

Diving in Lake Päijänne

with Sauli Havas

I first tried underwater photography two years ago in Indonesia. I bought my compact Panasonic DMC-TZ3 and a housing for it at Singapore airport on my way to Bunaken. I was naturally amazed by the clear tropical waters and the rich and colourful under water scenery there. Almost anywhere I turned my camera there was something to shoot at. In every issue of this magazine we can enjoy excellent photos taken under similar conditions. Back home in Finland I started thinking about the differences between photographing conditions under water here and there. For a starter here the fresh water lakes are covered with ice 4 to 6 months every year. In depths more than 10 meters the water temperature is usually year round below 10°C and on warm summers surface waters might reach +24°C for a short period of time. A great amount of dead plant debris accumulates to the lake bottom during each cycle of the seasons making them muddy. Humus, pollen and plankton floating in water reduces visibility so that sunlight hardly penetrates below 15 meters. These



Päijänne National Park, Finland

three factors: water temperature, turbidity and sunlight and their strong seasonal changes are the three most important ones when comparing diving conditions in our lakes and in the more temperate waters.

In winter the lakes are frozen and water temperature under ice is little more than zero. There is not much biological activity and small particles settle down in the still water. Diving under ice requires special training



Going through the Vääksy channel from Vesijärvi to Päijänne. The water level in Vesijärvi is some 3 meters higher than in Päijänne.

*Camera: Panasonic DMC-TZ3 + housing Panasonic DMW-MCTZ3
Technical info: f3.3, 1/400s, 100ISO*

and arrangements but is tempting because in late winter in March-April when light penetrates through the ice cover visibility is at it's best. Soon after the ice melts and sun starts to warm waters visibility decreases



Colourful under water vegetation (Myriophyllum) growing on the sandy bottom in Lake Päijänne.

*Camera: Panasonic DMC-TZ3 + housing Panasonic DMW-MCTZ3
Technical info: f3.3, 1/50s, 100ISO*

dramatically because the waters in lakes turn over. At +4°C water is heaviest and when surface water reaches this it sinks to the bottom causing in return an upwelling of turbid lower waters. After this shock



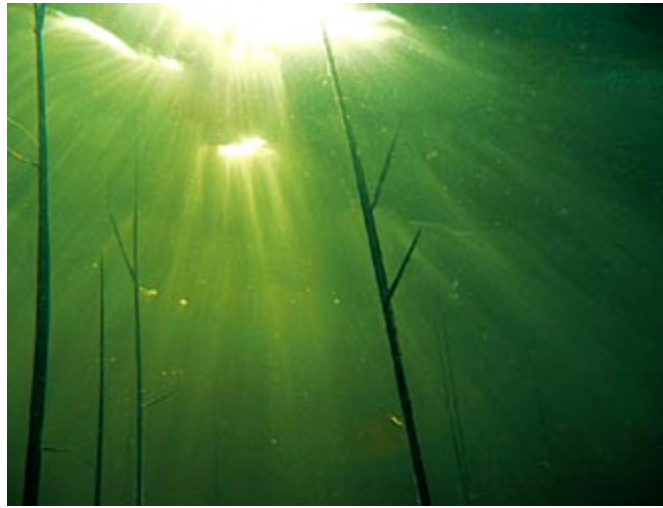
Forestry and transportation by tugboats has left a lot of logs lying on the bottom.

Camera: Panasonic DMC-TZ3 + housing Panasonic DMW-MCTZ3

Technical info: f3.4, 1/13s, 400ISO

visibility gets better in early summer only to worsen again when waters warm up. In spite of these seasonal changes wind is the one most important factor affecting visibility. The average depth of lakes in Finland is typically 10-15 meters and one windy day can stir the waters so that visibility drops to near zero. In tropical waters the visibility also varies depending on currents but at open sea where coral reefs grow it seldom gets really bad. Here you must always consider this when planning your photo sessions. If you are not an expert diving under ice your chances are best in early summer in May-June after a few days calm when the visibility can be up to 10-15 meters. Only there are not very many days like this in a year.

Because at most times the visibility is not the best possible the amount of natural light is



Sunlight penetrates the surface and falls down like light yellow veils.

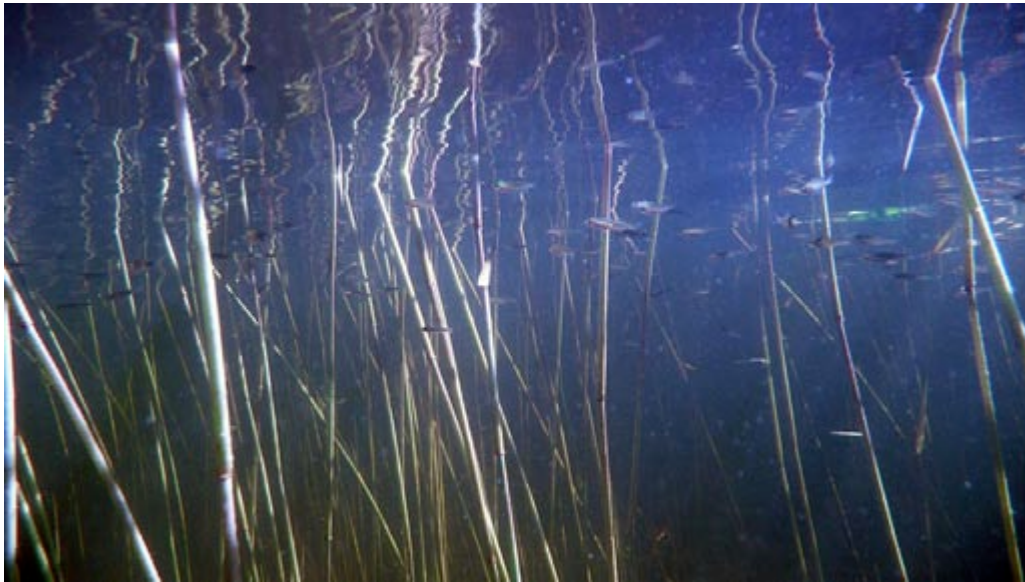
Camera: Panasonic DMC-TZ3 + housing Panasonic DMW-MCTZ3

Technical info: f3.3, 1/400s, 100ISO

crucial to your photographing. Southern Finland lies around 60° north latitude. This means that we have big seasonal variations in the length of the day and amount of available light. In winter the sun is up only from 9 am to 4 pm at noon reaching maximum altitude of only 30°. In summer the sun is up from 4 am to 10 pm and reaches up to 60° on the southern sky. This is a big difference to the tropical areas around equator where the sun is year round up from 6 am to 6 pm and travels directly over your head. We have here long dusk after sun goes down when in the tropic lights go out like in a turn of a switch. This means that around midsummer in June there is plenty of light but later in the summer it is best to time your dives just before or after midday if you want to see something without a torch. From these circumstances there follows

also one other difference which is not so obvious. Water scatters light but on a clear day it still has a direction. Also under water the sun at noon shines from south. There is a dramatic difference if you look at the same scenery against the light from north to south or to the opposite direction. On a cloudy day with evenly lit sky the colour of the water is basically green but if you turn your camera to the south on a bright day you can see fantastic shades of orange and intense red. In my opinion the shadows also give depth and character to the scenery compared to the more flat directly overhead light in the tropics. The drawback is that more than often you have to get along with too little sunlight which means longer exposure times and difficulties in photographing moving objects and balancing yourself.

It is self evident that we can't compete with the tropical waters in abundance of life or visibility but I thought that we must have something that is unique to our waters and as much worth photographing. What that might be and how to capture that? I started my first experiments last summer. I am fortunate to live by one of the biggest lakes in Finland. My home town Lahti lies on the southern end of lake Vesijärvi and from here starts a continuous water route going up north for about 400 km. It consists of three big lakes: Vesijärvi, Päijänne and Keitele which are connected by channels. Of these Päijänne is the biggest covering more than 1.000 km² and reaching a maximum depth of 95 meters (http://en.wikipedia.org/wiki/Lake_Päijänne). In ancient times this water route was the highway of hunters on row boats. Up to the 60's it was used by forest industry to transport logs to the sawmills. Now it is used mostly by private yachts and passenger ships. In the high season



After hatching these small fish swim in the warm surface waters protected by the thick reed.

Camera: Panasonic DMC-TZ3 + housing Panasonic DMW-MCTZ3
Technical info: f3.3, 1/60s, 100ISO

around midsummer there is usually a queue of boats all the time at the Vääksy channel connecting Vesijärvi and Päijänne.

In southern Päijänne there lies a wonderful group of more than 50 partly sandy and partly rocky islands. They are protected and belong to the Päijänne National Park. Biggest of them is the 7 km long and only 500 m wide Kelvenne island (<http://www.luontoon.fi/page.asp?Section=5239>). In geological terms the island is a partly submerged esker which formed during the final stages of the last ice age about 10.000 years ago. It

even has a small bowl shaped inland lake and a couple of lagoons which formed when large moraine covered ice blocks melted after the continental ice retreated and left big holes in the ground. It has kilometers of beautiful sandy beaches which continue long under water. The water is quite clear thanks to strict laws which in the late 60's banned all unpurified waste waters. In fact the water is drinkable. Two of my daughters also dive and during our weekend trips to Kelvenne I started experimenting with uw photography in our own waters.

We started our trips from the



Boats in one of the beaches in Kelvenne in late July.

Camera: Panasonic DMC-TZ3 + housing Panasonic DMW-MCTZ3
Technical info: f3.3, 1/800s, 100ISO

Lahti harbour packing all equipment in bags to an open boat in the morning. With a small coffee break at the Vääksy channel we were at Kelvenne (N 61°23,1' E 25°26,7') some 60 km from Lahti in about two hours. In early summer there is only little traffic and on our first trip in May 11th we had the whole big island to ourselves. At midsummer every boat owner is on the move and the most popular beaches are full of boats parked side by side. In Finland we have this so called every man's right which means that you can boat, swim, walk and camp where ever you want if you only stay more than about 50 m away from a dwelling. With hundreds of kilometers of uninhabited shoreline this means that you can always find a beach or cliff of your own if you want privacy. We started our dives from the shores of one of the islands

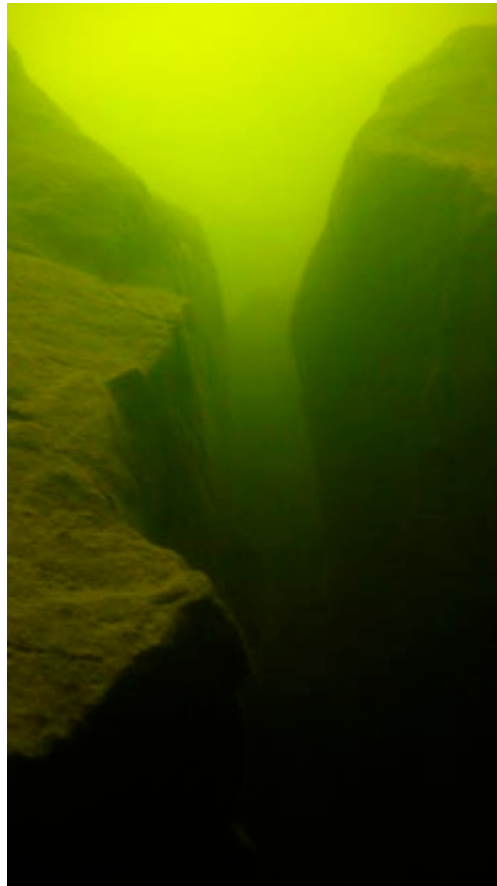
and usually followed the shoreline. First going to one direction at about the depth of 10-15 meters and after an u-turn diving back at the depth of 3-5 meters. We dived in 5 and 7 mm wetsuits which were warm enough for 40 to 50 minute dives but you also need a hood and gloves. During the dives water temperature typically varied from around 18°C to 13°C. Sometimes I also snorkeled without scuba equipment but if you want to take photographs it is a bit demanding to balance your self at the bottom for a longer time although not impossible if you weigh yourself properly.

Soon I discovered that we indeed do have something special that the tropical waters don't have. We have plants. Below 10 meters there is not enough light for most plants to live but above that the vegetation is quite rich. In Päijänne there has been recorded more than one hundred different species growing in the water. Most of the plants in a lake start anew every year. In early summer there are only small green sprouts in the bottom but during the summer the plants grow with amazing speed and vivid colours. In late summer the waters near shoreline are in many parts almost unpenetrable thick with vegetation. During winter the visible parts of the plants die and the cycle starts again next year. So far the only exception I have encountered is Lake Quillwort



Lush under water vegetation growing on the sandy bottom in Lake Päijänne. Camera: Panasonic DMC-TZ3 + housing Panasonic DMW-MCTZ3 Technical info: f3.3, 1/30s, 125ISO

(Isoetes lacustris), which is one of the deepest growing plants in our lakes and seems to keep green during winter. This is a major difference compared to the static +30°C year round waters. Another difference I



Paljaskallio is a small rocky island in Päijänne with a steep vertical drop of over 20 m and big boulders surrounding it. Camera: Panasonic DMC-TZ3 + housing Panasonic DMW-MCTZ3 Technical info: f3.3, 1/8s, 200ISO

can't describe accurately in physical terms. It has to do with the way light penetrates to the water. Maybe it has something to do with the atmospheric conditions, the angle of the sunlight and the fresh water chemistry and

wave formations. Light falls like a wavy curtain below the surface and it pierces blinding bright holes to the water through which beams of concentrated sun light embroider the bottom and plant foliage. The colour of the water can be anything from green to light to deep blue or reddish. In these photos there are examples of three different places around Päijänne National Park. Big house size boulders and narrow passages between them in Paljaskallio, submerged old logs and plants struggling up from the muddy bottom in Neitsaari and sunlight playing on sandy bottom and colourful plants in Kelvenne itself.

There is also animal life e.g. crayfish, perch, pike, gastropods and larva. In Kelvenne there are also fine examples of Freshwater Sponge (*Spongilla lacustris*) growing in branched formations more than one meter high. These are the closest we can get to the corals here. The fish spawn in shallow water in early spring. Soon after that you might find yourself in the middle of a school of fish of hundreds of two to five centimeters long young fish taking protection amidst the thick reeds.

Adult fishes are wary and possibilities of getting good photos of them in their natural environment are very small. So far I have been fascinated by the light, the textures

and patterns created by waves and light and the quick pace plants are growing during the short summer. The beauty lies not in the spectacular but in the small things and the mood. So what next? Surely I am going to continue my pursue to this area. Last October I visited the Red Sea and after the head spinning fish soup and coral gardens at Sharm I am again more than anxious to explore the barren waters here. I know that at some point I probably must change to a DSLR and flashlights. Also everyone seriously diving in these waters must use a drysuit. That will also open the clear winter time under ice waters to you. But right now I feel that it is more important to explore the possibilities and philosophy of photography in these waters rather than concentrate on improving equipment.

Sauli Havas

