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NatSCA study trip to Sweden – 19th/20th May, 2006 - Kate Andrew, Wendy Atkinson, Steve Thompson

This year's Natsca trip was a smaller scale event than previous trips. Planning began at last year's SPNHC meeting in London – several Swedish delegates attended the meeting and were approached as possible contacts. Steve Thompson took on the organising, with details firming up as the group committed to going, but travel arrangements were made individually.

I think we were all rather worried by stories of how expensive Sweden was and wondered whether we would be able to afford to eat when we were there, that was partly why most people chose to stay in Uppsala. In the event, food, drink and accommodation seemed to be about the same as London prices and the airport to Stockholm link train was comparable in price to the Paddington-Heathrow Express. We stayed at a youth hostel in Stockholm and by paying a slightly higher amount got a 4-bed room to ourselves. We also bought a three-day Stockholm Card so got free travel on public transport and free admission to the many museums (more later)

I (KA) was enchanted by Stockholm, its built on a number of islands between a large inland lake and inlet of the Baltic sea, the original city (Gamla Stan) is mainly located on Stadsholmen and this island retains its cobbled streets and tall closely packed merchant's houses with alleys leading down to the quays. It was quite something to see the water pouring out of the lake under the bridges and people fishing for salmon (amongst other things) right in the centre of the city – equivalent to someone fishing off Waterloo bridge. During our stay, we visited six of the islands and travelled between them by metro, bus and short ferry trips, in addition to the medieval old town, the architecture is a mixture of modern high rise (in the central shopping area and residential areas), neoclassical and folk-influenced art deco, wide tree-lined streets, lots of parks, lots of public art and areas of allotments with little wooden summer houses.

The official part of the visit began on the Friday morning with an all day visit to the Naturhistoriska Riksmuseet. The Uppsala party had been guided in by a member of staff who lived in Uppsala. Fortunately, we ended up getting off the same metro train, otherwise we may have found it tricky to locate the botany building on the university campus, despite having been e-mailed a picture of it in advance. We were welcomed by a group of staff and served tea and coffee and cinnamon pastry, the group included Ingela Chef-Holmberg, whom I had first met in Cambridge teaching on a preventative conservation course, I knew several other people we met during the day from pest conferences and the SPNHC meeting, and it was good to see them in their home environment.

Pia Osetnsson and Cecilia Herbst explained the history of the Botany section. Linnaeus founded the organisation in 1739 as the Royal Swedish Academy of Sciences, although the present botany building was built in 1916. Linnaeus sent collectors out worldwide to collect plants and to try to propagate economic crops in Sweden in order to avoid having to import crops. We were fortunate to be shown the cabinets containing what remains of Linnaeus' original specimens (some 4,000) – his widow sold most of his collection to a Mr. Smith in England and this collection became that of the Linnaean Society in London. A collection made by Linnaeus' son has also remained with the museum. We also saw a herbarium of 1701 from Gotland, collected 40 years before Linnaeus and material



for the 1878 North West passage expedition. The botanical collections now number some 9 million specimens and plans are underway for a new collections centre extension to the building, possibly to coincide with the 300^{th} anniversary of Linnaeus' birth in 2007.

After this introduction, we were led on tours of the various sections of the building – Monika Myrdal showed us the Cryptogamic Botany section, Ove Johansson, the Palaeobotany (which amongst the 250,000 specimens we were surprised to find a considerable number of Jurassic plants from the Yorkshire coast plus some very impressive live plants) We then changed buildings, to the main building that houses the public galleries and were shown around the mineralogy section by Henrik Skogby, looking at amongst other

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things, a collection of meteorites, mainly from Northern Sweden. The mineralogy collection contains some 150,000 specimens including 85 holotypes. Henrik took us from the stores into the mineralogy galleries via the staff entrance and we were all stunned by the contrast between typical museum store (wooden cabinets and drawers) and a glittering cabinet of curiosities style display of an historic collection, intricate parquet flooring, tall windows, lit by chandeliers with polished wooden cabinets with bevelled glass containing a very impressive array of mineral specimens. The more modern display contained some ingenious "open storage" style pull out units – like thin upright display cabinets, in which, as you pulled out a unit, the lighting switched on.

We then moved on to the basement area to meet Peter Mortensen to look at the bird collection. Peter explained that, since the 1970s, the law protects all Swedish wildlife, other than about 8 species, and any dead specimens have to be handed in to the police. Large specimens are autopsied by the vetinary college, smaller species come to the museum and are measured and sampled for environmental pollution and converted into study skins and osteological specimens, consequently, the collections are pretty comprehensive and in the case of woodpeckers, show clearly when the lesser and greater spotted woodpeckers became extinct in Sweden. Pest control in the collection is managed by freezing and desiccant dust is used under the cabinets.

The staff then joined us in the museum café for a rather good lunch. Much discussion had as to which species of fish we were eating and exactly why the sole of a shoe appeared to be the colloquial name for the beef stew.

After lunch, we visited the osteological store with Olavi Gronvall. This was a combination of old osteological mounts, grouped rather effectively together, and compactor units with osteological material grouped by species. Game heads with antlers are mounted on mesh panels, hanging form the ceiling and accessed via a pulley system, making the best use of a very high ceiling. There are about 75,000 specimens in the collection including the 78 mammal species present in Sweden, (for example, bears and wolves, seals and dolphins), but the collection also contained quite a lot of elephant material.

It was then off to the Entomology department for a tour by Niklas Jonsson. Here we moved through room after room of mainly new wooden cabinets containing entomology drawers, some rooms had mezzanines with material arranged around the balconies as well. The team is experimenting on the best style of drawer and pest control methods and is also planning to allocate unique catalogue numbers to every specimen. At one point we encountered Geoff Hancock (who joined us later), working in one of the lab areas, researching some of the older collections.

It was then time for a break, more cake and a explanation by Monika Akerlund of the award winning PRE-MAL (Pest Research and Education – Museums, Archives and Libraries), a preventative conservation programme led by the museum that involves staff from across the museum and across Sweden.

After thanking our hosts for a most enjoyable, interesting and well organised day, the group then had a chance to look at the galleries, visit the shop and for a couple of us, a quick visit to the Palaeontology department, currently merging their own and a recently donated large collection. At the end of the day, several of us joined staff for a seminar by Peter and Rosemary Grant describing their research on small-scale evolutionary changes on bill shape and song in a number of Darwin finches on one of the Galapagos Islands.

The group met up with Geoff and his wife and headed into Stockholm for the traditional aimless group wander looking for a suitable venue for a meal and a beer. We ended up in an Indian restaurant that, despite being on the touristy part of Gamla Stan, was quite cheap.

The Uppsala gang headed off for more natural history the next day, but we spent the next day and a half in Stockholm. I had long wanted to visit the Vasa warship – sunk on its maiden voyage in 1628 due to combination of top-heavy design and an innovative second gun deck, with the lower deck too close to the water line (aka Zeebrugge disaster). It was raised in a near-complete state in 1961, the brackish water means that *Teredo* ship "worm" cannot survive and so the wood was undamaged. A lengthy conservation project ensued and the ship moved to its present purpose built building in 1987. It is spectacular; by 2001, over 20 million people had visited it.

On Sunday morning, after locating the left luggage lockers at central station, we were able to fit in a very

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quick visit to Skansen. This is a huge open-air museum on one of the islands that displays and interprets traditional buildings from all-over Sweden. We were entertained by musicians in a church playing traditional tunes on violins, the efficacy of the toothache tree was explained to us (and we saw the tree with lots of wooden toothpicks sticking out of the north side) and we saw unleavened bread being baked. All too soon it was time to make our way back to the airport.

For the rest of us, for the second day of the trip we stayed in Uppsala. This is a small, quiet and attractive town, about as far north of the airport as Stockholm is south, and so made an excellent base, considering that we had already intended to visit both places anyway. Our hotel was only fifteen minutes walk from the railway station, just as well considering that the taxi fare would have been extortionate. It was on the edge of the university area, very convenient for the museums we were down to visit, to say nothing of the other twenty or so museum sites in the town. While attention may now be focussed very much on Stockholm, Uppsala has been the cultural heart of Sweden for much of its history, and is still an important cultural centre. It is also the centre of attention for anyone interested in Linnaeus, being his home town and centre of operations. There are some twenty or more museums in the town, most of which there was not time to visit, and many of which are part of the university. Our main concerns were with the natural history museums and collections, of which there are four, including the Linnaeus house and garden.

The day started as grey and wet as we might have expected all along, although in fact the weather was fine for pretty well our entire trip. We took the ten-minute walk up to where the university museums were situated, around a large square on what is a very open university campus, almost deserted at this point in time. The former Botanical, Zoological and Palaeontological museums of the University combined in 1999 into what is now the Museum of Evolution. It took us a little while to find the correct entrance, but having been welcomed in, we found ourselves in a new Botany building. Magnus Liden, the curator of the Linnaeus Garden, who would later show us around that, and Mats Hjertson, of the Botany Department, who showed us around the department, met us. There is no Botany museum as such, but they have very extensive collections, and an active research programme.

Mats started off by showing us the pressing room, drying room and the freezer. The feeling was that this was an active department, judging from the amount of botanical material in the presses and also the shelves of papers drying in the drying room where the temperature is at a very warm 40°C. The walk-in freezer runs at -30°C which allows for whole cabinets to be put in there in one go, something they recently had to do when they had a pest outbreak in the fungi collections. They do not use sticky traps at Uppsala, but carry out regular visual inspections, which seemed to have served them well so far.



Next, we went on to the herbarium itself. It was lovely - very bright and airy and the collections were all housed in new wooden cabinets. Type specimens – including vascular plants, fungi and Palaeobotany items, are all housed separately in the 'type room' and there are 2 to 3,000 types. Mats told us that during the late 1800's – early 1900's there was a strong focus within the department on East African botany – in countries such as Kenya, Ethiopia, Tanzania, the Flora of Ethiopia having a strong Uppsala link. Today, staff from Uppsala are working on the Floras of Somalia, S.E. Asia and Africa.

The Botany collections amount to around 3 million specimens, with around 360,000 having been databased These are divided into 1,700,000 vascular plants, 250,000 bryophytes, 60,000 algae, 360,000 fungi and 500,000 lichens; one of the top lichen collections in the world. The collections date from 1785 when Carl Peter Thunberg (1743-1828) became Professor at Uppsala University. His collections from South Africa, Japan, Java and Ceylon, along with those of Burser and Celcius, are some of the most important botanical collections at the university. Thunberg was a great explorer and brought back thousands of specimens back with him, naming over 70 new genera and almost 2000 new species. We were next shown the 'Treasury', the room that holds the important collections of Thunberg, Celsius, and Burser. This was a real treat. The Celsius herbarium is contained in 8 volumes. Olaf Celsius the Elder, was Dean of Uppsala and the botanical authority there before Linnaeus who was later to often refer back to this herbarium during his own studies. Plants collected by Linnaeus are included in Celsius's 'Flora Uplandica'.

Joachim Burser was born in Germany and became professor of Botany at Sorö, Denmark. His 'Hortus Siccus' comprises 24 volumes of plants collected from middle Europe and Denmark. Burser's herbarium was

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taken by the Swedes as spoils of war in 1660, and contains type specimens later described by Linnaeus. The majority of the room contained Thunberg's herbarium housed in his original grey-white wooden herbarium cabinets and comprises of 27764 specimens.

From the Botany department, we went over to the Zoology museum, which was not open to the public at this point in time. We began on the top floor, where they have set up a room in the roof space, with sloping ceilings, and strikingly lit, green on one side, blue in the middle and red on the other side. On the green side were a series of arctic and sub-arctic mammals and birds, and on the red side a series of skeletons of decidedly non arctic animals, including a series of flightless birds, some extinct, and culminating, via an elephant, in a human skeleton. In the centre was a large whale skeleton.

This room was in marked comparison to the main part of the museum, which turned out to be an absolute cabinet of curiosities, set out in what would in Britain be considered a Victorian fashion, with rank upon rank of tall glass cases filed in a broadly taxonomic arrangement. Some of these specimens were rather special, with a thylacine and a passenger pigeon amongst them, but perhaps the most bizarre were the large inflated organs of a number of large mammals. It wasn't entirely clear why these had been so treated but they were certainly eye-catching.

From the Zoology museum we went to what was for me the biggest surprise of the trip, the Palaeontology museum. One surprise is that an Englishman, John Peel, has curated it for the last twenty years but the biggest surprise was the largest collection of Chinese dinosaur material outside of China, which filled two large galleries in spectacular fashion. Given only twenty minutes in the museum, it was not clear just what else there might have been to see, but these on their own our worth visiting the museum for. They are currently undergoing a conservation project under the tender care of Caroline Buttler from the National Museum of Wales. This is a place I (ST) will certainly be aiming to revisit.

All too soon, it was time to move on again, to meet up with Eva Bjorn, one of our hosts for the afternoon. Lunch was taken in a very pleasant, and yet again not expensive, fish restaurant (not, I hasten to add, the glorified chippy it would be in most places in Britain) in the town centre. After this we headed to Linnaeus's House. Although we had been given to understand that a major restoration project was underway, this had, in fact, been delayed by two weeks, so that we could actually be taken into the house, a major bonus for us. Having slipped on our cute blue plastic booties, we were given a guided tour of the house, and a potted history of Linnaeus's life and work there. In fact, this is one of two places that Linnaeus used, the other, at Hammarby, a few miles out of Uppsala, being his main summer and work residence. Alas, time did not allow us to visit this as well. Next time, perhaps.

We finished the trip by being taken round the garden, in one corner of which the house is situated. The orangery at the back of the garden contains a small exhibition about the garden's history. The garden is laid out according to Linnaeus's own plan, and all the species grown are known to have been cultivated by Linnaeus himself.

This brief account of the trip gives only a limited idea of what there is to be found in Stockholm and Uppsala, and we can heartily recommend Sweden as a place to visit. Contrary to our expectations, it did not turn out to be horrendously expensive, no more so than London, certainly. In return, we found the people very friendly and helpful. Our many thanks must go to all the curators and other museum staff in the various institutions we visited, who were faultlessly welcoming and helpful. For my own part, I (ST) would be more than happy to set up another study visit, so if anyone is interested in going, well, you know where to find me.



