

YOUTH DIVING – LIFE IN FRESH WATER

FEATURE **KIKI VLEESHOUWERS** AND **PATRICK VAN HOESERLANDE**

Although youth diving becomes more popular by the day and the number of publications on this topic is increasing, there are very few books on diving for young divers. To fill this gap, a group of divers from the Flemish Diving Association (NELOS) published a book focused on the youngsters and their parents. Two young heroes, Skubba and Fred, together discover the world of diving, guiding you through the book covering many topics.

While the stories and the book are in Dutch, we would like to present two extracts because it is interesting stuff and it gives you an idea on how we can inspire young people to take up diving. The two articles show what you can discover underwater in our Western European waters. Remember, the book is for young divers, but we are sure that grown-ups will have fun reading it as well. They might even learn something new.

The chapter on biology was co-written by Kiki Vleeschouwers, a vet with special interest in underwater biology and is very comprehensive. Parts of the articles are shown here and are limited to a few special plants and animals. The book contains information on common encounters in fresh water, such as the pike and the carp, but in this summary we are picking out the "special encounters".

DIVING IN 'REAL' WATER? COOL!

You are not going to be alone in that 'real' water! And we are not talking about your diving buddy. What can you see and explore down there? Let Scrimpy be your guide. Together with our funny shrimp you will discover a bunch of underwater creatures. He will advise you how to find them all yourself.

Marine biologists, smart people who know everything about underwater plants and animals, talk about two types of water: fresh and salt. Take a glass of drinking water. Drink it. That is fresh water. Now take the saltshaker and sprinkle a lot of salt in a glass. Really, a lot of salt. Mix it well and drink it. Yuck! That is salt water. It sounds odd, but far more plants and animals live in salt water than in fresh water. Weird, hey?

If you're out walking, you will probably see a lot of plants (grass, flowers, trees, etc.) and if you take a really good look around you, you may spot an animal (rabbit, bird, squirrel, etc.). On land there are many plants, but not so underwater. Underwater there are many more animals than on land. Some even look like plants, but they are actually animals.

Scrimpy is becoming impatient. He wants you to meet his fresh water friends and match them up with their descriptions.



Amphipod. Photo by Ivo Madder.

RED WATERMITE

What is this? A small red dot of just a few millimeters which rolls and spin here and there in the water. This is the red watermite.

SOMETHING SPECIAL

Get your underwater magnifying glass out, have a look through it and what do you see? That small animal has 8 legs! Yes, because of his many legs it belongs to the family of the arachnids, spiderlike creatures.

FACT

Why such a bright red colour? Well, this small animal tries to look mean and very dangerous to predators that like to eat him. What do you think? Does it work? Are you afraid?

GREAT RAMSHORN

What is this? A small shell, only a few inches large, with a very special round and flattened shape. This is the house of the great ramshorn.

SOMETHING SPECIAL

Snails are simultaneously both boy and girl. They are hermaphrodites.

FACT

Scientists, whom are also very smart people, gave them this name because their house looks like the coiled horns of a ram.

WATERWEED

What is this? A green plant with a long stem and small green leaves. Sometimes free-floating in the water, sometimes with roots in the soil. This is a waterweed.

SOMETHING SPECIAL

Now you really should take your magnifying glass out because waterweeds form a perfect shelter for a lot of small life such as tadpoles, cute amphipods, eggs of salamanders... Make sure you have enough air in your tank so that you have the time to discover all these small animals!



Zebra Mussel. Photo by Ivo Madder.

FACT

You will easily recognize waterweeds. It is a plant that you find in just about every aquarium with a goldfish swimming around.

HARDER TO FIND IN FRESH WATER

So, this was the warm up in which we went looking for common animals, plants and weeds. This was just an appetizer for more to come. Now the more difficult work starts because Scrimpy takes you in search of underwater animals that like to play hide and seek. Sharpen your senses and follow Scrimpy very closely!

AMPHIPOD

What is this? What kind of pale animal with many legs wriggles on the bottom and in water plants? Look very closely because it is only a few centimetres long. If you find it and try to touch it, you will discover that it is a fast swimmer and that it can change direction very quickly. Meet the amphipod.

SOMETHING SPECIAL

The amphipod has many legs. Each of them looks very different and has a certain form



Freshwater Hydrozoa. Photo by Jandel Broek.

because they all have a specific task. An amphipod has swimming legs, feeding legs, cleaning legs... Its legs are really quite handy. With his feeding legs he catches small bits of food, this may be plant fragments or small creatures like mosquito larva. It bundles it in a small packet and then brings it to his mouth to enjoy.

FACT

At certain moments in the spring, you often see an amphipod with another smaller amphipod between its legs swimming around. And, they don't let go of each other. They really stick together. No, the big one is not eating the smaller amphipod. That is the male that keeps his beloved female between his legs so he doesn't lose her.

ZEBRA MUSSEL

What is this? A nice, little shellfish about 3cm big (or small). It is triangular in shape, with dark stripes on a light-yellow background on its shell. The shells are firmly attached to a hard surface and sometimes there are many of them together. This is the zebra mussel.

SOMETHING SPECIAL:

These animals originally come from the regions of Russia and they like our fresh water very much. That is why you can find them in almost all fresh waters. This is very much approved by the tufted duck, because this duck really loves to eat zebra mussels. They are incredibly tasty! Despite the fact that these mussels are very firmly fixed to the ground or to each other by strings, these are solid byssus threads that they make themselves and the duck can easily pull them loose. You should try it too, it's not easy though! You will see that those strings are really very strong.

FACT

There are male and female zebra mussels. And where are those baby mussels? In mom's

shell? No. Dad and mom zebra mussels just throw their seeds and egg-cells in the water. If those find each other, then a baby mussel is born. These are called larvae. These very small larvae float and grow in the water. When they are big enough, they descend to the bottom, fixing themselves to grow into a mature mussel.

A COLONY OF MOSS ANIMALS

What is this? It seems to be a caterpillar under water! It's a slim yellow-white somewhat fluffy caterpillar of about 3cm long, called a colony of moss animals.

SOMETHING SPECIAL

No, it is not really a caterpillar. Take your magnifying glass and look at the creature again. These are all small creatures, called polyps, who live together in a colony. The fluffy things are small tentacles which the creatures use to catch their food. Tap gently against the tentacles and you see that they withdraw these with lightning speed and you see that the 'caterpillar' loses its fluffy appearance.



Red watermite. Photo by Ivo Madder.

FACT

Moss animals are not fond of cold. Once the water temperature drops below 8°C, each polyp creeps back in his own room which is a bit like a survival capsule. These capsules sometimes stick to the legs of a duck and that is how these moss animals travel from one pond to another.

FRESHWATER HYDROZOA

What is this? If you are able to discover moss animals, then you're ready to find an animal that looks a bit similar. It really is smaller, it is less than 1cm. It also lives together with its friends, but not as closely packed together. It looks like a fine stem of a plant, or twig with threads at the end with its feet firmly anchored in a hard surface.

Have you found it? Awesome! You have found the fresh water hydrozoa!

You also have fresh water polyps. These grow on aquatic plants and look like stretched anemones. They are white-transparent and can be up to 10cm long.



Freshwater Sponge. Photo by Ivo Mudder.



A Colony of Moss Animals. Photo by Ivo Mudder.



Great Ramshorn. Photo by Claus Ableiter.



Pondweed. Photo by René Van Leeuwen.

SOMETHING SPECIAL

The threads that you see are actually tentacles with genuine sting cells. These are the same cells that sting when you touch a jellyfish. If you touch such a polyp, it retracts its tentacles and reduces itself completely to a small bead. Now you really need your magnifying glass!

FACT

A fresh water hydrozoa is firmly fixed by his feet, but it can move. This is not at high speeds as you can imagine. If you want to observe the animals during a walk, you will need more than one well-filled dive tank to stay long enough under water...

FRESHWATER SPONGE

What is this? A yellowish somewhat jellylike with tabs and holes in it, it seems a bit like a flattened bath sponge. It sticks against a wall, on wood, stone, metal or twigs.

Congratulations! You have just found a very particular animal, a freshwater sponge.

SOMETHING SPECIAL

Really! A sponge is an animal! It is not a plant!

Therefore, your bath sponge was an animal! Although that one came from the sea. It is a very primitive animal. It eats by filtering the water. Each cell of the sponge may grow into a new sponge.

Does a sponge worry if it loses a piece? Not really, the broken piece becomes a new sponge. Life can be very simple for an animal like the sponge.

FACT

In salt water, you'll find many different types of sponges, in a great variety of colours and forms. In fresh water however, there are not that many sponges.

Sometimes, fresh water sponges are green instead of yellow. Make no mistake, it is not another sponge species. The green colours are algae which live in the sponge. Sponges and algae can live together.

PONDWEED

What is this? It seems to be a nice little water plant. A green stem with fine branches as a crown stuck around the little stem. Sometimes

you see a small orange ball at the end of such a branch. Super; you have discovered a pondweed.

SOMETHING SPECIAL

Well, pondweed seems similar to a little shoot, but it is not really a plant. Pondweed has no real roots like a plant. That is why pondweeds have little styled feet to hold on to a hard surface. These feet are part of the stem which are not roots like that of a plant, standing in the sand. It is actually a very, very old plant, which exists since 400 million years ago. Respect!

FACT

The nice thing about pondweeds is that when you see them, you know that you're diving in water of good quality. Pondweed only grows in nice, clear water.

SALT WATER

Was this discovery tour with Scrimpy fun? Nice to hear.

And what about animals and plants found in salt water? You can discover the animals in our next article coming out in the September issue. So you have to wait just a little bit.