

Saussurea alpina (L.) DC. Subsp. *alpina* (Asteraceae) – Alpine Saw-Wort: A New Record from the Faroe Islands

Saussurea alpina (L.) DC. Subsp. *alpina* (Asteraceae) –
Loðin fjallatistil: Nýggj skráseting úr Føroyum

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Úrtak:

Loðin fjallatistil, *Saussurea alpina* (L.) DC. Subsp. *alpina*, varð funnin í august 1999 á Streymoy í líknandi umhvørvi sum aðrastaðni í Evropa. Hetta er fyrstu ferð, henda plantan er funnin í Føroyum. Á evropeiska meginlandinum veksur hon helst í fjøllunum, aðrastaðni veksur hon eisini niðri við strondina, eitt nú í Norður-skotlandi og Hetlandi.

Bert heilt fáar plantur vórðu funnar, og hildið verður, at antin er hon nýkomin, ella at hetta er ein seinasta leivd av eini plantu, ið áður hevur verið vanlig, men sum nú er um at hvørva av einhvørjum broytingum, t.d. veðurlagi ella seyðabiti.

At *Saussurea alpina* nú er funnin í Føroyum er eitt ískoyti til vitan okkara um, hvussu víða hon veksur. Hetta er eisini ein áminning um týðningin av at gera neyvar kanningar av plantuvøkstrinum, tá ið framtíðar náttúrufriðingar og reglur um nýtslu av náttúruni skulu gerast.

Abstract

A new record in the Faroe Islands, *Saussurea alpina* (L.) DC. Subsp. *alpina*, the Alpine Saw-Wort or *Loðin fjallatistil* in Faroese, was discovered in August 1999 on the island of Streymoy. It was found in an environment parallel to those in mainland Europe, where it is found on two main biotopes which are: the mountain areas in a large part of Europe and the coastal areas of northern Scotland and the Shetland Islands.

The small population of this extremely rare plant species in the Faroe Islands is either a new member of the Faroese flora, or the last remnant of a formerly more dispersed and numerous species that is now on the verge of extinction, perhaps due to climatic changes or grazing intensity. The discovery of the *Saussurea alpina* in the Faroe Islands expands the known area of distribution of this species. It emphasises as well the necessity of comprehensive surveys and planning in the development of future nature protection and management regimes.

Introduction

The long-distance dispersal of plants and animals from continental areas to remote archipelagos has been, in general, a favourite topic in biology for centuries and in island biogeography, in particular. Easily dispersed plant species belonging, for instance, to the Asteraceae are well represented on islands, which for many has been seen as an indication of the general “weedy” character of island floras. The Faroe Islands also contain several members of the Asteraceae (Rasmussen, 1952; Hansen, 1966; Fosaa, 1999; Jóhansen *et al.*, 2000).

During a recent survey of the mountain vegetation on Streymoy island in the Faroe Islands, still another taxon belonging to the Asteraceae was recorded, *i.e.* the *Saussurea alpina* Subsp. *alpina*.

In this paper, we describe the new record, how it may have come to the Faroe Islands, and the lessons to be learned from this new and remarkable discovery, as concerns botanical research and management in the archipelago.

Saussurea alpina in the Faroe Islands

Saussurea alpina (L.) DC. Subsp. *alpina* was discovered in the Faroe Islands for the first time in August 1999 by the authors. The locality is in the northwestern section of District 19 (Fosaa, 1999) on the island of Streymoy (Fig. 1) above the village of Vestmanna at an altitude of 300 m a.s.l. on the south-facing gentle slope of a mountain in a rough terrain of rocks with little-vegetated scree.

One mature and 10 vegetative specimens

of *Saussurea alpina* were found in an area approximately two m². Approximately 200 m north of this area, three additional vegetative specimens were found.

The collected specimen, which is deposited in the Herbarium of the Museum of Natural History in Torshavn, was an adult, 10-cm perennial herb with erect stem. The leaves are alternate, and distantly denticulate. The shape of the leaves is simple ovate or lanceolate. The underside of the leaves is densely covered with white woolly-hair. The leaf base is rounded with a one-cm long petiole. The inflorescence has four capitulae. Each capitulum is 10-12 mm long with 10-20 blue to purple, tubular-shaped corolla. The pappus is feathery. The phyllaries are imbricated, non-spinous in many rows and are round to obtuse at the apex. Their colour is dark purple with very long, white adpressed hairs.

The stature of *Saussurea alpina* in the Faroe Islands is low as compared to the populations in mainland Europe, *e.g.* in Fennoscandia, which are 20-40 cm high (Lid and Lid, 1994). Yet, such diminished ecotypes of many species are seen in the Faroe Islands, due to the extreme oceanic and cool climate prevailing in the archipelago.

Systematics and Ecology of *Saussurea alpina*

The genus *Saussurea* is named after the Swiss natural scientist, Th. de Saussure (1767-1845), (Lindman, 1974). The genus contains approximately 130 northern hemispheric taxa, most of which are found only in Asian mountain areas (Hultén and Fries,

1986) and is grouped with the *Cardueae* tribus of the *Cicorioideae* subfamily in the *Asteraceae* (Bremer, 1994). In Europe, nine species are accepted in *Flora Europea* (Tutin, *et al.*, 1964-80).

Saussurea alpina is a polymorphic species distributed in Europe, and divided into four subspecies according to *Flora Europea*. The taxon *S. alpina* Subsp. *alpina* is widely distributed in most mountainous areas in Europe, such as in Spain, France, Yugoslavia, Poland and from Fennoscandia to Russia and Siberia. A few localities on limestone in southern Sweden are most likely Holocene relicts (Berglund, 1966) and belong to the slightly different taxon *Saussurea alpina* Subsp. *estonica*. *S. alpina* Subsp. *alpina* is found on mountain cliffs and scree in northern Wales, England, Scotland and Ireland, and also along the sea-shore on maritime cliffs in northern Scotland. It is very rare in Shetland with only two known occurrences, on bare exposed debris (*fellfield*) on granite plateaux and slopes above 350 m a.s.l. and also at 100 m a.s.l. on stony ground. In Ireland and central Europe, the plant grows in the higher mountains. It is noteworthy that *Saussurea alpina* does not grow in Iceland or in Greenland, but does grow in Svalbard.

Saussurea alpina Subsp. *alpina* belongs to the alpine-montane element as defined by Dahl (1998) limited by maximum summer temperatures of +30°C or lower. In Scandinavia, *Saussurea alpina* flourishes on rich, mesic grounds in mountainous areas, in low-alpine to sub-alpine meadows, *Betula* and coniferous forests, and also less frequently higher up in alpine altitudes

The population discovered in the Faroe Islands grows in basaltic gravel and scree among boulders. The plant community contains *Thalictrum alpinum*, *Nardus stricta*, *Thymus praecox*, *Empetrum nigrum* spp. *hermaphroditum*, *Viola riviniana*, *Alchemilla alpina*, *Plantago maritima*, *Sedum villosum*, *Selaginella selaginoides*, *Koenigia islandica*, *Carex demissa*, *Polygonum viviparum* and *Festuca rubra*.

How Did *Saussurea alpina* Come to the Faroe Islands?

Whether *Saussurea alpina* is native or not to Streymoy may be difficult to say. The route by which it arrived in the archipelago is open to speculation. *Saussurea alpina* has a feathery pappus and is adapted for wind dispersal as a long distance dispersal strategy. Thus, it would have a good chance of reaching the Faroe Islands by natural means. On the other hand, with the increasing contact between the archipelago and the rest of Europe by means of vehicles, cultivated plants, etc. the unintended introduction of the species cannot be ruled out entirely. However, *Saussurea alpina* is not known to grow in the Faroe Islands as an ornamental species, nor does it occur in any of the large seaports of northern Europe.

It is, thus, most likely that the plant is spontaneous in the Faroe Islands. Because the plant appears to be restricted only to this locality, it must be considered highly endangered and susceptible to grazing by sheep.

Fig. 1 *Saussurea alpina* (L.) DC. was found in the northwestern part of District 19.

Mynd 1. Loðin fjallatistil varð funnin í útnyrðingspartinum av øki 19.

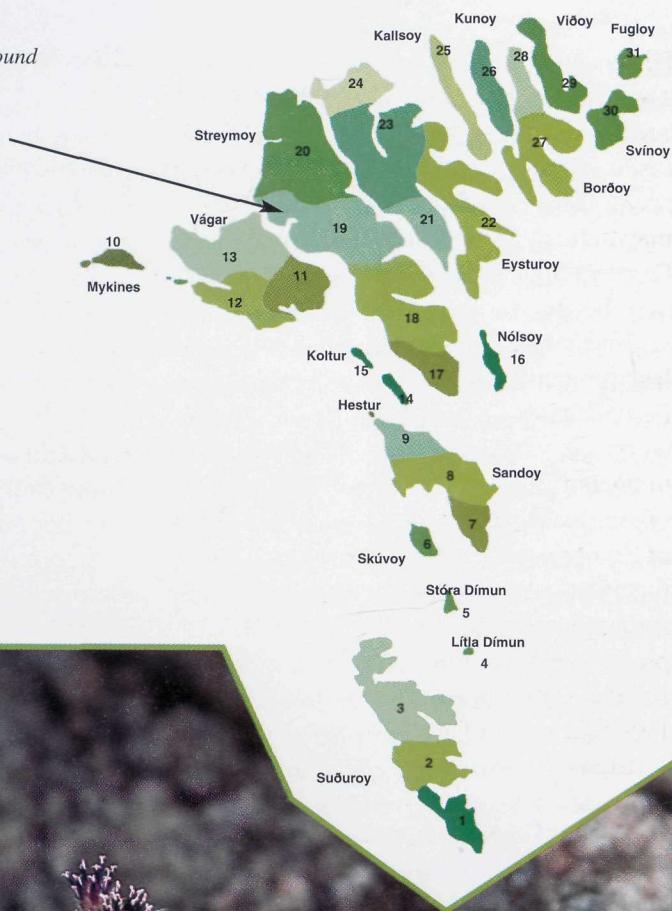


Fig. 2. Alpine Saw-Wort (*Saussurea alpina*) (L.) DC.
Mynd 2. Loðin fjallatistil (*Saussurea alpina*) (L.) DC.

Photo: Jonas E. Lawesson

Discussion

The fact that *Saussurea alpina* hitherto has been overlooked stresses the necessity of further botanical research in the Faroe Islands. The small population of the species may indicate that it is a recent invader to the Faroe Islands. An alternative explanation may be that the few populations of *Saussurea alpina* found by the authors are the last remnants of a former larger range in the Faroe Islands. The species, therefore, may be on the verge of extinction, perhaps due to uncontrolled sheep grazing in the area or other events. In either case, the discovery of *Saussurea alpina* clearly underlines the fact that unless active conservation measures are instituted this rare and threatened plant may soon disappear. Lack of such stringent conservation measures in the Faroe Islands over the centuries may explain what has happened to a number of other plant species that are now extremely rare in the Faroese landscape, such as most woody shrubs.

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