Using a drink station.

First results and feedback from my drink station.

Once the drink station was built and installed (you can find the plan and the assembly instructions ***HERE),*** the first visits were not long in coming. Very quickly, various passerines, magpies and turtledoves came to see what it was all about.

Tourterelle turque

However, just as quickly as the first visitors arrived, the first small problems appeared. These had to be resolved without delay, as the birds came more and more often and in numbers. Let's see what those concerns were and how I proposed to solve them.

Water quality.

This bird trough was installed during the month of August 2020, in the middle of a heat wave. Daily temperatures of more than 25 °C and very dry weather meant that the water, very little oxygenated and

stagnant without any brewing, ended up turning green. In addition, the bottom of the basin quickly covered with green algae of the worst effect. A professional in ponds and garden ponds offered me three solutions:

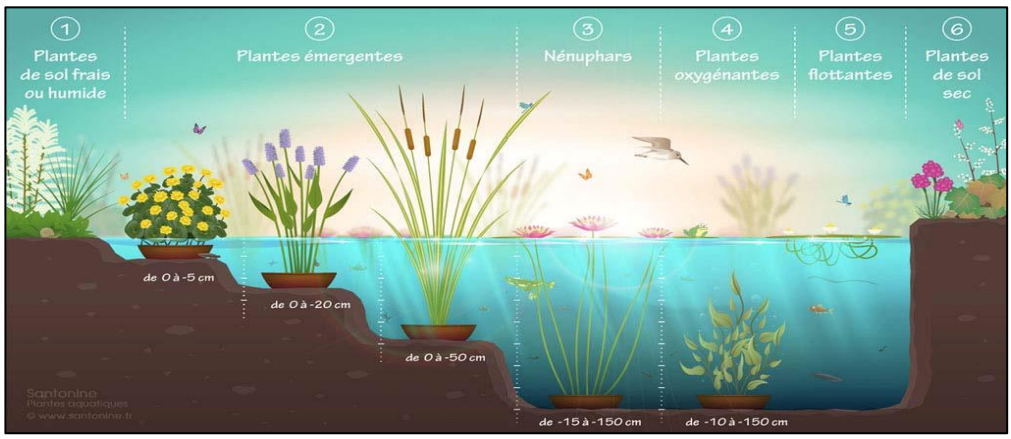
1. Chemical filtration.

Chemical may not be the best term to use. It is in fact a powder that ensures the biological filtration of water. It is supposed to improve biological quality and purify organic pollutants to prevent the appearance of green water and filamentous algae. This powder can be used to purify water from ponds housing fish (Koïs and others) and is therefore not in principle harmful to birds. However, I refrained from using it.

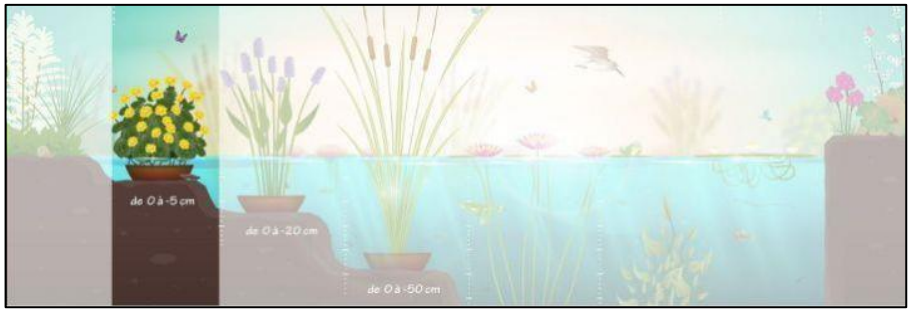
2. Vegetal filtration.

Addition of so-called filtering plants. Two kinds of plants can be considered together or separately. First of all those that are transplanted into special soil for ponds and destined to be submerged. You can find them in large garden centers or in shops specializing in ponds and garden ponds. You can use pots (or rather small bags of wide-mesh fabrics that hold the soil but let water through).

Be sure to purchase plants for the shallow depths of the basin. This is usually explained on the labels giving plant characteristics. The following diagram shows the different areas of preference of plants according to the water depths of the basin.



The label tells you the planting area in the following way :



Then the so-called floating plants that are supposed to feed on the waste released by other plants or any other nutrient that could end up in the water of your pond. I opted for water lettuce (pistia stratiotes) whose roots are only bathed in the water of the basin. Beware these plants proliferate quickly. I immersed ten at the beginning of August and I had about forty at the end of October!

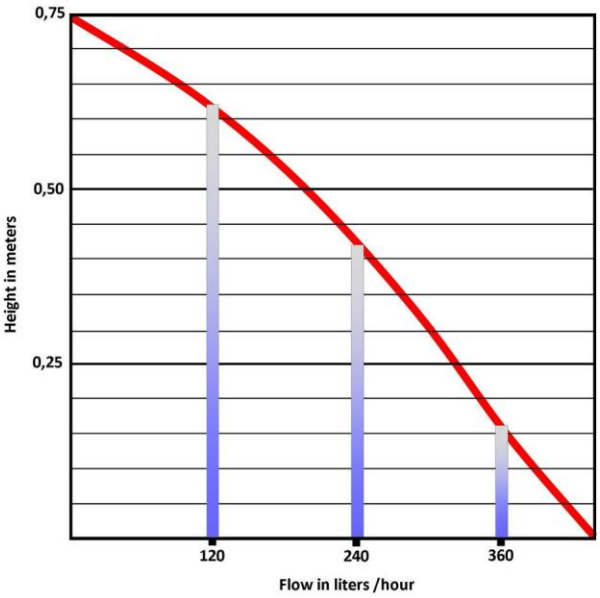
3. Create a flow of water.

The installation of a small submerged pump will be ideal to create a certain level of water circulation. You don't have to buy a big pump at an exorbitant price. However, it is interesting to install one that should circulate the entire water of the basin several times during the day. Beware of electricity consumption if you opt for a pump on house power. There are also solar pumps whose efficiency will decrease with cloud cover and will be inoperative at night (unless you put the price ...).

The pump I chose (and which cost me only about twenty euros), operating on house power, has such dimensions that it will be fully immersed in the 10 to 12 cm depth of water of my basin. Its flow can be manually set. Taking into account that the pump, installed on one of the small sides of the drink station to discharge water along the opposite side, will have to "raise" the water from a height of about 15 cm, the maximum flow will still allow a circulation of 360 liters per hour (as you can see on the last diagram), which is the approximate capacity of the basin.

Characteristics of the Aquarius Universal Classic 400i water pump

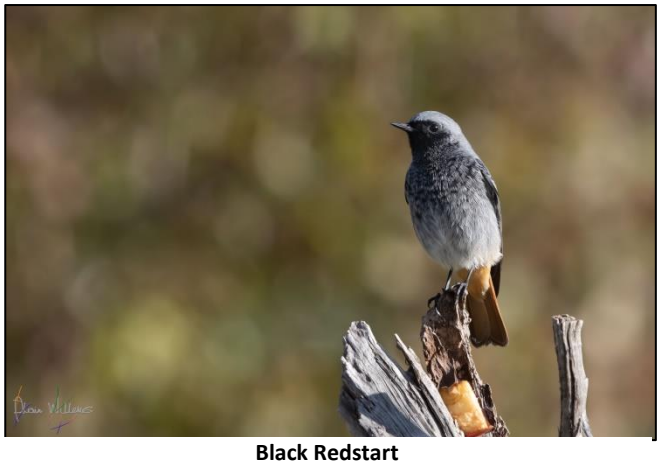
Power	230 V / 50Hz
Energy comsumption	5 watts
Length of power cable	1,50 metre
Weight	250 gr
Surface of the filter	20 cm^2
Flow adjustment	manuea
Installation	immersed



In the space of two to three weeks, the plants and the mixing of water completely made the algae disappear and the water became clear again.

Here are two photos taken in September, one in light rain and the other in good weather.

Black Redstart
Male in first summer plumage



Black Redstart
Male adult

Set up and decoration of the basin.

Initially, I only decorated the farthest side of the station. Of course, birds don't just land where I want to, but everywhere around the pond. So I had to reconsider my position.

Pied Flycatcher
Female adult

Common Redstart
Male adult

So I covered the edges of the basin with tree branches, pebbles and small rocks as well as logs. I was able to find everything during my walks in the nearby woods without too many problems. In order to make it a little more realistic and pleasant to the look, I filled the holes and gaps with moss also gleaned in the woods.

It can be found quite easily in damp woods. It usually grows well on dead tree trunks as well as on stones and rocks. I tried to harvest it into big-box pieces. It detaches rather well from its substrate and I just had to cut it to the desired size

Here is the result.

Black Redstart
Male in first summer plumage

Black Redstart
Male in first summer plumage

The addition of a few stones to form a kind of island in the middle of the trough brings an interesting touch to the whole.

Chiffchaff

Final result

Between July 13 and October 16 2020, no less than twelve species of birds visited the drink station. These are:

- Great Tit
- Blue Tit
- Black Redstart
- Common Redstart
- Blackcap
- Garden Warbler
- Chiffchaff
- Pied Flycatcher
- Robin
- Turtle Dove
- Grey Wagtail
- Winter Wren

Here are some shots.

Black Redstart
Male in first summer plumage

Black Redstart
Male adult

Garden Warbler

Blackcap
Female ou male juvenile

Modifications to a drink station.

Some small improvements to my drink station.

1. Water circulation.

The small Pump Aquarius Universal Classic 400i pump brought the expected results. However, I decided to install a second one to improve water circulation. These two pumps are arranged on the large sides of the drink station which I think contributes to a more homogeneous mixing of water..

The outlet of pump 1 is hidden behind a group of aquatic plants. As a result, it remains perfectly invisible from the hide.

Pump 1 is immersed here.

Pump 2 is immersed here.

The outlet of the second pump is camouflaged behind an arrangement of stones made in such a way that the water flows in the form of a small waterfall of the most beautiful effect that pleases very much the birds that come to drink there.

2. Water filtration.

Plant filtration is working a little less well this year. Perhaps this is due to a much milder weather than in 2021 (rotten summer at home, torrential rains in July among others); however, it remains acceptable. I therefore used this powder supposed to improve the biological quality of the water and purify it of organic pollutants favoring the appearance of green water and filamentous algae.

It is actually "Bactogen". It is sold in a jar of 100 grams sufficient to treat 3000 liters of water. The manufacturer recommends only one water treatment per year! I have treated twice since March at the rate of 10 grams of powder per treatment. The result is satisfactory. You should be able to find this product in any store specializing in ponds, any good aquatic garden center worthy of the name. You can consult the website of the one I frequent in Belgium (Aquiflor) at this address: https://www.aquiflor.com. However, it is very difficult to prevent the accumulation of organic (rather than vegetal) matter in the bottom of the basin. The water however remains perfectly clear!

3. Installation of an overflow.

In good weather, especially dry and hot, the fact that the drink station is installed in an open place and not very well protected from the sun, added to this the black color of the bottom, makes that the water sometimes reaches temperatures up to 40 °. So it tends to evaporate quite quickly, at the rate of loss of about 2 to 3 centimeters depth a week. It is therefore necessary to add about 100 liters every week.

On the other hand, during rainy periods, the drink station can fill up quite quickly depending on the intensity and duration of rainfall. This increase of water amount led to more than once to an overflow of the trough. So I decided to install an overflow.

Here's how I did it.

The goal is to install the overflow in the vertical wall of the drink station closest to the hide so that it remains not visible from it. It will then be necessary to recover the water in a tank outside the basin. Here is what is needed for its development:

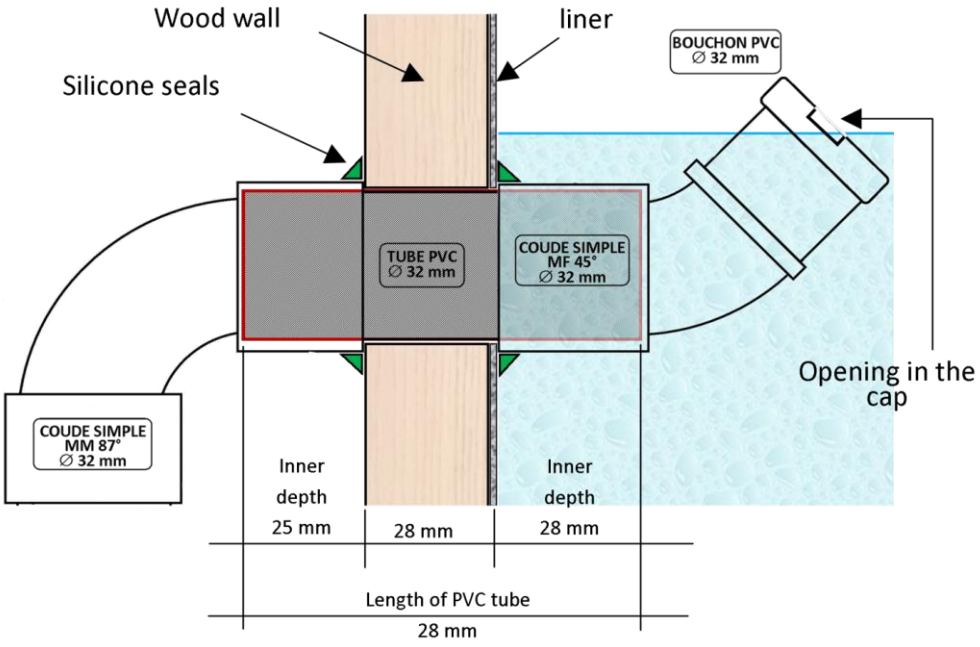
For the overflow			
Article	Description	EA	Price in €
	Simple PVC elbow 87°30 " Female—Female	1	1,21
	Simple PVC elbow 87°30 " Male—Female	1	1,21
	Simple PVC elbow 45° Male—Female	1	1,09
	PVC cap Diameter 32 mm	1	0,59
	PVC tube Diameter 32 mm Length 2,00 m	1	4,99
	PVC glue 100 ml	1	6,49
	Waterproofing silicone In-and-outdoor use 290 ml	1	9,49

All this material can be found very easily in any good DIY store in your area. If you are a handyman, you may still have glue and waterproofing (silicone cartridge) from previous use. You will not find caps already pre-drilled. Practice the 6 mm diameter hole yourself. You will position it on the male part of the elbow at 45 °. By rotating

it so that the hole is between 12 and 6 o'clock, you can somehow adjust the water level in the basin (about 2 centimeters between the high and low positions, a hundred liters of difference).

Construction.

1. Drill a hole of the same diameter as the outer diameter of the PVC tube using a bell saw. Be careful not to tear the liner. Then make a cross-shaped incision in it the size of the hole and fold the liner sections into the wall hole from the inside out.
2. Cut a piece of PVC tube, the size of which is explained in the diagram below. Leave 1 or 2 mm of play, it should not prevent the two elbows from perfectly enclosing the wooden wall and the liner.
3. With PVC glue, mount the tube in the male part of the elbow at 45°
4. Push the part of the free tube into the hole in the wall, taking care to fold the parts of the liner inside the latter.
5. Glue an opening of the elbow to 87 ° female-female and push it on the PVC tube. Tighten both elbows vigorously against the wood wall to reduce elbow-to-wall spacing to the strict minimum.
6. Make the silicone seals, be generous. Let it dry well before filling the basin again.



7. Stick the elbow at 87° male-female on the elbow at 87° female-female.
8. Cut another piece of PVC tube of the length needed to lengthen the drain to a basin if necessary.
9. Place the drilled cap on the elbow at 45 °. It will be used to adjust the amount of water in the basin as explained above.

Here is the final result