garden, probably it was a vegetable garden, in addition hops and mayby some fruit-trees, crab apples (*Malus sylvestris*) and sour cherries (*Prunus cerasus*) were included. Sour cherry grows at Munkholmen, where a bendictinian monastery was founded c.1100. It is widely assumed by several authors that the sour cherry (today called "Frostacherry") was introduced by the cistercian monks at Tautra to Trøndelag in the middle ages (e.g. Krokan 1930, Redalen and Vestheim 1987: 515). According to the last authors there is hardly no distinction between sour cherries from Trøndelag and from Hardanger (Opedal). Four other medieval monasteries existed in the city of Trondheim. Several plants from the city could likely be termed relics of monastic medieval origin: e.g. barberry 1905, hemlock 1886, wormwood 1914, henbane, sweet cicely c.1825, brooklime 1825 (Herbaria). Probably they also grew angelica (*Angelica archangelica* ssp. *archangelica*) in special angelica gardens (kvanngard). Angelica is mentioned in old law texts and in the sagas.

**Rein monastery, Rissa Municipality, Sør-Trøndelag county, possibly Augustinians, founded c. 1226**

Part of the monastic church is included as a ruin in the yard for the Rein manor house, built in 1866. New gardens were established at least from 1762. Cherries are mentioned at Rein manor in 1743 (Nøvik 1901: 50), and probably the cherries found in the area around the monastery originate here (Wallem 1942: 25). Schønning writes in 1773-75 about ashtrees that grow in and around the garden (Nøvik 1901: 94). The story goes that the nunnery garden included 24 ashtrees, brought by German nuns around 1220 (Sundfør 1996: 43). This story has been alive at least since 1703, and today a few large ashes are still standing, probably third generation trees, about 200 years old (Sundfør 1996: 60). However, a big tree that was cut down for about 50 years ago had an age of about 700 years, based on yearly rings on the outer, living part of the stump (Sundfør 1996: 58). According to Fremstad and Solem (2005: 22) the sweet violet is present at Rein monastery today, but even if this is a classical monastic relict, it may very well be a later introduction, because of the newer gardens associated with the manor.

Vibe gård, by the city of Steinkjer, about 120 km NE of Rein monastery, once owned by the Rein monastery, also had two old and large ashes (Valebrokk 1999) in addition to other interesting perennials that could be relics from medieval times, e.g. white hellebore (*Veratrum album*). Vibe gård has 400 years of documented garden history, and we may speculate that white hellebore and the ashes have originated from Rein Nunnery (Valebrokk 1999).

**Tautra Monastery, Frosta Municipality, Cistercian, founded in 1207, daughter of Lyse Monastery**

An inventory list of the Tautra monastery in 1532 shows very clearly that farming and gardening were important duties, and no doubt the whole island of Tautra was one complete farming area, with the monastic buildings in the northern part and the Tautra farm proper in the southern part (Ekroll 1996). The island of Tautra has for a long time been well known for a rich flora with several rare plants, often forming a part of the northern limit of their growth in Norway. Several people have visited the island, and below follows a chronological list with some comments on possible monastic relict plants.

Tautra monastery was dissolved in 1532 and placed under the Norwegian crown in 1537. The buildings were in neglect, but we have no sources to tell us when the buildings were actually abandoned (Ekroll 2003: 25). During 1600-1700 the ruins were used as a quarry for building materials for buildings in Trondheim, and only parts of the church is still standing.

The monastery including the surrounding garden is mentioned in the litterature in 1613: a delightful apple-garden (orchard) planted by the monks was still present at that time according to Peder Claussen Friis (Wallem 1942: 25). Later, Joachim Irgens notes columbine and daisy from Tautra 1689-1704 (Dahl 1892-1893: 376). In 1743 the island of Tautra had gardens, some cherries and ash-trees (rare in the area) (Nøvik 1901: 92). Also rare medicinal herbs were growing around the monastic ruins were observed, and the anonymus observer indicates that the medicinal herbs must have been planted by the monks (Nøvik 1901:50). Tonning (1773: 71) has a long description of the many uses of elder (*Sambucus nigra*),
stating it is extremely rare in the Trondheim district, and growing locally only at the Tautra island.

In 1774 the pharmacist Strack in Trondheim collected medicinal herbs at Tautra, cowslip and columbine grew there, and still one could see remnants of a large garden by the ruins, including old apple-trees, no doubt planted by the monks, as well as ash, oak and hawthorn. The observer and informant is Gerh. Schønning who travelled in Norway in 1773-1775, and his observations are partly published by Nøvik (1901: 90). This is the northern limit of hawthorn in Norway, and ash is approaching its northern limit, with few finds north of Tautra. Both species have a very long history of cultivation and folklore (Fægri 1970). Fægri (1960: 89) states that the apple-trees of the monastic centre Tautra, have glabrous leaves, i.e. these are systematically termed wild apples or crab apples (Malus sylvestris). He indicates the apples originate from the monks’ garden, but I assume this is part of the local saying. Hawthorn is extremely common in the English countryside, and one could speculate whether the monks brought hawthorn from England to Norway in order to utilise the edible fruits? At the Tautra farm, perhaps the former main farm of the monastery, located on the island about 1,5 km away from the ruins, Ger. Schønning found cherries (sour cherries?), bird cherries (Prunus padus), plums, pears, red and black currants and gooseberries in 1774 (Novik 1901: 92). Recently black currant has been documented as a medieval plant in Sweden. (Heimdahl 2007: 20).

In 1817 remnants of the garden could still be seen, also a well was present near the ruins, and in 1879 foundations of buildings surrounding a garden were excavated (Ekroll 1996).

Jørstad (1918: 7) gives a fairly detailed history of the botanical investigation of Frosta municipality, and he lists henbane, possible wild apples (crab apple - Malus sylvestris?), columbine, hawthorn, tansy (Tanacetum vulgare) and barberry in the area. All have roughly a concentration of finds in the Trondheim - Tautra area (Artsdatabanken), this could imply a distribution of monastic origin.

According to Weisæth (1972: 1222) many curious plants sprouted during the first years after restauration of the ruins 1879/1884, and he indicates some of these plants can be identified on drawings from this period: Ash and cherry, hawthorn, great mullein (Verbascum thapsus), tansy and foxgloves (Digitalis purpurea).

In 1974 the vegetation and flora of Tautra were investigated by Baadsvik (1975), and later Nilsen (1996: 35) reported on the botanical aspects of the traditional agricultural landscape, where, in my opinion, several possible monastic relicts are mentioned, e.g. columbine, barberry, lovage (Levisticum officinale) (not confirmed in the herbaria) and great mullein, all were important medicinal herbs in the middle ages and figure on well known medieval plant lists from continental Europe (Harvey 1981: 163) The same can be said about butterbur, found in 1938 (O) and alkanet (Anchusa officinalis) from 1967 (TRH).

Today (2008) columbine is a dominant plant in the ruins. In comparing plants of columbine from the Tautra ruins with plants from Nydala cistercian monastery in Sweden, the plants look superficially alike, which could be an indication of monastic origin. Ash and bird cherry (Prunus padus) grow around the ruins, and near by one can find field garlic (Allium ibericum), “geirlauk” in the local language (wild plant in Norway, but possibly used by people). Also tansy, brooklime and cowslip grow on the southern part of the island, all may have been important medicinal herbs for the monks at Tautra in the middle ages.

Economic plants and archaeological excavations

In addition to the plants above, we may briefly mention that economic crop plants like barley (Hordeum vulgare), oat (Avena sativa), wheat (Triticum), rye (Secale), hop, hemp (Cannabis sativa), flax (Linum usitatissimum), pea (Pisum sativum), horsebean (Vicia faba) and turnips, have all been recorded in medieval deposits in Norway (Griffin 1988), Other possible medieval cultivated plants found in archaeological excavations, with a common or sporadic occurrence in Norway today, include fennel (Foeniculum vulgare),
parsnip (*Pastinaca sativa*), coriander (*Coriandrum sativum*), caraway (*Carum carvi*), bullace (*Prunus insititia*), sour cherry, crab apple, hemlock, henbane and opium poppy (*Papaver somniferum*) (Griffin 1988; Sandvik 2000). A mixture of seeds of the three last plants form a very potent anesthetic (Moffat 1989, 1992, 1995), and were probably included in any infirmarer’s garden.

**Concluding remarks**

All of the plants mentioned in this paper occur in medieval plant lists, and most of them are mentioned in English medieval plant lists (Harvey 1981: 163). Since this paper is based on very brief visits to the monastic sites, a more thorough study should be undertaken. In order to get a more complete list of the relict plants of possible medieval origin, the flora in and around the monastic ruins should be systematically studied and also compared with corresponding studies in all of the Nordic countries.

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