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Societas pro Fauna et Flora Fennica – 200 years
A survey of the activities 1997–2021

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Photo: Carl-Adam Hæggström

When Societas pro Fauna et Flora Fennica celebrated its 175 years jubilee, Professor Henrik Wallgren wrote an outline about the Society´s activity since the foundation of the Society in 1821 (Wallgren 1996).

When I became a member of the Society in 1963, the focus of the activities was on monthly meetings, usually with one lecture and thereafter short scientific messages and reports on publishing and library activities. Further activities of the Society were statements on topics regarding nature conservancy, granting of scholarships, mainly for students and young scientists, and the operation of the Nåtö Biological Station (NBS) in the Åland Islands, beginning in 1964. Field trips now and then were also included.

The Society published six different publications in botany and zoology. Five of these, with the exception of Memoranda Societatis pro Fauna et Flora Fennica, ceased in 1978. The publications were spread via an exchange system throughout the World to over 800 scientific societies, libraries, etc. The library of the Society was transferred to the Viikki Campus Library in 1980. Thus, the number of different of exchange organisations receiving Memoranda was cut to 330.

This report will concentrate on the activities of the Society during the last 25 years. Annual reports in Finnish and Swedish on the Society's activities and in Swedish on the activities taking place at the Nåtö Biological Station have been published every year in Memoranda Societatis pro Fauna et Flora Fennica (https://journal.fi/msff).

The focus of the Society has changed during the years. Three main fields of activity have continued over the years, namely the arrangement of one main conference about a specific topic per year, supporting students and young scientists with scholarships and the scientific work performed at the Nåtö Biological Station in the Åland Islands.

Meetings

The monthly meeting activity slowed down during the years and the interest in meetings with traditional lectures is reflected by the number of participants in the meetings:
1996–1997: 11–49 participants, mean number 23
2009–2010: 5–21 participants, mean number 11
2015–2016: 5–8 participants, mean number 7.

Due to the Covid-19 pandemic, two distance meetings were arranged in 2019–2020.

Symposia

During the last 25 years, a symposium was arranged almost every year. The Society organised the symposia between 1996 and 2010, thereafter the Society was a co-organiser together with Aronia at the University of Applied Sciences Novia, the Finnish Society of Sciences and Letters, the national IUBS committee, Societas Biologica Fennica Vanamo, Åbo Akademi University and

the nature conservancy authorities of the Government of Åland. During the last few years, the organiser was either the Finnish or the Nordic Society Oikos.

The symposia were held chiefly in Helsinki, but quite a few were arranged in Åbo (Turku). One was arranged in Esbo (Espoo), one Mariehamn in the Åland Islands, one in Jyväskylä, one in Oulu and one in Trondheim, Norway.

Seven to eleven lectures were given at the symposia. The number of participants was between 40 and 100.

The topics of the symposia were diversified, for instance:

- fauna, flora and biodiversity
- different aspects on nature conservation
- hydrobiology
- current cooperation in biology between Finland and China
- Carl von Linné – scientist and physician
- evolution 150 years after Darwin

Since 2012, the focus has been on ecology and evolutionary biology.

Excursions

The Society arranged excursions during the period 1997–2013. The number of participants was between 5 and 24. Some of the excursions were domestic, e.g., field excursions in the archipelago areas of SW Finland, including one spring field excursion in the Åland Islands. One field excursion was arranged by the Society in cooperation with the society Turun Eläin- ja Kasvitieteellinen Seura (TYKS) to the Swedish island of Öland. Another one was arranged by TYKS to the Swedish island of Gotland. Further, the members of the Society were invited to participate in an excursion to Russian Karelia, arranged by the Nordenskiöld Society of Finland. Several places on the western shore of Lake Ladoga, including the monastery island of Valamo (Valaam), as well as the Karelian Isthmus, were visited.

Scholarships

The Society has granted scholarships to students and scientists in botany, ecology, hydrobiology, population biology and zoology. Due to a favourable development of the funds, the granted sum has significantly increased and more and more re-

▼ Figure 1. A small but brave crowd in Sibbo Storskog in Hindsby. PhD Anders Albrecht guides. Photo: C.-A. Hæggström, May 4, 2013.

searchers have been able to receive scholarships. A few figures may show the positive development:

– 1997, 10 scholarships, total sum 12 000 €
– 2001, 34 scholarships, total sum 47 000 €
– 2006, 36 scholarships, total sum 66 300 €
– 2011, 63 scholarships, total sum 112 000 €
– 2018, 42 scholarships, total sum 216 850 €
– 2019, 37 scholarships, total sum 155 130 €
– 2020, 33 scholarships, total sum 194 590 €

Members

The number of the Society's members has increased during the years, but it is difficult to keep track of the members as the Society does not have a membership fee. The number included two honorary members, 37 corresponding members and 910 ordinary members in 1997. By 2020, the figures are 9 corresponding members and 1 148 ordinary members.

Nåtö Biological Station

The activity began in June 1964. Eight scientists were working at the Station in that year. During the years, the number of scientists visiting the Station increased and the research work was both diversified and consolidated. The Station can offer accommodation and a modest laboratory space for researchers. As a maximum, about 8–10 persons can work at the Station at the same time.

Professor Henrik Wallgren retired as Prefect for the Station at the end of the year 2000. Then a new regulation for the Station was adopted as a cooperation between the Society and the Alandian Government in 2001. The previous regulation was adopted in 1968. In accordance with the new regulation, a management group was appointed from 2002 onwards. This group consists of four members of the Society and two members of the Alandian Government. Later, the Government appointed two alternate members. The term of office for the members is three years.

MSc Eeva Hæggström (1944–2017) retired as the Assistant (called Amanuensis) of the Station at the end of 2002. After that the following persons have been Assistants:

– student Thomas Kuusela, 2003–2008
– MA Tomas Lehecka, 2009–2015

▼ Figure 2. A view of Nåtö Biological Station (NBS) seen from the southwest. From left to right: the small house, the windmill, built in 1886, and the main building. Photo: Eeva Hæggström, October 9, 2009.

► **Figure 3. Work in progress in the laboratory of NBS. Photo: Eeva Hæggström,September 18, 2011.**

► **Figure 4. The Station's management group during a meeting. The persons from left to right: PhD Inkeri Ahonen, PhD Ralf Carlsson, MSc Mikael Wennström, PhD Gunilla Ståhls, the amanuensis, MSc Tomas Lehecka, PhD Torsten Stjernberg and nature conservation curator Jörgen Eriksson. Photo: Eeva Hæggström, October 9, 2009.**

– MSc Laura Kauppi, 2016–2017
– MSc David Abrahamsson, 2018 – 2020
– MSc Hanna Wiklund, January – July 2021
– MSc Laura Mattila, August – October 2021

Research work at the Station

The Station has been the base for several different projects performed in the Nåtö area or in other parts of the Åland Islands. Many projects have focussed on collecting a specific taxon (animal, plant, fungus, etc.) for master's, licentiate or doctoral dissertations and other scientific work. Several of the researchers have returned year after year to collect data for their research.

A milestone in the research activities was when the *cinxia* project began in 1992. The project was initiated and led by Professor Ilkka Hanski (1963–2016).

The initial effort comprised studies of the occurrence of the Glanville fritillary (*Melitaea cinxia*) and the two food plants of its larvae, name-

▲ Figure 5. Professor Ilkka Hanski and his children are studying a specimen of *Oryctes nasicornis*. at NBS. Photo: Eeva Hæggström, June 1996.

► Figure 6. The research worker Guang-Chun Lei with cages containing larvae of *Melitaea cinxia* outside NBS. Photo: Eeva Hæggström, July 1994.

ly *Plantago lanceolata* and *Veronica spicata*. Meadow patches all over the main Island of Åland were search for the butterfly, its larvae and meadow patches with the food plants. After a few years, studies of the parasitoids of *Melitaea cinxia* and the hyperparasitoids of the parasitoids were conducted by Dr. Saskya van Nouhuys and her co-workers. (Hanski & Ovaskainen 2000, van Nouhuys & Hanski 2000, 2002, 2005, Erlich & Hanski 2004, van Nouhuys & Lei 2004, Harvey et al. 2005,van Nouhuys 2005, Hanski et al. 2006, van Nouhuys et Kaartinen 2008, Saastamoinen & Hanski 2008, Reudler Talsma, Biere et al. 2008, Reudler Talsma, Torri & van Nouhuys 2008, Shaw et al. 2009, Castelo et al. 2010, Hanski 2011, Reudler et al. 2011, Kraft & van Nouhuys 2013, Pinto-Zevallos et al. 2013, Saastamoinen et

Figure 7. Three of the reserchers in the *cinxia* project in the laboratory of NBS. From left: Guang-Chun Lei, Ilik Saccheri and Mikko Kuussaari. Photo: Eeva Hæggström, June 1996.

al. 2013, Ahola et al. 2014, Montovan et al. 2015, Nair et al. 2016, van Bergen et al. 2020, Dallas et al. 2020, Opedal et al. 2020.)

Melitaea cinxia's host plant *Plantago lanceolata* is parasitised by the mildew *Podosphaera plantaginis*. The interaction between the host plant and the pathogen, and the epidemiology were studied by prof. Anna-Liisa Laine and her research team (van Nouhuys & Laine 2008, Jousimo et al. 2014; Laine et al. 2019; Halliday et al. 2020, Numminen & Laine 2020).

Further research included studies on factors influencing the colonisation of arbuscular mycorrhiza and plant viruses in populations of *Plantago lanceolata*. (Susi et al. 2019; Sallinen et al. 2020; Susi & Laine 2021.)

The *cinxia* project and its extensions are the internationally most important of all research work done at Nåtö Biological Station. During the years, the *cinxia* project grew and diversified in the MRG (Metapopulation Research Group) and the MRC (Metapopulation Research Centre) at the University of Helsinki. Today, the metapopulation of *Melitaea cinxia* is the best known metapopulation in the world.

Between 14 and 28 persons were working in the *cinxia* project at Nåtö Biological Station during the years 1997–2005. About 50 persons participated in the mapping of larval nests of *Melitaea cinxia* every autumn and about ten persons were then using Nåtö as their base.

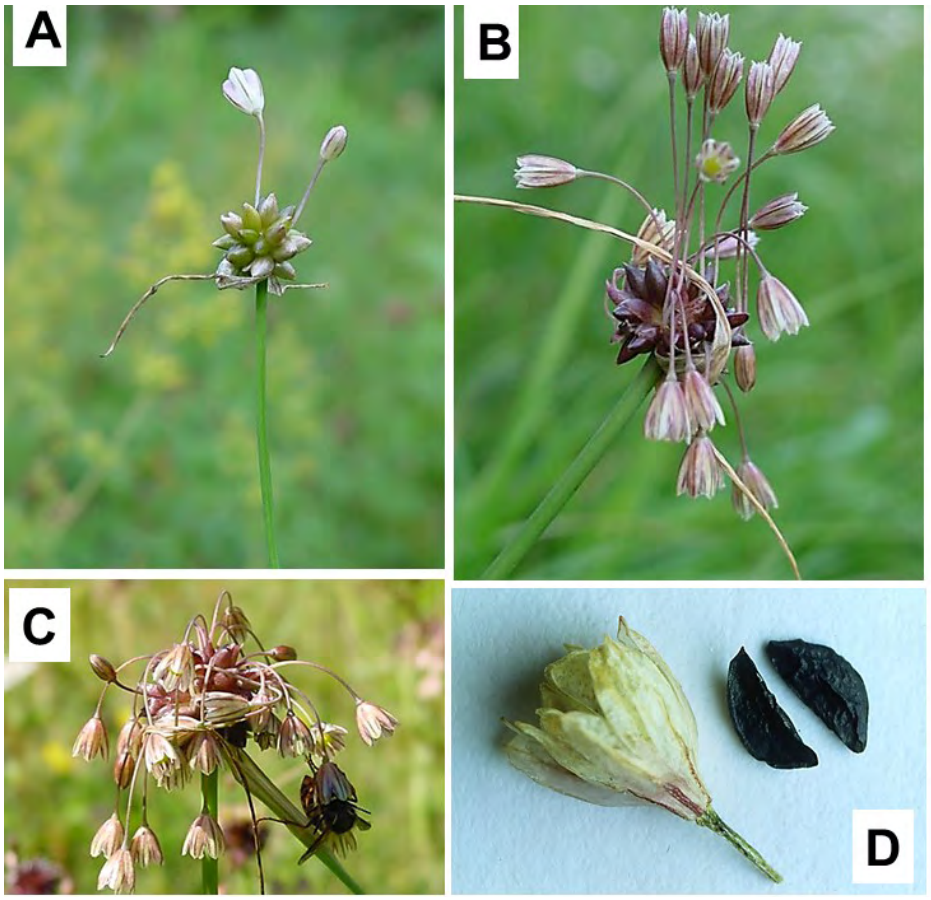
From 2006 onwards, the research activities of the MRG and MRC were mainly located at the agricultural centre of Åland Islands in Jomalaby, but minor parts of the research work have also been performed at Nåtö since then.

A second milestone was when the book "Ålands flora" (The Flora of Åland) by Carl-Adam and Eeva Hæggström was published in December 2008 (Hæggström & Hæggström 2008). This is the first landscape flora regarding vascular plants published in Finland. A second corrected and enlarged edition was published two years later (Hæggström & Hæggström 2010).

A third milestone was when the Society applied for funding of a project from Åland's Penningautomatförening PAF (the Alandian ATM association) in 2015. The proposed project should be accomplished with the Station as a base. Money was received for 2016. Since then, new applications have been submitted to PAF every year

▼ Figure 8. Two of the projects carried out at NBS. To the left: The bat fauna of Åland, 2018. There is a bat identification device in the box above the ladder. To the right: Inventory of amphibians in mainland Åland, 2020.

◄ Figure 9. Two more projects carried out at NBS. To the left: The Osprey (*Pandion haliaetus*) in the Åland Islands, 2019. To the right: The Little Ringed Plover (*Charadrius dubius*) and the Sand Martin (*Riparia riparia*) in the Åland Islands, 2020.



▼ Figure 10. The field garlic (*Allium oleraceum*) at Nåtö.
A. Top end of a shoot with small greenish bulblets and a few whitish flowers of a tetraploid (2n = 32) specimen. August 13, 2003.
B. Top end of a shoot with large violet bulblets and many lilac flowers of a pentaploid (2n = 40) specimen. August 13, 2003.
C. A colony wasp (*Vespula* or *Dolichovespula* species) visiting a flower of a pentaploid specimen. July 26, 2002.
D. A ripe fruit (capsule and two seeds. September 17, 2003.
All photos: C.-A. Hæggström.

and one or more projects have been implemented. A written report on each project was sent to the Environmental Authorities of the Alandian Government in Mariehamn. The projects were:

- Inventory of the flora and vegetation of the sandy islands of Åland, Linda Sundström and Robin Sjöblom, 2016.
- Inventory of the flora and vegetation of 12 wooded meadow and grazed nature areas on mainland Åland, Robin Sjöblom, 2017.
- The bat fauna of Åland, Nina Hagner-Wahlsten and Simon Granholm, 2018.
- The Osprey (*Pandion haliaetus*) in the Åland Islands, Joona Koskinen, David Abrahamsson, Torsten Stjernberg and co-workers, 2019–2021.
- The White-tailed Eagle (*Haliaeetus albicilla*) in the Åland Islands, Torsten Stjernberg and co-workers, 2020 and 2021.
- The Little Ringed Plover (*Charadrius dubius*) and the Sand Martin (*Riparia riparia*) in the Åland Islands, Joona Koskinen, 2020.
- Inventory of Amphibia in mainland Åland, Tom Hoogesteger, 2020.
- Inventory of Amphibia in the archipelagos of Åland, Tom Hoogesteger, 2021.
- The Caspian Tern (*Hydroprogne caspia*) in the Åland Islands, Patrik Byholm, 2021.

Numerous other research projects were either performed at the Station, or had the Station as a base. Here a few examples:

- The White-tailed Eagle (*Haliaeetus albicilla*) in the Åland Islands, Torsten Stjernberg and co-workers. These studies were funded in previous years by, e.g., WWW Finland, the authorities of Åland and private funds.
- The population biology, including generative reproduction of the field garlic (*Allium oleraceum*), C.-A. Hæggström, Helena Åström and Eeva Hæggström, 1997–2003.
- Fish disease, cadmium and other heavy metals in the coastal waters, sea bottom sediments and flounders, as well as the sea water quality, Heinz-Rudolf Voigt, 1997–2014.
- Endangered Lepidoptera in the Åland Islands, Erkki M. Laasonen and Leena Laasonen, 1998–2021.

Figure 11. Participants in the field excursion of the Botanical Society of Lund, Sweden, walking in the old spruce wood Västerskog in the western part of Nåtö Island. Photo: C.-A. Hæggström, June 11, 2014.

– Coleoptera in the Åland Islands, Tom Clayhills and co-workers, 2002–2018.
– The bat fauna of Åland, Nina Hagner-Wahlsten, 2008–2013.
– Spider studies, Niclas Fritzén, 2008–2014.
– Studies on slime moulds (Myxomycetes, Mycetozoa or Mycogastria), Panu Kunttu and coworkers, 2012–2014.
– The Lepidoptera of Nåtö Island, 2014–2021, Janne Liikanen, Simo Korpela, Asko Oksanen & Olli Virtanen.

Symposia

In connection with the Station's 35th anniversary, a symposium was organised on June 28, 1999 with the theme "The wooded meadows of Åland – a mosaic of life". This symposium was a joint effort together with several corporations in Åland: the Nature Conservancy Department of the Alandian Government, The Nature Management Institute of Åland, The Museum of Åland, the association Åland's Nature and Environment, and the Agenda 21 office in Mariehamn. The symposium

Figure 12. Two researchers of the Botanical Society of Lund taking photographs of the rare grass *Melica picta* at Lemböte Granholm, north of Nåtö. The grass has not been found in Scandinavia. Photo: C.-A. Hæggström, June 11, 2014.

Figure 13. Botanists from Denmark, Norway and Sweden studying the flora at the so-called *Sesleria* meadow in Nåtö Island. The ashes are dead because of the fungus disease ash dieback *Hymenoscyphus fraxineus*. Photo: C.-A. Hæggström, June 11, 2019.

Figure 14. Botanists from Denmark, Norway and Sweden on the road through Nåtö Västerskog. The storm called Alfrida, which hit Åland during the night between 1 and 2 January 2019, felled practically all the trees in the central part of the spruce forest to the right. Photo: C.-A. Hæggström, June 11, 2019.

was held at the Nature Management Institute of Åland in Jomalaby. Nine lectures were held and about 50 persons participated in the symposium.

The 50th anniversary of Nåtö Biological Station was celebrated in 2014. This was highlighted through the symposium ”Biological diversity – a race for life and death” on 16 May. The symposium was organised in consultation with the Åland University of Applied Sciences. A number of recent research projects were presented. More than 50 persons participated in the symposium. The anniversary received justified attention both in the Åland press, the radio and the TV news. Three field excursions were also arranged in conjunction with the anniversary symposium.

Courses and excursions

Over the years, various courses and excursions have been held at the Station. Some examples:

- Field courses in knowledge of vascular plants, 1997–1998. These courses were included in the programme of the summer university activity in Åland.
- The spring flora, field course for students from the Unit for Swedish-language teaching at the Department of Life Sciences, University of Helsinki, 1997–2019, 7 to 12 students and two teachers.
- Swedish University of Agricultural Sciences' autumn excursion, 2004, wooded meadow field excursion for 30 students.
- The joint course ”Landscape planning”, arranged by Novia University of Applied Sciences and Hanko Summer University, 2008, field excursion in the wooded meadow area and the old spruce wood of Västerskog in Nåtö, 24 persons.
- The Swedish Species Information Centre at the Swedish University of Agricultural

Sciences, Uppsala, staff excursion, 2010, 45 persons were guided along the Nåtö nature trail.
– Excursion for Finnish botanists, 2011, 56 persons were guided along the Nåtö nature trail, on Harskatan promontory and in the old spruce wood of Västerskog.
– The Dendrological Society of Finland, field excursion in Nåtö, 2012, 15 persons.
– Consultation days for agricultural environmental protection, 2013, 29 participants from the Ministry of the Environment and the Centres for Economic Development, Transport and the Environment, field excursion along the Nåtö nature trail.
– Cultural landscape course arranged by Novia University of Applied Sciences, 2013, wooded meadow excursion in Nåtö, 11 students.
– Maj and Tor Nessling Foundation, 2014, 16 persons were guided along the Nåtö nature trail.
– Lund Botanical Society, field excursion in the Åland Islands 2014, 15 persons.
– A three-day course including excursions on ”the life of insects”, arranged by the University of Oulu, 2017–2019, 10 students and two teachers.
– The upper secondary school Lärkan’s field course in Åland, 2019, 12 students and two teachers.

Other activities of the Society

The society has given statements in nature conservation and environmental protection matters to various authorities, e.g., the Landscape Government of Åland.

The Society supported ”The wildflower day”, a day when short excursions with information about plants encountered along the way is arranged for the general public. This event takes place on the third Sunday in June. It was initiated by the Danish Botanical Society in 1988. The national botanical associations of Norway and Sweden joined the activity in 2002, followed by several organisations in Finland in 2003. Iceland joined the activity in 2004.

The following organisations are arranging and / or financing the ”The wildflower day”:

– Biology and Geography Teachers’ Association
– The Botany Unit of the Finnish Museum of Natural History
– Metsähallitus, Parks and Wildlife Finland
– Societas pro Fauna et Flora Fennica
– Societas Biologica Fennica Vanamo
– Finnish Association for Nature Conservation
– Finnish Environment Institute

The Finnish Association for Nature Conservation has been the main organiser of ”The wildflower Day”. During the day, an average of 80–90 guided trips from Åland to Lapland have been organised and there have more than one thousand participants, one year even more than two thousand.

The future – new challenges?

Societas pro Fauna et Flora Fennica has been successfully active for 200 years. But which is the Society’s role in the future? It is difficult to say what is to come. The Society’s operations have changed over the years and will probably change in the future. However, some key areas of activity can be assumed to remain in the foreseeable future:

– Cooperation with other organisations in the field of science.
– Scholarships for students and scientists in botany, ecology, hydrobiology, populations biology, zoology and associated branches of natural sciences.
– Continuation in the activities at Nåtö biological station.

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