

Sweden.

Like many Finnish children I was sent to Sweden during the war with the Soviet Union in 1939-1944, in my case twice, at the beginning and the end of the war, when a Soviet invasion was commonly feared, the fate of Estonia being a frightening example. Between autumn 1944 and spring 1947 I stayed with a family in Karlshamn, a small town in southern Sweden at the outflow of a small river into the Baltic Sea. There I got interested in nature (in addition to cars, classical music and girls), in particular insects and other small animals and especially those living in water.

I found some strange animals which I kept in a glass jar with water and had a small magnifier with which I observed them with wonder. All those bristles and the constantly moving mouth parts! Soon they disappeared and there emerged other strange animals, different both in shape and movement. But then they turned into mosquitoes, which did not make me popular in the household. I remember exactly where I found the larvae, as some white copepods too, but the latter were so small and I had no means to study them closer. Plants too interested me and I found mysterious, small plants with two large, thick leaves and brought some of them home for cultivation. The mystery was solved when they grew into small beeches. I liked mosses too, of which there are many beautiful species.

With my friends I roamed the surroundings on foot or by bike and found many interesting pools and lakes. There was the Baltic close by too, but very different. The fresh water insects were mostly air-breathing and easy to keep in a glass jar with water whereas the sea inhabitants were dependent on the oxygen in the water and had an annoying habit of dying very soon when kept in the same way so they had to be studied *in situ*.

In addition to glass jars and a large dish with some marsh plants I had an aquarium, in the beginning on an open veranda and with local plants and animals, later indoors and with tropical plants and fish. When I later reluctantly returned to Finland I brought the aquarium with me (I have forgotten how), with the fish in a large jar. One of my Swedish friends had a large aquarium on an open veranda too, with beautiful, luxuriant, dark green *Myriophyllum* and many golden and black Kaudis (*Phalloceros caudomaculatus reticulatus*). They lived in their own, closed world. If or how they were fed I do not remember. In winter there sometimes was ice on the surface. My friend had some aviaries too. And a pretty sister.

In a rocky pool there once was a peculiar mass occurrence of yellow daphnias and very thick green hydras, the latter covering all available space, but they soon disappeared. Another mass occurrence, of the "Water scorpion" *Ranatra linearis*, took place in a small lake formed by an expansion of the river. There were floating small islands of vegetation lined by the insects waiting for prey.

Further upstream the gastropod *Paludina vivipara* had been common in a lake, but when I visited Karlshamn in 1981 most of them had disappeared, as the crayfish too and the lake made a sterile impression (the floating islands mentioned above were gone too). I suspected acid rain. When I called on the local newspaper the editor boasted about the cleanliness of the river. I thought saying "it's not clean, it's dead", but refrained as I was not absolutely sure.

Some kilometres westwards along the coast there was a small island, linked to the shore by a bank. There had been some quarry activity, resulting in several small interesting pools. In 1959 they were as before, but when I visited them in 1977 they had been covered with a thick layer of bark waste from a nearby cellulose mill. On top of the waste were lots of dead Rhino beetles (*Oryctes nasicornis*), quite strange. They had probably laid their eggs in the waste and then died, their purpose in life fulfilled.

I have been stung twice by backswimmers (*Notonecta*) and once by a *Naucoris cimicoides*, which I consider a special trophy as it was rather rare, occurring in only one pool, later destroyed. - It seems the "Water scorpions" *Nepa* and *Ranatra* cannot sting humans and at present I am unable to confirm it.

The head of the family (one of the kindest persons I have met) gave me some books, among them one about microscopy, which ignited my interest in this field too. He was the head of a laboratory too, which had a real microscope of the then common horseshoe design, which I was allowed to use occasionally. This opened up a whole new world to me.

I acquired a small pocket microscope, said to enlarge 50 times, but it was quite primitive. In an optical shop there then appeared a microscope with a thick tube and fixed optics with a magnification of 70 or 80 times, but I had no money for it. Then my uncle came to visit us and gave me the needed money. I immediately went to buy the microscope, but it had been sold! What disappointment! My world was shattered!

But when I went to visit the family in 1949 I had my "new" microscope with me, an old horseshoe Hensoldt bought the previous year. Then everything was as before, but in 1959 the best pools had been filled in. Pools are considered useless (and a risk for small children) and it is easier and cheaper to fill in them than to fence in them. -- In 1977 nearly all the remaining pools had been destroyed.

A big problem was the lack of literature for determining the organisms. This still hampers me and building up a comprehensive library would be very difficult and expensive. - On the Internet there are lots of pictures but seldom with names, but some important works - e.g. Brauer's Rotifers (from 1912!), Robert Gurney's Copepods and West & West's Desmids - can be found with some effort.

I started an insect collection too. Then there were insects everywhere. Fields and roadsides were flowering and swarming with insects, some of them considered harmful (yes, to the most harmful of all animals!). Nowadays there are only some black flies, probably more resistant to pesticides. - I used shirt- and shoeboxes with ordinary pins pushed from underneath through a soft cardboard inlay. Butterflies and dragonflies were difficult to catch and mount so I concentrated on beetles and bugs. My most peculiar finding was in one of the abandoned bunkers along the shore where I found several Snail hunter beetles (*Cychrus caraboides*). I searched for the Musk beetle (*Aromia moschata*) on the trunks of large willow trees, and found only a dead one, but I never encountered the king of beetles, the Stag Beetle (*Lucanus cervus*) until I visited the large island Öland in 1977. I still have the collection, tucked away in a cabinet, together with my Finnish collection in proper boxes and on proper insect pins. It includes both butterflies and dragonflies.

Ah, those beech woods, so beautiful in spring. And the large, old oaks and linden trees surrounding our old, wooden villa and harbouring mysterious insects. And the blackthorn and blackberry thickets! I could stuff myself with blackberries, large, black, shiny and delicious. There were birds too, of course. In dark evenings we boys imitated the high-pitched cries of the tawny owls so they came flying and alighted on the nearest branch and fled when we lighted them with our torches. And in spring there was the noisy green woodpecker and other nesting birds. Bats there were too. I could fill pages with my recollections! - I have one foot in Finland and one in Sweden, later been hiking in Swedish Lapland and going by boat on the large lakes and all canals. I have hiked in Norway too, a beautiful country, but unfortunately not in Britain. Compared to Sweden both countries are very expensive now - and my legs not in prime condition.



Picture 1 (1945). One of the best pools, not just more than a roadside ditch. The water was turbid, but this was the only place where I found larvae of the Great diving beetle (*Dytiscus marginalis*). This larva is the most ferocious of all and they had to be kept in separate jars, like the males of the Siamese fighting fish (*Betta splendens*). This pool had been destroyed in 1959.



Picture 2 (1945). Another of the best pools (the scene of the daphnia/hydra mass occurrence). Destroyed before 1959.



Picture 3 (1959). The fate of the pool in picture 2.



Picture 4 (1959). Still another of the numerous pools formed in abandoned quarries. According to rumour the granite blocks in the foreground had been intended for Germania.



Picture 5 (1959). One of the pools later covered with waste from the cellulose mill. I especially remember the beautiful *Corethra* larvae and the slightly devilish looking pupae.



Picture 6 (1959). A small, square, *Lemna*-covered pool where there appeared a yellow form of the common Water louse (*Asellus aquaticus*). It could have been interesting to breed them systematically, but I was too young and inexperienced for that. In 1959 I found only grey ones.

Finland.

I grew up in a small town dominated by one of Finland's largest paper mills. There were many lakes and when I had acquired the Hensoldt microscope in 1948 I concentrated on plankton. But there were a couple of good pools too, a shallow one with large diving beetle larvae and a deeper one with much *Ophrydium*. I have tried to spot them on Google maps and think they still exist.

Near my home was a small sawmill, where I hunted for insects. I especially remember the red Aurora beetle (*Dictyoptera aurora*), the Black longicorn beetle (*Spondylus buprestoides*), good at biting, and the male of the Timberman beetle (*Acanthocinus aedilis*) with its long antennae. Later, as a student, I was required to collect both insects and plants, a practice I hope now has been abandoned. I have learned to respect life (including plants!) and kill only in self-defence (mainly mosquitoes).

In the 1950s we moved to the capital Helsinki where I studied biology at the University, specializing in zooplankton, especially that of the Baltic and counted hundreds of samples, a dreary job, but there was a good library close to my working place. I concentrated on some difficult groups, mainly the *Tintinnopsis* ciliates, the *Synchaeta* rotifers and the *Cyclopoida* copepods and learned that the literature is not always reliable. Especially concerning the *Synchaeta* incorrect descriptions and pictures had uncritically been repeated from work to work. - A manuscript about the *Calanoida* of Finland has been dormant for several decades.

The best stereo microscope for counting zooplankton was the Leitz UK IV. The optical part is movable horizontally 5 x 5 cm and I connected the mirror together with the small lamps to it so only the foot and the stage were stationary, thus securing a good and even light out in the corners of the counting tray. Leitz later had a more modern model, but it disappeared soon. Both were of the Greenough type. Strangely I have not found any picture or mention of them on the Internet. -- There have been thoughts of making an automatic plankton counter, but the organisms are too variable in shape, size and position. They are no blood cells!

I participated in marine biology courses in both Sweden and Norway. It was a revelation to see living organisms I had previously seen only in pictures and in jars. In a cabinet I still have some preserved samples, but the perhaps most interesting one, a couple of Ghost shrimps (*Caprella*), has unfortunately dried up. The same happened later to a collection of copepods, mainly cyclopids, from the Sarek mountain area in northern Sweden, collected in 1968. Only a couple of the about 60 samples have survived. - The Zoological Museum of the University of Helsinki has a method of saving dried samples, but the results have not been very convincing.

With my son (then 14) I made a boat trip along Swedish canals to Oslo, Norway in 1978, returning along the Swedish coast to Gothenburg and then on canals again. We had luck with the weather and dived for large, delicious Blue mussels (*Mytilus edulis*), which occurred on the coast *en masse*. But the strongest impression on me made the Sea Flare (*Noctiluca*), that year especially early and especially fine, according to local information.

In Gothenburg we feasted on large shrimps. Acting on a piece of good advice we stayed in the fishing harbour where a five kilo box of frozen shrimps got damaged when unloaded from a ship and was given to my son, who was watching with his bike.

NW of Helsinki is a small lake district, with an especially interesting small lake in which I found many of the large, intricate desmids and filled several A4 pages with drawings. But the desmids were all dead, with only the shells remaining (which facilitated the drawing, though). There is a farm nearby, taking water from the lake through a pipe and I suspected they had tried to raise the pH value by adding lime, killing the desmids.

Later I worked at a company, selling (and occasionally servicing) Wild microscopes and other laboratory instruments, with a break when I worked at the Institute of Marine Research for a couple of years. There I participated twice in the annual trip of our (then improvised) research vessel Aranda through the Baltic to Copenhagen (once to Kiel too). We were three teams, for taking water, plankton and bottom samples and it was much work, with sampling round the clock. - Still later I was at the University again until I quit just before 50 (possibly avoiding a horrible coffee party) and started travelling to SE Asia.

Meanwhile my private microscopy "work" had been down for many years, but some years ago I took it up again. The microscopes have changed, after the Hensoldt a Meopta and finally a Wild M 20, but all with Wild optics.

To Tallin, Estonia, I have made many boat trips. There are a couple of small, ordinary lakes and a larger one, fenced in as the city uses it as its water supply. The Botanical Gardens have some uninteresting pools, but in the Paljassaare peninsula, during the Soviet era a closed military area (as the islands flanking the Tallinn Bay) is an interesting pool.

According to maps there are some bogs further south, which I have not had the time to investigate (the harbour fee effectively limits my time).

In 2010 I made a last trip to Sweden's large lakes and to places we did not have the time to visit in 1978. Stupidly I did not take my travel microscope (a Russian Zeiss copy) with me as I was afraid it would be stolen when I went on bike trips, leaving my boat unattended for the whole day. I brought a couple of living samples with me to Finland, but they were not their selves after several weeks in small jars. - At present I concentrate on some interesting pools in the Helsinki area, all formed in old quarries and hopefully protected.



Picture 7 (1955). The shallow pool, usually drying up in summer.



Picture 8 (1960). The Leitz UK IV. The y-movement knobs are on the right hand side.



Picture 9 (2010). Pool in Sweden's Tiveden forest. *Xanthidium armatum* common.







Pictures 10 – 13 (2004-16). Pools in the Helsinki area. The pool in picture 13 is special. The bottom is covered by Water Moss (*Calliergon*) harbouring several *Micrasterias* species including two of my favourites, the small *crux-melitensis* and *truncata*.

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