

Echium vulgare (Boraginaceae) in the Åland Islands

Carl-Adam Hæggström & Eeva Hæggström

Hæggström, C.-A., Finnish Museum of Natural History, Botany Unit, P.O. Box 7, FI-00014 University of Helsinki, Finland. E-mail: carl-adam.haeggstrom@helsinki.fi
Hæggström, E., Tornfalksvägen 2/26, FI-02620 Esbo, Finland. E-mail: eeva.haeggstrom@kolumbus.fi

Echium vulgare L., chiefly a weed in the Nordic countries, was previously rather rare in the south part of mainland Finland and very rare in the Åland Islands. It has suddenly become much more common during the last twenty years. *E. vulgare* has been found in all municipalities of the Åland Islands, except Brändö. The reason for the rapid expansion of the species is partly road construction with possible introduction with grass seed mixtures sown on the newly constructed road slopes and verges, and partly deliberate sowing of *E. vulgare* along roads in the municipality of Lemland and perhaps elsewhere. A few cases of the species sudden appearance are described.

Introduction

Abundant presence of flowering viper's bugloss (*Echium vulgare* L.) along the main road through the municipalities of Lemland and Lumparland in the Åland Islands was paid attention to in one of the daily newspapers (Alberius-Forsman 2015). This earlier rare species has suddenly become fairly common in the Åland Islands, especially along the roads.

The genus *Echium* comprises about 60 species of which 18 are European species (Mabberley 2008). Of those, *E. vulgare* is the most weed like. Originally, a Mediterranean species, it is nowadays widespread in almost the whole of Europe with the exception of the northernmost areas. It occurs also in western Asia with some isolated records in the Irkutsk area, near Vladivostok and in the island of Sakhalin in Russia. *E. vulgare* is an introduced species in North America, mainly in the eastern USA, and further introductions are known from New Zealand and South Africa. (Hultén & Fries 1986.)

In the Nordic countries, *E. vulgare* is very common in Denmark (Hultén 1971, Frederiksen et al. 2012) and rather rare in southern Norway, with a few localities northwards to about 69° N lat. (Hultén 1971, Lid & Lid 2005). In Sweden, *E. vulgare* is fairly common in the southern part of the country, northwards to mid Norrland with a few records further north (Hultén 1971). It is one of the typical species along roadsides and on dry soil in the limestone islands of Gotland and Öland (Ekstam et al. 1984).

In Finland, *E. vulgare* has been found in many places in the southwestern part of the country, mainly the biogeographical provinces of Al, Ab, N and Ta (for the abbreviations, see Hämet-Ahti et al. 1998), with scattered records northwards to Tornio in Obu (Hultén 1971, Lampinen et al. 2015a; Table 1). The oldest information of *E. vulgare* in Finland is a voucher specimen collected in Fagervik in N, Ingå in 1845 (Suominen 1980, Lampinen et al. 2015b). The following observations were from Al, Finström in 1862; Kb, Kuopio in 1865; Ta, Hollola in 1867; N, Hangö and

Table 1. The records of viper's bugloss (*Echium vulgare*) in the biogeographical provinces (Al–Obu) of Finland. The number is the sum of all individual information in the database KASTIKKA (Lampinen et al. 2015b). The same record may be annotated two or more times in the database and thus the real number of records is usually lower than the numeral given. The information is up to 2014. We have some records from Al, Ab and N in 2015, but they are not included in the number.

Province	Period of records	Number	Distribution of records over time
Al	1862–2015	65	the bulk of the records are from the 21st century (Table 2)
Ab	1867–2015	206	the records are distributed quite evenly; tens of records are from the 21st century
N	1868–2015	163	the records are distributed quite evenly; tens of records are from the 21st century
Ka	1875–1997	25	the records are distributed quite evenly; no records are known from the 21st century
St	1882–2008	31	the records are unevenly distributed; most of them are from 1901–1927, two records are from the 21st century
Ta	1867–2014	164	the records are unevenly distributed, with a gap between 1926 and 1950; the vast majority of the records are from the 21st century
Sa	1907–2008	24	the records are unevenly distributed; a few records are from the 21st century
Oa	1929–1961	28	only three (or four) localities; most of the records are from Vasa
Tb	1907–2003	10	the records are unevenly distributed; only one record is from the 21st century
Sb	1865–1982	32	the majority of the records are from 1865–1935, only one in 1940, one in 1950 and one in 1982
Kb	1934–2012	15	the majority of the records are from 1997–2012; two records are from the 21st century
Om	1916–2011	6	the records are from 1916, 1945 and 2007–2011
Ok	1910–1917	5	three localities only
Obo	1869–2000	17	all records are from Oulu and they are unevenly distributed up to 1960; one record from 2000
Obu	1950–2009	2	both records from Tornio

Kb, Joroinen in 1868; and Obo, Oulu in 1869. The number of observations increased from 1870 onwards. Several of the early observations were from cultivated fields, gardens, harbours and loading sites (Suominen 1980, Lampinen et al. 2015b). Later, roadsides, sand and gravel yards and other places of ruderal character became the most frequent sites for *E. vulgare*. As it is a showy plant, it is occasionally used as an ornamental and then it may escape to ruderal sites nearby. Some of the records in the Åland Islands are of cultivated plants and a few are garden escapes (Table 2). The records of *E. vulgare* on Åland until 2015 are reported here.

Echium vulgare on Åland

Echium vulgare was first recorded in the Åland Islands by Magnus Brenner, who collected it in Finström Bastö in 1862 (H; Table 2). Nothing of

the habitat is mentioned on the voucher label. The next collection was by J. Bomansson in Finström Godby in 1887 (H). The habitat was a cultivated field. The third collection was also made in Finström Godby, by Ape Rantaniemi, who found *E. vulgare* in a dry meadow in 1895 (H, OULU).

E. vulgare was collected three times during the first decade of the 20th century: in a cultivated field in Mångstäkta (Mångstekta on the label) in Sund by A. Renvall in 1902 (H), in a loading site in the town of Mariehamn by Väinö Heikinheimo in 1904 (JYV) and in a cultivated field in Finström Grelsby by C. von Essen in 1908 (H). After a 13-year-long pause Carl-Erik Sonck collected *E. vulgare* in Finström Bartsgårda in 1921 (H) and after a further 13 years it was collected in a meadow in Sund by Hugo Kranck in 1934 (TURA). A new collection in Finström Grelsby was made by G. Roos in 1937 (H).

The following observation was made by Mr. Jens Harberg in 1971 (Harberg 2015). One flow-

ering specimen grew on a rocky seashore meadow at Harberg in Lemland Hellestorp where we saw it together with the landowner Mr. Jens Harberg in 1986. In an e-mail dated on November 24, 2015, Mr. Jens Harberg gives a detailed description of his sowing of *E. vulgare* in Lemland. He writes that one plant of *E. vulgare* grew at his summer cottage in 1971, because it was then that he burnt some timber and other wood that remained after his summer cottage had been built the previous year. He took seeds from the single plant and sowed them on the burnt spot. Two years later, the whole spot was covered with flowering *E. vulgare*. He collected seeds from these new plants and began to sow them along the roads in Lemland, from his cottage in Hellestorp to the municipal office of Lemland in Söderby. Particularly many seeds were sown at the main road in Söderby. He also threw seeds from his car when he drove along Bengtsböle woodland road. He also sowed seeds on the embankments of the shooting ranges at Bredmo in Lemland Bengtsböle where *E. vulgare* later formed dense stands (Harberg 2015). Further, Mr. Harberg took seeds to his winter residence in the town of Mariehamn and *E. vulgare* has spread from his house in both directions along the road Ringvägen. He also gave seeds to two other persons. Their sowing activity is not known. (The sown specimens not seen by us or not included in the Database KAS-TIKKA are not included in Table 2.)

The next annotation in the database KASTIKKA (Lampinen et al. 2015c) is an observation of *E. vulgare* by O. K. Silkkilä and Aarre Koskinen in the Kastelholm area in Sund during the period July 1982 – July 1985.

We observed a single specimen at Harberg in Hellestorp in 1986 and five specimens at a roadside in Hammarland Mörby in 1989. These plants had spread from a garden nearby where *E. vulgare* was originally introduced from Sweden. We observed three or four stands of *E. vulgare* in the same area again in 1996.

One collection of *E. vulgare* was made at a road in Saltvik Hjortö by Raino Lampinen in 1991 (H). It was possibly an escape from a garden.

During the beginning of 21st century, *Echium vulgare* suddenly became quite common in the Åland Islands. It appeared along roads and it

was recorded in fifteen of the sixteen municipalities of Åland; the exception is Brändö in the far northeast archipelago (Hæggström & Hæggström 2010; Table 2). The reason for the sudden and rapid expansion is chiefly due to road repair and construction, besides the sowing of *E. vulgare* along some roads in Lemland by Mr. Harberg.

When the main road Lemlandsvägen was built through Dalsbacka in Lemland Söderby and improved at Lumparsund at the border between the municipalities of Lemland and Lumparland at the end of the 1990's, a grass seed mixture was sown on the bare sandy slopes and verges. The seed used was a mixture of *Agrostis capillaris*, *Festuca rubra* and *Poa pratensis* (Orre & Santamala 2003). The seed mixture may have contained other species, too. When the road was opened for traffic, we observed *Echium vulgare* at Dalsbacka and in the vicinity was a stand of the magnificent *Verbascum speciosum*, a species not previously observed in Åland or Finland. However, two records of *V. speciosum* are known from N, Helsinki since 2013 (Lampinen et al. 2015d). A few years later, *V. speciosum* grew in five other localities along the main road through Lemland to Lumparland (Hæggström & Hæggström 2008). *V. speciosum* still grew in five of the six localities in 2015.

Echium vulgare has increasingly appeared along the main road through Lemland to Lumparland during the last decade. Because of the great number of flowering specimens, the road was called the blue road in a newspaper article in July 2015 (Alberius-Forsman 2015). However, when the vegetation was later cut along the road, the plant was less striking.

The ferry harbour at the island of Storsottunga in the municipality of Sottunga was improved and a gravel yard for the workers' sheds and equipment was built at the harbour. In 2002 and later, large stands of *Echium vulgare* grew on the gravel and along the road westwards to the church. *E. vulgare* spread also northwards in the island, because a stand was observed at the farm Utgårds in the northern part of the village in 2008.

The whole junction between the main road Getavägen to the north and the western part of Saltviksvägen towards the east were reconstructed at the beginning of the 21st century. The road is bordered by 3–5-m-high and steep slopes on

which a grass seed mixture was sown. Exotic plants for the Åland Islands were seen in 2003 (Orre & Santamala 2003). Among the species, the following may be mentioned: *Anthyllis vulneraria* subsp. *carpatica*, *Onobrychis viciifolia*, *Lotus corniculatus* var. *sativus* and *Sanguisorba minor* (Hæggström & Hæggström 2010). A few years later, *Echium vulgare* (Table 2) and *Rumex thyrsiflorus* appeared.

The main road Eckerövägen was reconstructed between the two junctions to Marby in 2011. *Echium vulgare* grew here and there the next year along this stretch of the road. Large stands were growing there in 2015 and a few ones have been observed further west along the main road to Eckerö Storby.

Several other roadside stands have been observed during the last years, especially in 2015 (Table 2).

Table 2. The records of *Echium vulgare* in the Åland Islands according to the database KASTIKKA (Lampinen 2015c), the authors' annotations and literature. The records are in chronological order. The original information in Finnish or Swedish is translated into English. Additional notes in square brackets. The coordinates are according to the Uniform Coordinate System (UCS): Grid 27 °E. In some cases the coordinates are given more exactly than on the labels of voucher specimens or information in KASTIKKA (Lampinen 2015c). In the cases with only three plus three coordinate numbers, the exact location is not known. For herbarium acronyms, see Index Herbariorum (2015). — Abbreviations: CAH = Carl-Adam Hæggström; EH = Eeva Hæggström; (OBS) = observation without voucher specimen.

- Finström**, Bastö, UCS 670:310, VII.1862, M. Brenner (H)
- Finström**, Godby, cultivated field, UCS 670:311, VII.1887, J. Bomansson (H)
- Finström**, Godby, dry meadow, UCS 670:311, VII.1895, Ape Rantaniemi (H, OULU)
- Sund**, Mångstekta [= Mångstäkta], cultivated field, UCS 670:312, VII.1902, A. Renvall (H)
- Mariehamn**, loading site, UCS 6686:3107, 3.VIII.1904, Väinö Heikinheimo (JYV)
- Finström**, Grelsby, cultivated field, UCS 670:311, VII.1908, C. von Essen (H)
- Finström**, Bartsgårda, boddal [= Bodal], UCS 67029:31127, VII.1921, Carl-Erik Sonck (H)
- Sund**, meadow slope, UCS 670:311, 21.VII.1934, Hugo Kranck (TURA)
- Finström**, Grelsby, cultivated field, UCS 670:311, VI.1937, G. Roos (H)
- Sund**, Kastelholm, UCS 6700:3117, O.K. Silkkilä & Aarre Koskinen, 14.VII.1982 – 24.VII.1985 (OBS)
- Lemland**, Hellestorp, Harberg, one flowering specimen on a rocky seashore meadow with abundant *Allium schoenoprasum*, UCS 66775:31165, 15.VI.1986, CAH & EH (OBS) (Harberg 2015)
- Hammarland**, Mörby, 5 specimens at the road junction between the village and Karlholm, approx. 50 m N of Södergård, introduced from Sweden to Södergård by Mrs. Mona Kärebring-Olsson, UCS 670245:309687, 28.VI.1989, CAH 6915 & EH (H)
- Saltvik**, village of Hjortö, a good 200 m SSW–S of Eden, by the road to Dal, margins of the village road, scattered, possibly an escape from cultivation, UCS 67056:31125, 1.VIII.1991, Raino Lampinen 13056 (H)
- Hammarland**, Mörby, between Samgård and Södergård along the western roadside, 3–4 stands escaped from Mrs. Mona Kärebring-Olsson's garden at Södergård, UCS 6702:3096, 8.VIII.1996, CAH & EH (OBS)
- Lemland**, Söderby, Dalsbacka, very abundant on the road slope on the N side of the main road about 100 m E of the road fork towards the north, UCS 66819:31149–31150, 3.IX.2001, CAH 8397 (H)
- Sottunga**, Storsottunga, [ferry harbour], UCS 66833:31491, 9.VII.2002, CAH & EH (OBS)
- Vårdö**, Simskåla, Västra Simskåla, roadsides and seashore rocks at the bridge of Hönsholm and at the road in the village, UCS 6710–6711:3130–3132, 8.VII.2003, CAH & EH (OBS)
- Kökar**, Österbygge, Söderbyvägen road, pasture with meadows and dry meadows on the N side of the road and cultivated in a farmyard, UCS 6663:3162, 22.VII.2003, CAH & EH (OBS)
- Lemland**, Söderby, Dalsbacka, at the road Lemlandsvägen, thousands of specimens NE of Dalsbacka, UCS 668200:311532; a few specimens observed along the road further to the west between Knutsboda and Söderby, 27.VI.2004, CAH & EH (OBS)
- Sottunga**, Storsottunga, at the ferry harbour and by the road from the small tourist huts to the church, UCS 66833–66834:31488–31492, 10/6 2005, CAH & EH (OBS)
- Lemland**, Granboda, at the junction between the main road and Bäckängsvägen road and about 150 m eastwards [along the main road] (S of Björkebo), UCS 66821:31201–31202, 20.VII.2006, CAH & EH (OBS)
- Mariehamn**, Övernäs, Klinten, at the W end of the tunnel for pedestrians below the Västra utfarten road, approx. 200 m NW of Ålandsplan, more than ten plants, UCS 668703:310764, 19.VII.2006, CAH 9165 & EH (H)
- Jomala**, Jomalaby, Postholm, at the cottages of the Stenlund brothers, introduced from Öland, Sweden, UCS 66944–66947:31126–31128, 29.IV.2007, CAH & EH (OBS)



Fig. 1. *Echium vulgare* growing on a ruderal site together with *Papaver rhoeas*, *Leucanthemum vulgare*, *Matricaria chamomilla*, *Myosotis arvensis* and other plants. Åland Islands, Finström, Godby, June 14, 2007. Photo C.-A. Hægström.

Finström, Godby, on the E side of the Getavägen road approx. ca 70 m N of the public health office in the centre of Godby, UCS 67006:31120, 14.VI.2007, CAH & EH (OBS; Fig. 1)

Lemland, Granboda, at the junction between the main road and Bäckängsvägen road and about 150 m eastwards [along the main road] (S of Björkebo), UCS 66821:31201–31202, 15.VI.2007, CAH & EH (OBS)

Lemland, Nåtö, cultivated on Mellangrund (= the islet at the road embankment at Liewendahl's hut on the car parking space), UCS 668178–668180:310851–310853, 19.VI.2007, CAH (OBS)

Lemland, Bengtsböle, Bredmo, dense stands; originally sown by Mr. Jens Harberg on the embankments of the shooting ranges; the seeds were originally acquired by multiplying seeds from the single plant at Harberg in Lemland Hellestorp in 1971, UCS 66803–66808:31193–31200, photo by Jens Harberg 26.VI.2007 (Harberg 2015)

Hammarland, Prestgården, on a grave on the cemetery, probably cultivated, UCS 67005:30985, 10.VII.2007, CAH & EH (OBS)

Sottunga, Storsottunga, ferry harbour, still hundreds of plants, UCS 66832–66833:31491–31492, 28.VII.2007, CAH & EH (OBS)

Sottunga, Storsottunga, from the ferry harbour along the road to the church, UCS 66833–66834:31488–31492, 25–26.VI.2008, CAH & EH (OBS; Fig. 2)

Sottunga, Storsottunga, roadside at Utgård, UCS 66860:31485, 25.VI.2008, CAH & EH (OBS)

Saltvik, Sålis, at the junction between the roads Getavägen and Saltviksvägen, on the road slopes next to Getavägen, UCS 67089–67090:31109–31110, 14.VII.2008, CAH & EH (OBS)

Finström, Godby, on a soil embankment and on the roadside at the drive to Berghägnaden, UCS 67000:31119, 24.VII.2008, CAH & EH (OBS)

Lumparland, Lumparby, roadsides about 200 m SE of Utgård, UCS 66867:31253, 27.VII.2008, CAH & EH (OBS)

Finström, Godby, on edge of former field, UCS 67006:31120, 19.VI.2009, Henry Väre (OBS)

Vårdö, Simskåla, Västra Simskåla, the last 200 m of Västerövägen road, UCS 6710:3130, 22.VI.2009, Raino Lampinen & Ville Lampinen (OBS)

Lumparland, Svinö, Långnäsavägen road, UCS 6682:3124, 23.VI.2009, Ville Lampinen & Raino Lampinen (OBS)

Lumparland, Långnäsavägen road, UCS 6683:3125, 23.VI.2009, Ville Lampinen & Raino Lampinen (OBS)

Lemland, Söderby, Lemlandsvägen road, UCS 6681:3114, 23.VI.2009, Ville Lampinen & Raino Lampinen (OBS)

Lemland, Lemland kk. [= Söderby], Lemlandsvägen road, UCS 6681:3115, 23.VI.2009, Ville Lampinen & Raino Lampinen (OBS)

Lemland, Granboda, Lemlandsvägen road, UCS 6681:3120, 23.VI.2009, Ville Lampinen & Raino Lampinen (OBS)



Fig. 2. A large specimen of *Echium vulgare* growing in the ferry harbour of Storsottunga in the municipality of Sot-tunga, Åland Islands. June 26, 2008. Photo E. Hæggröm.

- Saltvik**, in a wooded area at the junction of the roads Getavägen and Saltviksvägen, dry open road slope on the N "armpit" of the junction, UCS 67090:31110, 24.VI.2009, Raino Lampinen & Ville Lampinen (OBS)
- Saltvik**, Kroklund, Saltviksvägen road, UCS 6709:3111, 24.VI.2009, Raino Lampinen & Ville Lampinen (OBS)
- Finström**, Godby, UCS 6700:3112, 24.VI.2009, Ville Lampinen & Raino Lampinen (OBS)
- Hammarland**, Mörby, Mörbyvägen road, UCS 6702:3096, 25.VI.2009, Ville Lampinen & Raino Lampinen (OBS)
- Saltvik**, Kroklund, NE of crossing to Ödkarby, a ruderate ground, rare, UCS 67090:31110, 26.VI.2009, Henry Väre (H)
- Geta**, Östergeta, at the westernmost gravel road to the north approx. 100 m NNW of the easternmost end of the small lake Fagernästräsket, UCS 672229:310821, 12.VIII.2010, Ralf Carlsson (OBS)
- Kumlinge**, Kumlinge, the church village, UCS 6699:3156, 23.VI.2010, Raino Lampinen & Ville Lampinen (OBS)
- Jomala**, Ytterby, Storgård, at the sandy margin of a field track, UCS 66925:31123, 2.VII.2010, Veli-Pekka Rautiainen & Jukka Vauras 27556 (TURA)
- Jomala**, Sviby, on ruderal ground at the drive to the industry site of Hellsten, UCS 66912:31075, 31.VII.2010, CAH & EH (OBS)
- Lemland**, Rörstorp, road slope, one plant, UCS 668220:311918, 28.VIII.2010, Henry Väre (OBS)
- Kumlinge**, Kumlinge, at the church, UCS 6700:3155, 22.IX.2010, Henry Väre (OBS)
- Vårdö**, Simskåla, Västra Simskåla, Nedergård, at the margin of the small road leading to the boathouses, UCS 6710:3130, 28.VI.2011, Veli-Pekka Rautiainen & Jukka Vauras 28193 (TURA)
- Finström**, Godby, about 200 m northwards from the crossroads at the centre of the village, meadow on the E side of Getavägen road, UCS 67006:31120, 26.VI.2012, Pekka Rautiainen 12-046 (TURA)
- Saltvik**, Ödkarby, on the W side of the main road near Nätholm, on stand on the sandy roadside, UCS 67082:31109, 29.VI.2012, CAH & EH (OBS)
- Hammarland**, Frebbenby, on the N side of the main road between the supermarket and the former primary school, one stand on the sandy roadside, UCS 67008:30967, 29.VII.2012, CAH & EH (OBS)
- Eckerö**, Överby, on the N side of the road at the sawmill [now shut down], one stand on the sandy roadside, UCS 67008:30923, 29.VI.2012, CAH & EH (OBS)
- Eckerö**, Marby, on both sides of the main road from the eastern road junction to Björnhuvud to Kyrkmyra, abundant on sandy roadsides, UCS 67007–67008:30930–30945, 29.VI.2012, CAH & EH (OBS)
- Föglö**, Degerby / Stentorpa, roadside at the Y-junction with the three roads leading to Degerby, the church and Stentorpa, UCS 667533:313342, 20.VII.2012, CAH, EH & Ralf Carlsson (OBS)

- Föglö**, Finholma, N part of Finholma, on a rock outcrop at a house E of the road, possibly cultivated, UCS 66788:31396, 20.VII.2012, CAH, EH & Ralf Carlsson (OBS)
- Eckerö**, Marby, at the road to Björnhuvud SE of Kyrkmyras, sandy road slope, UCS 67005:30931, 1.VII.2013, Veli-Pekka Rautiainen & Jukka Vauras 29644 (TURA)
- Finström**, Bamböle, one large stand roadside at Bergövågen next to the road junction to Badstigen, UCS 670190:310474, 28/8 2013, CAH & EH (OBS)
- Saltvik**, Sälis, at the junction of the roads Getavågen and Saltviksvågen, UCS 670901–670908:311101–311129, 15.VI.2014, CAH & EH (OBS)
- Lumparland**, Skag, S of Skagelund, sandy edge of the main road, UCS 66828:31242, 3.VII.2014, Jukka Vauras 30473 Veli-Pekka Rautiainen (TURA)
- Lemland**, Söderby, S of Solberga, at the main road, sandy road slope, UCS 66816:31137, 3.VII.2014, Jukka Vauras 30459 & Veli-Pekka Rautiainen (TURA)
- Hammarland**, Ödanböle, two small stands on the S roadside of Hammarlandsvågen between Svinryggen and Dalbacka, UCS 669190:310150, 26.VI.2015, CAH & EH (OBS)
- Värdö**, Vargata, a small stand on the N roadside of Vårdövågen at the cultivated field S of the small lake Träsket (Vargataträsk), UCS 669992:313305, 27.VI.2015, CAH & EH (OBS)
- Sund**, Kastelholm, a small stand on the S roadside of Sundsvågen at the bus stop between the roads Kullagatan and Tomtensvägen, UCS 670119:311647, 27.VI.2015, CAH & EH (OBS)
- Mariehamn**, Öfvernäs, tens of flowering plants on an approx. 4 m × 4 m area on the meadow at the W end of the pedestrian tunnel below the road Västra utfarten about 150 m SSE of the roundabout at Elverksgatan road, UCS 668703:310762, 11.VII.2015, CAH & EH (OBS)
- Mariehamn**, Öfvernäs, Södragatan, tens of flowering plants on the N side of the street on a gravel heap between the houses nos. 18 and 20, the species has grown there for at least ten years, UCS 668588:310771, 11.VII.2015, CAH & EH (OBS)
- Mariehamn**, Hindersböle, Strandnäs, one specimen in blossom at the roadside about ca 50 m N of the junction of Österleden road to Lemland, UCS 66877:31082, 13.VII.2015, CAH & EH (OBS)
- Lemland**, Knutsboda, on the roadsides of Lemlandsvågen from a point about 300 m S of Lemström's canal to the road junction to Lemböte, several stands in blossom, particularly abundant at the road to Lemböte, UCS 66838–66852:31121–31126, 13.VII.2015, CAH & EH (OBS)
- Jomala**, Ingby, abundant on the W roadsides at the Nya Godbyvägen, about 200 m southwards from the road junction to Karrböle, UCS 66934–66936:31088–31089, 16.VII.2015, CAH & EH (OBS)
- Mariehamn**, Sviby, two small stands on the W and E roadsides of the Nya Godbyvägen about 240 m N of the roundabout at Bolstavågen road, UCS 668912–668913:310785–310787, 22.VII.2015, CAH & EH (OBS)
- Jomala**, Dalkarby, a few stands on both roadsides of Nya Godbyvägen at the supermarket Kantarellen, the largest stands grew on the E side of the road, UCS 66895–66901:31079–31080, 22.VII.2015, CAH & EH (OBS)
- Jomala**, Möckelby, a small stand on the E roadside of Nya Godbyvägen about 150 m S of the crossroads of Södersundavågen and S:t Olofväg, UCS 66922:31087, 22.VII.2015, CAH & EH (OBS)
- Finström**, Godby, two small stands on the W roadside of Nya Godbyvägen at the cultivated field W of Bol, UCS 679978:311179, 22.VII.2015, CAH & EH (OBS)
- Finström**, Godby, one large specimen at the NW roadside of Nya Godbyvägen about 70 m SW of the junction to the road Getavågen, UCS 670023:311211, 22.VII.2015, CAH & EH (OBS)
- Finström**, Godby, a few stands on the W roadside of Nya Godbyvägen just N of the drive to Berghägnaden, UCS 670003–670004:311195–311196, 22.VII.2015, CAH & EH (OBS)
- Finström**, Godby, a few stands on the roadside and in the meadow on the E side of Getavågen road approx. 200–250 m N of the crossroads (Godbyvägen – von Knorringvägen) in the centre of the village, UCS 670063–670065:311198–311199, 22.VII.2015, CAH & EH (OBS)
- Finström**, Godby, a small stand on the W roadside of Nya Godbyvägen about 30 m SE of the road tunnel, UCS 670104:311353, 22.VII.2015, CAH & EH (OBS)
- Sund**, Smedsböle, one stand on the N roadside of Sundsvågen between Knallen Café och Minilivs and the road Smedsbölegatan, UCS 66987:31211, 22.VII.2015, CAH & EH (OBS)
- Jomala**, Gottby, several small specimens along a 50–60 m long distance at the S roadside of Hammarlandsvågen approx. 800 m NW of the crossroads Gottbyvägen and Södersundavågen roads, UCS 66909:310242, 25.VII.2015, CAH & EH (OBS)
- Jomala**, Ytterby, one stand with a length of about 3 m on the roadside about 100 m N of Seffers, UCS 669281:311256, 29.VII.2015, CAH & EH (OBS)
- Föglö**, Degerby, one small stand on the N roadside of Föglövågen road at the Y-junction at the N end of Hummersövågen road, UCS 667531:313341, 2/8 2015, CAH & EH (OBS)
- Geta**, Östergeta, at the westernmost gravel road to the north approx. 100 m NNW of the easternmost end of the small lake Fagernästräsket, UCS 672229:310821, 18.VIII.2015, Ralf Carlsson (OBS)

Conclusion

Many of the plants typical of meadows grow today on roadsides. These act as refugia for the meadow flora (Hæggström 2005a, 2005b). One of the showy plants on the roadsides is *Echium vulgare*. The rapid increase of the species in the Åland Islands is a result of introduction with grass seed mixtures sown on newly constructed roadsides and verges. Deliberate introductions from, e.g. gardens, have contributed to new stands of *E. vulgare*. It is also spreading along the roads with the traffic and maintenance of the roads. The warmer climate, especially the mild winters hitherto during the 21st century, has probably been favourable for the wintering of the leaf rosettes (Jonsell 2010). *E. vulgare* is a fairly common roadside species in the Åland Islands today. As far as we know, it does not have any characteristics of an invasive species in the Åland Islands. On the contrary, it is a nice and showy plant on the roadsides.

References

- Alberius-Forsman, K. 2015: Blå vägen en ny sevärdhet. [The blue road, a new sight.] — Nya Åland, July 21, 2015, p. 21.
- Ekstam, U., Jacobson, R., Mattson, M. & Porsne, T. 1984: Ölands och Gotlands växtvärld. En ekologisk och kulturhistorisk flora. [An ecological and cultural historic flora of Öland and Gotland.] — 336 pp. Bokförlaget Natur och Kultur, Stockholm.
- Frederiksen, S., Rasmussen, F. & Seberg, O. (eds.) 2012: Dansk flora. 2. udgave. [Vascular plant flora of Denmark. 2nd ed.] — 702 pp. Gyldendal A/S, København.
- Hæggström, C.-A. 2005a: Landsvägskanterna – tillflyktsplatser för ängsfloran. [Roadsides – refugia for the meadow flora.] — Nordenskiöld-samfundets tidskrift 64: 55–78.
- Hæggström, C.-A. 2005b: På landsvägskanterna lever ängsväxterna kvar. [The meadow plants survives on the roadsides.] — Finlands Natur 64 (4): 22–25.
- Hæggström, C.-A. & Hæggström, E. 2008: *Verbascum speciosum* introduced in the Åland Islands, SW Finland. — Memoranda Soc. Fauna Flora Fennica 84: 49–51.
- Hæggström, C.-A. & Hæggström, E. 2010: Ålands Flora. 2:a omarb. uppl. (Summary – The Flora of Åland. 2nd rev. ed.) — 528 pp. Ekenäs Tryckeri, Ekenäs.
- Harberg, J. 2015: Blåeldens historia i Lemland. [The history of viper's bugloss in Lemland.] — Nya Åland, July 22, 2015, p. 5.
- Hultén, E. 1971: Atlas över växternas utbredning i Norden. Fanerogamer och ormbunksväxter. [Atlas of the distribution of plants in the Nordic countries. Fanerogames and pteridophytes.] 2nd ed. — 56 + 531 pp. Generalstabens Litografiska Anstalts Förlag, Stockholm.
- Hultén, E. & Fries, M. 1986: Atlas of north European vascular plants north of the tropic of Cancer. — II. Taxonomic index to the maps 997–1936. Maps 997–1936. Pp. I–XI, 498–968 pp. III. Commentary to the maps. Total index. Pp. 969–1172. Koeltz Scientific Books, Königstein.
- Hämet-Ahti, L., Suominen, J., Ulvinen, T. & Uotila, P. (eds.) 1998. Retkeilykasvio (Field Flora of Finland), Ed. 4. — 656 pp. Finnish Museum of Natural History, Botanical Museum. Helsinki.
- Index Herbariorum 2015: <http://sciweb.nybg.org/science2/IndexHerbariorum.asp> (7 September 2015).
- Jonsell, L. (ed.) 2010: Upplands flora. [The flora of Uppland, E Sweden.] — 895 pp. SBF-förlaget, Uppsala.
- Lampinen, R., Lahti, T. & Heikkinen, M. 2015a: *Echium vulgare* in Finland in the Vascular plant database KASTIKKA of the Finnish Museum of Natural History in Helsinki. — <http://koivu.luomus.fi/kasviatlas/maps.php?taxon=42662&year=2014>
- Lampinen, R., Lahti, T. & Heikkinen, M. 2015b: *Echium vulgare* in the flora provinces of Finland in the Vascular plant database KASTIKKA of the Finnish Museum of Natural History in Helsinki. — http://koivu.luomus.fi/kasviatlas/spk_kastikka_maakuntatilasto_suppea.php?key=Echium%20vulgare
- Lampinen, R., Lahti, T. & Heikkinen, M. 2015c: *Echium vulgare* in the Ålands Islands in the Vascular plant database KASTIKKA of the Finnish Museum of Natural History in Helsinki. — http://koivu.luomus.fi/kasviatlas/spk_provincedata.php?key=Echium%20vulgare&prov=A
- Lampinen, R., Lahti, T. & Heikkinen, M. 2015d: *Verbascum speciosum* in N/U in the Vascular plant database KASTIKKA of the Finnish Museum of Natural History in Helsinki. — http://koivu.luomus.fi/kasviatlas/spk_provincedata.php?key=Verbascum%20speciosum&prov=U
- Lid, J. & Lid, D. T. 2005: Norsk flora. 7. utgåve. [Vascular plant flora of Norway. 7th ed.] — 1230 pp. Det Norske Samlaget, Oslo.
- Mabberley, D. J. 2008: Mabberley's plant-book. 3rd. ed. — XVIII + 1021 pp. Cambridge University Press.
- Orre, A. & Santamala, E. 2003: Ögonfröjd vid vägkanten. Fröblandning från Sverige innehöll rara örter. [Seed mixture from Sweden contained rare plants.] — Nya Åland, July 18, 2003, p. 2.
- Suominen, J. 1980: *Echium vulgare* L. – Neidonkieli. — In: Jalas, J. (ed.), Suuri kasvikirja III: 388–389. Kustannusosakeyhtiö Otava, Helsinki.