5th IRGC Symposium

2008 in Rostock

EXCURSION GUIDE

Pre-symposium excursion to Thomsdorf

21.-23.09.2008

Guiding group: Lothar Ratai, Rüdiger Mauersberger,

Hendrik Schubert, Irmgard Blindow

Contents:

1. Tour itinerary

Day 1. Sunday, 21 September 2008

Arrival and get together in Thomsdorf

Day 2. Monday, 22 September 2008

Breakfast from 8:00 am

9.00 am	Rüdiger Mauersberger, Lothar Ratai: Short information about the Thomsdorf area and the single sites
9.30 am	Departure, the busses will wait in front of the hotel: Excursion to freshwater sites in the Thomsdorf area
2.00 pm	Return to Hotel Thomsdorf, Determination workshop
7.00 pm	Dinner

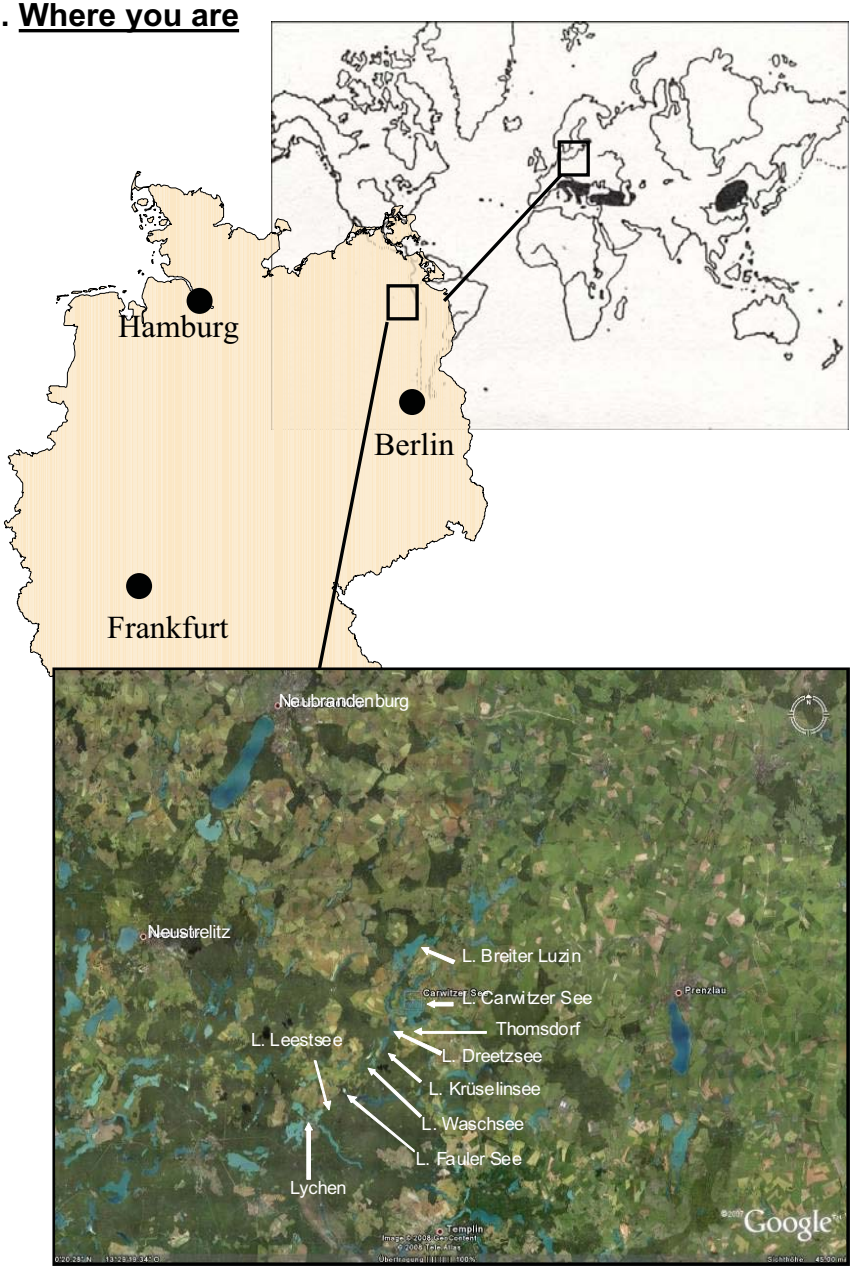
Day 3. Tuesday, 23 September 2008

Breakfast from 8:00 am

9:00 am	Transfer to Rostock, the busses will wait in front of the hotel; stops at Stralsund and the Darss-Zingst-Bodden Chain

Arrival in Rostock will be around 6:00pm

2. Where you are



3. General information about the excursion area

The excursion field includes the area of the Uckermark and the Feldberger Seenlandschaft, a region in the northeast of Germany, at the frontier between the federal states Mecklenburg-Western Pomerania and Brandenburg (Germany is consisting of 16 countries, each having an own government).

This region is a very popular tourist and holiday destination, especially for the inhabitants of Berlin. It is appreciated because of its remoteness, ideal for recreation. Untouched nature and the wealth of woods, meadows, lakes and rivers offer a broad variety of habitats for rare specimens of flora and fauna.

Thomsdorf itself, where the hotel is located, is a small farmer town between the lakes Dreetzsee and Carwitzsee.

4. Geography of the Uckermark

The recent surface of the northern German lowlands has been formed by the last glaciation period, ending approx. 13,000 years ago. The last cold stage, called “Weichsel-cold stage”, began about 115,000 years ago and ended about 10,000 years ago. It shaped a tremendous part of Mecklenburg-Western Pomerania and Brandenburg and therefore also left the present landscape of the Uckermark and the Feldberger Seenlandschaft.

On their way to Northern Germany soil and rock became embedded in the glacial ice and were transported with it. The Scandinavian glaciers arrived from two directions: the steep way from the Oslo-region transported a special kind of Porphyr (“Rhombenporphyr”) into our area, the other direction, slowly declining from recent Finland transported Rapakiwi-Granit into our region. When the ice sheets came to a standstill and began to melt, the transported material was deposited and moraines were formed. They occur as bands of hills marking the various advances and retreats of a glacier. The ridges of debris at the end of glaciers are called end moraines. They mark the farthest advance of the ice. Our excursion area is run through with ground as well as end moraines. Erratic blocks, which we still find today, supply evidence for the enormous ice run.

When the melted snow and ice flowed away from the glacier, transported sediment, mostly gravel and sand, deposited. This is called outwash. Outwash plains are characterized by sloping surfaces. Furthermore, the melted snow and ice has formed many little lakes, rivers and mires. It accumulated in grooves and depressions or built up

behind moraines. Dead ice, that just melted later, produced hollow moulds which have filled up with water. These waterbodies are the so called kettle holes. Consequently, lakes and kettle holes are typical of the landscape at the frontier between Mecklenburg-Western Pomerania and Brandenburg.

To sum it up, our excursion area shows the complete sequence of glacial shapes: ground moraine, end moraine, glacial outwash and glacial valley. Whereas the drift topography in the north of the Feldberger Seenlandschaft is mainly used agriculturally because of its light hilly area with fertile soil, arcs of end moraines adjoin the region in a southward direction and meet in the Feldberg area. Here, enormous differences in elevation remind one of the uplands. South of the end moraines we find extensive glacial outwash plains with inland dunes. Those areas have mostly been afforested with pines. The river system of the Havel, which is one of the main drainage channels for meltwater, developed from a glacial valley.

The Uckermark is also characterized by a drift (till-plains) and morainic-belt topography. In the south, where the end moraines are not used agriculturally due to their relief and high share in stones, we find a huge area with beech forests.

Thus, the excursion field distinguishes itself by its many-sided landscape. The exceptional richness of lakes is characteristic of this region. The very fact that 300 of the 5000 lakes in Mecklenburg-Pomerania and Brandenburg belong to the nature parks Uckermärkische Seen and Feldberger Seenlandschaft, shows the enormous attraction of this area.

Rare plants and animals can be found in the lakes and their surroundings. Among plants, *Littorella uniflora*, typical for oligotrophic lakes, is one of the highlight. Several rare species belonging to the Orchidaceae, Pyrolaceae and Monotropaceae occur in the area. White-tailed eagle *Haliaetus albicilla*, osprey *Pandion haliaetus*, lesser spotted eagle *Aquila pomarina*, black stork *Ciconia nigra* and white stork *C. ciconia* belong to the breeding birds of the area. Common otter *Lutra lutra* is common. Among fish, whitefish occurs in clearwater lakes.

5. History of the excursion area

After the thawing of the glaciers plants and animals returned. Later, nomadic hunters and gatherers hiked through the region because they were looking for bag such as mammoths.

About 5,000 years ago, people settled down in today´s northern Germany. Consequently, agriculture and stockbreeding developed. Areas under cultivation were expanded more and more, to the debit of primeval forests.

Little is known about the population before the first Slavonian settlements. Archaeological findings clearly indicate, that humans arrived almost immediately after the glaciers were melting. However, as almost all over northern Germany, the German tribes abandoned their settlements and moved southwards at around 500 AD (the exact date varies among regions, some started already at 100 AD, the last went south at around 1000 AD) and were, decades later, replaced by Slavonian tribes.

Those Slavonian tribes came from the East in the 6th and 7th century. Even today, one can recognize the Slavonian origin of many villages in this area by the endings –itz or –ow of the village names.

In the 12th and 13th century, the region was divided between Pomerania, Brandenburg and Mecklenburg. Constant border disputes between these three powers were on the agenda. Therefore, fortifications such as city walls were built and were in case of conflict fit for military purposes.

The Thirty Years´ War (1618–1648), a religious war between Protestants and Catholics, brought a disastrous devastation. Most of the villages were destroyed and depopulated.

Not until the end of the 17th century, villages could be re-established. Manorial economy emerged. That means that farmers got into a dependent relationship with their lord of manor.

In the 18th century, the economic development of the region started with the construction of Havel sluices, which made it possible to transport goods by water. Moreover, the expansion of the road network to Berlin was important. Additionally, every town was soon connected to the railway network. Those approaches towards a modern world have been important for the further development of our excursion area.

Further information chap. 3-5:

Domnick, H., W. Ebert & G. Lutze. 2003. Die Märkische Eiszeitstraße. Barnim, Uckermark, Märkisch-Oderland. Findling Verlag, Neuenhagen.
Förderverein Feldberg-Uckermärkische Seenlandschaft e.V. (ed.) 1998. Zwischen Havel und Strom: Die Naturparks Feldberger Seenlandschaft und Uckermärkische Seen. Thomas-Verlag, Leipzig.
Küster, Hansjörg. 1999. Geschichte der Landschaft in Mitteleuropa. Von der Eiszeit bis zur Gegenwart. C.H. Beck Verlag, München.
http://www.eiszeitstrasse.de/Seiten/natur/index.htm
http://www.naturpark-feldberger-seenlandschaft.de/start.asp
http://www.gut-conow.de/start2.php?pri=Erlebnis&sec=Eiszeitlandschaft&terz=Landschaftsentstehung&quart=&tnummer=71&rubrikid=269

6. Detailed description of the sites

The participants will be divided into three groups, of which two will focus on the lakes around Thomsdorf (Feldberger Seenlandschaft), while the third group will go by minibus to some sites in the Uckermark area (Brandenburg) not too far away: see map on page 4 for an overview!.

Group 1: Guidance by Lothar Ratai

This group is suitable especially for participants with diving equipment. Transport: One minibus and private cars. Up to 17 participants.

1. Lake Dreetzsee: A clearwater lake with rich submerged vegetation, charophytes are dominant. Occurrence of *Chara filiformis*, *C. intermedia, C. aspera* and *Nitella syncarpa*. *Litorella uniflora* and *Myriophyllum alterniflorum* indicate the low nutrient status of this lake.

Diving is permitted – and highly recommended - in this lake. Additionally, boats are available.

2. Lake Waschsee: *Chara aspera, C. contraria, C. virgata, C. filiformis, C. globularis, C. intermedia, C. rudis, C. tomentosa, Nitella flexilis, N. syncarpa* and *Nitellopsis obtusa* were recorded from this lake. Some years ago, however, the charophyte vegetation collapsed for some unknown reason, but seems to recover during the last years. Hopefully, the excursion will give interesting findings! *Najas marina* is common in Lake Waschsee.

Diving is permitted in this lake. Additionally, boats are available.

3. Lake Breiter Luzin: In former times, this lake was the most valuable charophyte site in this area, but received later on increased nutrient loading from the surrounding agricultural areas. Still *Chara contraria, C. tomentosa* and *Nitellopsis obtusa* occur in the lake, the knowledge about today's occurrence of charophytes is poor, however. Hopefully our excursion can help to fill these gaps and give information which can result in a report to the ministery!

Diving is permitted in this lake.

Group 2: Guidance by Hendrik Schubert & Irmgard Blindow

This group will collect charophytes mainly from the boat. Transport: two minibusses. Up to 18 participants.

1. Lake Krüselinsee, a clearwater lake, is one of the highlights of the excursion. *Chara aspera, C. contraria, C. virgata, C. filiformis, C. globularis, C. intermedia, C. rudis, C. tomentosa, Nitella flexilis,* and *Nitellopsis obtusa* are all recorded from this lake.

Diving is not permitted in this lake! Boats will be available.

2. Lake Carwitzsee which is situated next to Haus Thomsdorf, is rich in submerged vegetation. *Ceratophyllum demersum* and *Myriophyllum spicatum* are dominant among vascular plants. Among charophytes, *Nitellopsis obtusa* forms dense vegetation. Furthermore, *Chara*

contraria, C. globularis, C. filiformis, C. tomentosa, C. virgata and *Nitella flexilis / opaca* have been recorded. A highlight is also the rich occurrence of *Nostoc pruniforme* colonies. *Dreissena polymorpha* is common in the lake. Fish densities are high, roach *Rutilus rutilus*, rudd *Scardinius erythrophtalmus* and perch *Perca fluviatilis* are the most common species. European crayfish *Astacus astacus* can often be observed, especially among the sheltering *Nitellopsis plants*.

Diving is permitted in this lake. Snorkling is recommended. Boats will be available.

Group 3. Guidance by Rüdiger Mauersberger

This group will collect charophytes mainly from the shore and in smaller water bodies. Diving or snorkling equipment are, however, recommended for Lake Fauler See. Boots are necessary. Transport: two minibusses. Up to 18 participants.

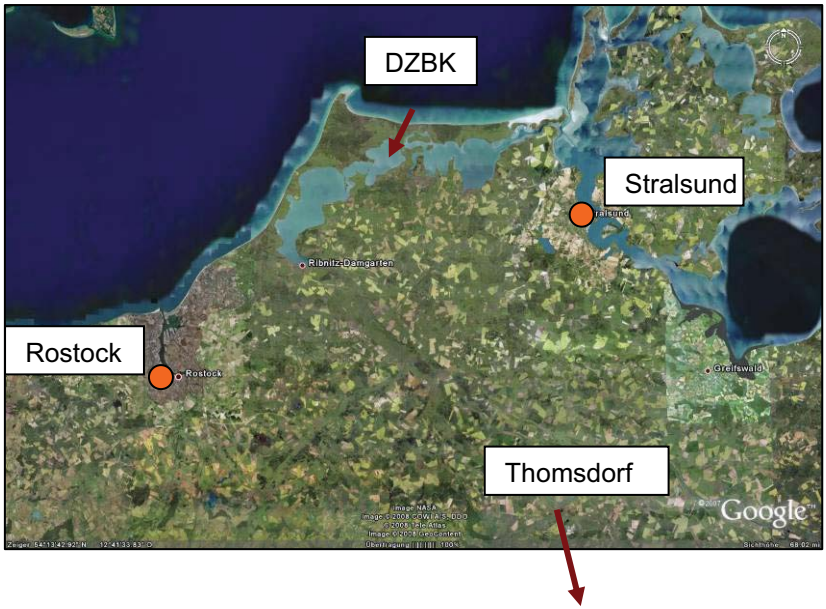
All sites are situated within the glacial outwash plain northeast of the village of Lychen in the nature park ”Uckermärkische Seen/Land Brandenburg".

1. The lowlands around Lake Lehstsee

Drained fen area, used as meadow up to 1999 or 2000, respectively. By closing the drainage ditches with peat, the water level was raised. Some peat cutting areas are covered by emerging groundwater. Here, mats of low charophyte vegetation *Chara vulgaris* can be found.

7. Transfer to Rostock

At Tuesday, you will have early breakfast again (8:00 pm). Please make sure to be ready for departure at 9:00 pm, because the first leg to Stralsund already takes about 2hrs.



The first stop will be the city of Stralsund, a world cultural heritage and probably the most beautiful Hansetown all around the Baltic. Located on a little island, the old town centre is

filled with fine examples of the famous “red brick gothic”, named after the building material used in the moraine areas where sandstone and similar building material are scarce.

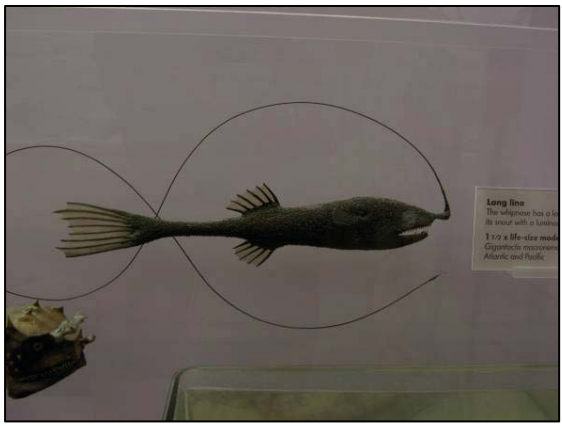
Now it will be up to you, to decide where to go – 3 offers can be chosen from:

1st choice (recommended):

A semi-guided stroll through the city, focusing on cultural and architectural highlights with a visit of an old Hanse-Building and, if you want, one of the big churches. The entrance in the Building will cost you about 4 Euro, but it’s definitely worth visiting it. This tour is especially recommended when the weather is fine.

2nd choice (highly recommended as well):

The second option is for naturalists tough enough to go inside to learn more about everything….Stralsund harbors the German Sea Museum, which is famous for many reasons. It is build inside an old Zisterzienser-church – so if you are keen to climb inside a church to the top of the roof – here you can do it! Moreover, it is the most



successful museum in Germany – far from being the biggest, it has more visitors than any of the large ones in Berlin - and visiting it by yourself, you will soon find out why…. it gives you a very well balanced mix of science and entertainment about all aspects of oceans – from geology to sustainable use, from the depths of the oceanic ridges to the atidal coasts of brackish seas. The entrance fee is about 7.50 €, which is moderate for what you get. Probably more important is that it will cost you about 3 hrs to have a first glance on the expositions….

3rd option:

The third option is the brand-new Ozeaneum, located in the harbour of Stralsund, a museum which was opened this year and is dedicated especially to the living beings of the Seas. No one of us visited it yet but maybe some of you have heard about it and want to go there – in

this case you will have a guide to the Museum, one of the drivers will take you there. However, it is a rather expensive option (14.50 € entrance fee) and not completely ready yet (the big opening with our chancellor took 3 days, then the Ozeaneum was closed again to make it ready at least for its first season..)

Our stop in Stralsund will take about 3 hours. At 2:00 pm we will leave the city, and after approx. one hour, we will reach the Darss-Zingster-Bodden Chain, a series of choked lagoons where, irrespective of the very turbid water you can find charophytes - for example *Chara aspera* and *C. canescens*, the latter one "only" consisting of females as male plants never made it up to the Baltic. The nearest site with male plants is in Austria, 1000 km south. If the weather allows for it, we will stop to collect samples, and we will do our best to provide you with *Chara baltica* as a souvenir from the Baltic. We can not promise, however, as the plants sometimes disappear early in the season.

After this short stop, we are heading to Rostock where we hope to arrive at 6:00 pm. We will take you to your hotel, so we can be sure that every one arrived safe and secure at his/her home for the coming days.

The next day, we will wait for you at the conference venue….

8. List of participants

(guides/drivers/officials in bold – for addresses see abstract book)

Alonso-Guillen, José L.
Beilby, Mary
Bisson, Mary
Blazencic, Jelena
Blindow, Irmgard
Breithaupt, Christian
Bruinsma, John
Casanova, Michelle
Ehwald, Rudolf
Garcia, Adriana
Goldberg, Ronny
Kipriyanova, Laura
Koistinen, Marja
Kovtun, Anastasija
Krstic, Nadezda
Liu, Junying
Mäemets, Helle
Marquardt, Ronny
Martin-Closas, Carles
Mauersberger, Rüdiger
Nat, Emile
Pelechaty, Mariusz
Primavera, Milena
Pukacz, Andrzej
Raabe, Uwe
Ratai, Lothar
Richter, Doreen
Rodrigo, Maria A.
Sakayama, Hidetoshi
Schubert, Hendrik
Scribailo, Robin
Sinkeviciene, Zofija
Soulié-Märsche, Ingeborg
Stevanovic, Branka
Sugier, Piotr
Torn, Kaire
Urbaniak, Jacek
Van Raam, Joop
Wang, Hailei
Wang, Qi-fei
Zviedre, Egita

2. Rohrbruch close to Schreibermühle

A fen with closing vegetation and a small peat ditch. Following a rising of the water level during 2001, new hollows developed. Here and in the peat ditch, *Chara intermedia, C. virgata* and *C. globularis* were found.

3. Lake Fauler See

This small, incompletely stratified, oligo- to mesotrophic clearwater lake has no surface water inflows. Only calcium-rich groundwater enters the lake which is surrounded by pine forests. Charophytes dominate among the submerged vegetation, especially Chara rudis. Also *Chara filiformis, C. aspera, C. hispida, C. globularis, C. virgata, C. tomentosa* and *C. contraria* have been recorded. European crayfish *Astacus astacus* occurs in the lake. Fish are common, especially roach *Rutilus rutilus*, rudd *Scardinius erythrophtalmus*, perch *Perca fluviatilis* and pike *Esox lucius*.

Map 1: excursion area group 1 & 2

Map 2: Excursion area group 3

Prepared & printed by: Doreen Richter & Hendrik Schubert
University of Rostock