

## Anders Dahl (1751–1789) – Demonstrator in Botany at old Åbo Akademi

Väre, H., *Finnish Museum of Natural History (Botany)*, P.O. Box 7, FI-00014 University of Helsinki, Finland. E-mail: henry.vare@helsinki.fi

Dahl was the second Demonstrator in Botany (1786–1789) at Åbo Akademi. He died soon after arriving to Åbo (Turku), and his career here is poorly known. The main duty of demonstrators were to instruct medical students on the subject of medicinal plants. Dahl sent to Åbo a considerable herbarium prior to his arrival. It included 6000 specimens, of which about 1000 had once belonged to Herbarium Linnaeanum, but donated to Claes Alströmer, Dahls employer at Alingsås, Christinedahl, Västra Götaland in Sweden. That herbarium, like all collections at Åbo, were almost completely burn in 1827 in the Great Fire of Åbo. The number of existing specimens in Herbarium Dahlianum at University of Helsinki, Botanical Museum is 215. It includes specimens once owned by e.g. Pehr Kalm, Carl von Linné the Elder and Younger, Peter Simon Pallas, Carl Peter Thunberg and Martin Vahl.

### Introduction

Anders Dahl, Phil.Cand., was born at Varnhem, Skara Municipality, Västra Götaland, Sweden, on 17 March 1751. His parents were Preacher Christoffer Dahl and Johanna Helena Enegren. Unmarried. He died at Åbo on the 25 May 1789. In 1770 Dahl graduated from Uppsala secondary school. He studied natural sciences and medicine from 1770 to 1776 at Uppsala University. He specialised first in botany and zoology under the supervision Carl von Linné (1707–1778), Professor of Medicine from 1741 to 1778 and defended to him his Phil.Cand. -thesis *Pro Dissertatio entomologica bigas insectorum sistens* ("Entomological dissertation consisting of a pair of insects") on 18 December 1781. Two insects, *Diposis ichneumorea* and *Paussus microcephalus* were described. Dahl obtained honorary Doctorate of Medicine on 22 April 1786 at Kiel (Sacklén 1824, Birger 1931).

Dahl lived in poor conditions, and was not able to continue his studies at University after defending his Phil.Cand. theses. Recommended by Lin-

né, Dahl was employed at Alingsås, Christinedahl, Västra Götaland in Sweden. Alingsås was a centre of early industrialisation. It was owned by the Alströmer family. Baron Claes Alströmer (1736–1794) was a keen nature enthusiast, commemorated by genus *Alstroemeria* L. 1762. Dahl was a keeper of his nature collections located at Gothenburg, and of Botanical Garden at Christinedahl jointly with Dr. Jonas Theodor Fagraeus (1729–1797). Both Dahl and Fagraeus were keen plant collectors. Dahl spent seven years at Alingsås (Nyberg 2011).

### Early era

Typically to the era of utilitarianum, Dahl made economical observations, and wrote a diary over draggings in the archipelago of Bohuslän, Sweden, e.g. treating production of herring oil and problems manufacturing of herring oil created (Dahl 1784). The wastes were a major problem during the big herring fishing periods, causing sea bed deaths and stinking water. The years at Sweden have been presented by Kilander (1988).

## Herbarium Linnaeanum

After the death of von Linné the Younger, Dahl tried to prevent the deal, in which the collections of Carl von Linné were sold in 1784 to James Edward Smith (1759–1828) in Britain. Dahl even managed to convince king Gustav III of Sweden, on the importance of the collections. But the trade had happened, collections were already on board a British ship, and naval warship sent to stop it could not prevent export (Hjelt 1868: 176). It has been remarked, that there is no hard fact if that truly happened (Kari 1950).

## Demonstrator in Botany

Dahl was the second appointed Demonstrator in Botany at old Åbo Akademi, after Carl Niclas Hellenius (1745–1820) (ennobled 1816 von Hellenius) became Professor of Economy and Natural History [see footnote in Väre (2014: 17) concerning history of names of Åbo Akademi]. Dahl was recommended to chancellor 1 April 1786 (Wallenius & Kunkel 1803: 45), and appointment took place in 26 April 1787 (Tengström 1836). The main duty of demonstrators were to instruct medical students on the subject of medicinal plants. Together with Hellenius Dahl arranged botanical collections and botanical garden.

## Herbarium Dahlianum

Dahl sent from Alingsås his considerable herbarium to Åbo Akademi (Haartman 1790) prior to his appointment in 1786 (Birger 1931). It is obvious, that the appointment was influenced by this donation Claes Alströmer made via Dahl.

Dahl wrote a letter to Thunberg, dated 13 March 1789, in which he estimated, that his collection numbered 6000 specimens. He wrote also, that 14 volumes of Herbarium Rudbeckianum the Younger were kept at Åbo Akademi museum. Also duplicates of Pehr Kalm (1716–1779) collections existed, especially grasses, but others were infected by mould. Total number of specimens (or species, as the number was usually given on that time) was estimated to be 11 000 to 12 000. Dahl wished to receive some Thunberg's

Cape specimens consisting of the four first [Linnaean] classes, and to give out a theses "Herbarium Aboense" (Hjelt 1896: 377–379). In another letter, from Olof Swartz to Carl Peter Thunberg, dated 8 June 1789, the number of specimens in *Herbarium Dahlianum* was estimated to be 6000 vascular plant specimens, of which about 1000 were given by Carl von Linné the Younger to Alströmer, according to a letter (Hjelt 1896: 378).

Plants were donated to Alströmer in 1783 by Linné the Younger earlier than 1 November 1783, the day Linné died. Alströmer had provided him financial support to travel to England in 1781, and as a return gift Linné the Younger sent Alströmer the so called *Herbarium parvum* ("The smaller herbarium"). This herbarium consisted of duplicates from Linnaeus' personal herbarium and plants collected by his son. Dahl catalogued those specimens, noting whether they came from "a Linné P[ater]." (father) or "a Linné f[ilius]." (son). Number of those specimens found at Helsinki Botanical Museum (H) today are 37 and 11, respectively. These are presented by Kukkonen and Viljamaa (1971).

Number of preserved specimens donated by various people to Dahl are presented in Table 1. About 48 % of the sheets were marked to whom the specimens had belonged prior to Dahl by Dahl himself (Table 1). His handwriting is most recognisable (Fig. 1) to do this estimate. About 19 % of the sheets bear a marking And. Dahl (Fig. 2) written on the sheet by someone else, probably posthumously.

## Some remarks on specimens

At least *Turraea pubescens* (Hellenius 1788), *Tropaeolum quinatum* (Hellenius 1789) and *Festuca obliqua* var. *caerulescens* (Justander & Tamlander 1791) were described based on specimens brought by Dahl. Type of the first one had been collected by Fagraeus at Hainan island, Southern China, and that of *T. quinatum* was originally amongst collections of Joseph Dombey (1742–1794). He collected plants in South America between 1777 and 1784 (Deschamps-Lang 1995). Dahl himself had collected *F. obliqua* var. *caerulescens*.

Table 1. Number of preserved specimens donated by various people to Dahl. He indicated the donor of specimens on the back side of the sheet.

Alströmer	5	Baron Claes Alströmer
Barckenbom	1	Barckenbom collected at South Africa, specimens were donated to Alströmer (Gunn & Codd 1981: 88)
Björckgren	5	Björckgren is known from holdings at Stockholm (S) of Alströmers herbarium, represented by plants from Cape (South Africa) and Hainan (China). Possibly he was on board of the Swedish East India Company ships that sailed from Göteborg to Cape and on to China (Arne Anderberg, e-mail 8.12.2015)
Bladh	1	Peter Johan Bladh (1746–1816) was a supercargo of the Swedish East India Company 1777–1783
Forskåhl	1	Pehr Forsskål (1732–1763), Professor of Philosophy of Copenhagen in 1760
Kalm	4	Pehr Kalm (1716–1779), Professor of Economy and Natural History of Åbo in 1747, Kalm had received his specimens from Pehr Löfling (1729–1756)
Linné P	42	Carl von Linne the Elder
Linné f.	11	Carl von Linné the Younger
Molin	4	Unknown
Pallas	3	Peter Simon Pallas (1741–1811), Professor at the St Petersburg Academy of Sciences 1768–1774
Schultén	2	Possibly Professor Nathanael Gerhard af Schultén (1750–1825), a member of the Royal Swedish Academy of Sciences like Alströmer
Solander	1	Daniel Solander (1733–1782), Keeper of the Natural History Department of the British Museum
Swartz	1	Olof Swartz (1760–1818), Professor Bergianus at the Academy of Sciences at Stockholm in 1791
Thunberg	10	Carl Peter Thunberg, Professor of Medicine and Natural Philosophy at the University of Uppsala in 1781
Vahl	19	Martin (Henrichsen) Vahl (1749–1804), Professor at the Society for Natural History in Copenhagen in 1786
Wännmann	1	Carl Henric Wännman (1733–1797), district doctor at Helsinki in 1779, defended in 1759 to Linnaeus a pro excersitio -thesis <i>Flora Capensis</i> . He visited both South Africa and China

Of Forsskåhl's collections originated *Anthemis tomentosa* (Fig. 3), of Burmans (given by him to Linnaeus) *Conyza chinensis* collected at Bojon Bojor (Bogor, Java), of Kalm's *Ceanothus americanus* [2 ex] (Fig. 4), *Collinsonia canadensis* (Fig. 5) and *Hypericum ascyron*, of Kalm and Loefling *Pappophorum alopecuroideum* (*P. philippianum*), of Hortus Aboensis *Amygdalus pumila* and *Aegilops triuncialis*, of Hortus Christine-dahl *Medicago polymorpha* var. *intertexta* (*M. intertexta*), *Onopordum arabicum* (*O. illyricum*) and *Crepis aspera*, of Hortus Upsaliensis *Amellus lychnitis* (*A. asteroides*), *Conyza cinerea* (*Vernonia cinerea*) and *Inula hirta*. *Salvia glutinosa* L. (a Linné P) (Fig. 6) has been designated as lectotype (Jarvis et al. 2001).

The geographical origin of species in *Herbarium Dahlianum* at Åbo is global: Asia 36, Africa 40, America's 26 and Europe 113. Asia is usually represented by China and India, Africa by Ae-

thiopia and Caput Bonae Spei, Central America by Jamaica, North America by Virginia, based on species name and how Linnaeus (1753) expressed geographical locations.

*Cuscuta epithimum* was collected at Calabria (Italy), *Avena fragilis* (*Gaudinia fragilis*), *Bromus squarrosus*, *Festuca myuros* (*Vulpia myuros*), *Hypochaeris radicata*, *Ixia bulbocodium* (*Romulea bulbocodium*), *Koeleria phleoides*, *Orchis militaris* and *Plantago serraria* at Tunis, all donated by prof. M. Vahl, *Cynosurus indicus* (*Eleusine indica*) and *Milium punctatum* (*Eriochloa punctata*) at Rio de Janeiro (Brasil), *Gentiana ciliata* and *Polygala amara* at Monte Baldo (Italy), *Tomex japonica* at China by Johan Peter Bladh, *Ixora coccinea*, *Urena lobata*, *U. sinuata* and *Verbesina calendulacea* (*Sphagneticola calendulacea*) at Hainan (China) by Björckgren, *Hebenstretia integrifolia*, *Ixia maculata*, *I. secunda*, *Manulea caerulea* (*Chaenostoma caeruleum*), *Si-*

Das Aelstroemer - merke  
Bald.

Prof Schultén

Barckenbom

1754 Dr Solander

Dahl a Björckgren

Dahl a Dr Swartz

Bladh

Dr Thunberg

Forskahl

Dahl a Prof Vahl

D. L. Kalm a Loeffling

Dr herb Wännmann

a Linne P.

e Abar. Aelstroem.

a Linne f.

Dr H. Aboensis

a J. Molin

hort Christinaedal

Prof. Pallas.

hort Ups

And. Dahl.

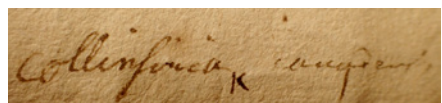
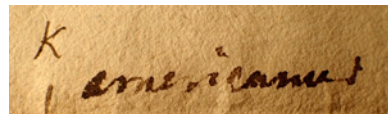
Fig. 1. Handwritings by Anders Dahl or by others\*: Aelstroemer\*, Barckenbom, Björckgren, Bladh, Forskahl, Kalm a Loeffling (sheet is cut!), Linne P, Linne f., D. Molin\*, Pallas, Schultén, Solander, Swartz, Thunberg, Vahl, Wännmann\*, Herbar. Aelstroemer, hort Aboensis\*, hort Christinaedal, hort Ups.

Fig. 2. Andr. Dahl written on sheets by unknown person.

*deroxylon* sp. (*Rapanea melanophloeos*) and *Xeranthemum proliferum* (*Phaenocoma prolifera*) at Cbs (Caput Bonae Spei, South Africa) by Carl Peter Thunberg.

Only one locality is given with more precise data: *Panicum* (*Setaria*) *viride*, Knäflebro in ter Lerum &...[remaining phrase is lost]. This is Knavra Bro NW of Lerum (near Gothenburg), between Ölslanda and Ryggebol).

Some specimens of *Herbarium Dahlianum* were distributed further, perhaps after his death; to Christian Steven (24), obviously by Carl Niclas Hellenius, to Carl Niclas Hellenius (35) and to Carl Reinhold Sahlberg (4). Thus, in spite of the Great Fire of Åbo in 1827, original material



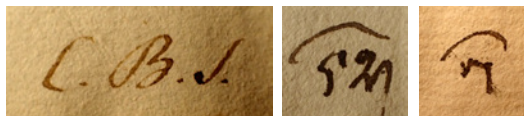
Figs. 3–6. Some specimens in Herbarium Dahlianum and their original owner. Fig. 3. *Anthemis tomentosa* (Pehr Forsskåhl). Fig. 4. *Ceanothus americanus* (Pehr Kalm). Fig. 5. *Collinsonia canadensis* (Pehr Kalm). Fig. 6. Lectotype of *Salvia glutinosa* (Carl Linnaeus). Linnaeus marked Kalm specimens with K.



survived as it was kept by Professor Carl Reinhold Sahlbergs in private collection (indicated by CRS). That collection was sold 1828 to the Botanical Museum of Alexander University at Helsinki in Finland. These ownerships are by Hellenius and Sahlberg marked on sheets by acronyms (Figs. 7 and 8).

In 23 December 1790, Claes Alströmer donated again a considerable herbarium to Åbo akademi (Hjelt 1868: 175, 1896: 341). After Alströmer's death in 1794, his remaining herbarium was given to the Royal Swedish Academy of Sciences, later to the Swedish Museum of Natural History. These specimens at Stockholm (S) are in the Linnean herbarium (Lindman 1907).

Most of "Herbarium Dahlianum" as well as other collections at Åbo were burned in the Great Fire of Åbo in 1827. Only 215 sheets out of 6000 of that Herbarium Dahlianum has been found at the collections of University of Helsinki Botanical Museum (H).



Figs. 7 and 8. C. R. S on sheets indicating herbarium Carl Reinhold Sahlberg. Carl Niclas Hellenius marked his sheets by arc above symbols.

## Herbarium of Åbo Akademi

In a 1799 inventory herbarium collections consisted of 7258 species. Eleven years after the death of Anders Dahl, Edmund Daniel Clarke (1769–1822) visited Åbo Akademi in 1800, and gave a most positive description of the collections: "The collection of Botany, under the care and superintendence of Professor Hellenius"...."It is by far the most perfect thing of its kind in Sweden, not excepting that at Upsala, both with regard to the rarity and number of the plants, and the beautiful and lucid order in which they are kept and arranged. In looking over the Catalogue, we were surprised to find an addition made to every genus; containing, in some instances, twenty or thirty non-descript plants, hitherto undetermined, and therefore anonymous (Clarke 1824: 322; myös Clarke 1838: 322).

Somewhat later, in 1811 Hellenius, and Carl Birger Rutström (1758–1826) donated new herbarium specimens (Väre 2015, this volume). Rutström was appointed Demonstrator in Botany at Åbo Akademi (1794–1798). In 1811 the number of species was, according to Hellenius, ca. 10 000 (Hjelt 1896: 342), a somewhat lower estimate than Dahl's some ten years earlier, viz. 11 000–12 000.

## Final publication

During his years in Åbo Dahl published his most important work, *Observationes botanicae circa systema vegetabilium divi a Linne Gottingae 1784 editum, quibus accedit justae in manes Linneanos pietatis specimen* ("Notes on Linnean plant system published at Göttingen in 1784, with additional justified pietetic examples in Linnean spirit") (Dahl 1787).

That work is dedicated to Claes Alströmer and archiater Abraham Bäck (1713–1795), a good friend of Linnaeus. In this work Dahl described three new genera to science. *Mauhlia*, *Staavia* and *Vahlia*, and four species of those genera, *M. africana*, *S. glutinosa*, *S. radiata* and *V. fastulosa* (Dahl 1787). *Horologium florum*, Flower clock of Skara Municipality of Sweden was published posthumously (Dahl 1790). Overall, Dahl published only a few articles.

## Eponymy

Genus *Dahlia* Cav. 1791 was named in honor of Anders Dahl

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