

## **Hybridizing and Overwintering Tropical Water Lilies** **by Andy Lohaza**

Summarization from presentation by Charles Thomas  
to the Ontario Water Garden Society, October 22nd, 2000.

Original presentation done by Rich Sacher of American Aquatic Gardens  
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The summary of this technique is encapsulated by Andy Lohaza's article - Ontario Water Garden Society  
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Hybridizing water lilies is a task that can be done easily if you have the patience and water lilies to cross pollinate. While the information that follows is aimed at tropical water lily hybridization, the methods might be employed for hardy water lilies. The process can be broken down to the basics like so:

1) Collect stigmatic fluid from 1st day flower and store in a secure container. Freezing the solution will destroy any errant pollen grains and permit for longer storage of the fluid.

(The best time to collect the fluid is between 9am and 5pm, many 1st day flowers may be used and the fluid pooled together into one container.

2) Stamens from the 2nd and 3rd day flowers of the donor plants will provide the pollen suspension used for hybridizing. Cutting them from the flower and placing them in a small 2oz. Cup, remove stamens. Add about 5mls of the stigmatic fluid and mix well. What you have created is a extra potent mix of what Mother Nature does naturally. The fluid should be a deep yellow at this point, because of the excessive amount of pollen. (Remove the stamens from this mixture)

Pick out the 1st day flower you want to receive this mixture. Carefully remove all the stamens and stigmatic fluid from this flower. Using a medicine dropper, introduce your pollen suspension mixture (from step #2) into the flower's centre cup (stigmatic cup), putting only as much as the cup will hold.

3) Apply this mixture to the receptive 1st day flower with 15 minutes as the pollen grains begin to germinate quickly in warm temperatures. Stir the container as you go along if you are treating more than one plant as the pollen settles rather quickly.

Once completed, tag the plant with some waterproof material noting the name of the flower, pollen being applied, and date. You may consider securing the flower closed to protect the cross from insect pollination. Used rubber bands for this purpose. A successfully pollinated flower will develop a very strong crook in the flower stem, dragging the flower and developing pod down to the bottom of the pond.

When a pod is apparent after pollination (usually 10-20 days) the name tag is removed and placed in a zip-lock bag. This same bag then is used to contain the developing pod during maturation. Place the pod (still attached to the plant) into the zip-lock bag with the name tag and secure the closure around the stem of the flower. This should be done with the bag under water

to prevent any air being trapped in the bag. An option at this point is to remove the petals and sepals from the flower to reduce the amount of debris once the pod has ruptured.

Now is the time to sit back and wait. The time required for the pod to mature depends on many factors including water temperature, flower type, and size of the pod. Typically a large flowered water lily may take from 28 to 45 days for the pod to mature. Also, depending on other factors, the number of viable seeds in the pod may be from a few as 10 to as many as 600.

Once the pods have matured and burst in their zip-lock bags, they will float up to the pond's surface - this is why we want to make sure there is no air in the bag earlier (we don't want the bag to float up prematurely). The newly harvested seeds will have an aril (coating) around them, which makes them float. Storing the seeds in water, they are washed and screened every 5 -6 days, until the arils have rotted away. At this point the clean, dark coloured, mature seeds will have settled to the bottom of the container. The seeds may be air dried at this point until there is no more moisture on them. Store them dry in a refrigerator, in a zip-lock bag at room temperature or seed them out immediately.

### *Germinating the seeds*

Sow the seeds in a saucer of wet, non-fertilized soil and top with ¼ inch of clean sand. These saucers/ pans are placed in a shallow pond which will get morning sun. Germination usually occurs within 7-21 days. It will take anywhere from 6 weeks to several months for a rosette of underwater leaves to form. Another 6 - 12 months later you may see the 1st floating leaf. Once a few floating leaves appear, they may be transplanted and fertilized.

Watch out for small creatures destroying your work, many seedlings can fall victim to snails, tadpoles and fish in their early stages. Do not crowd the seedlings either, they will be in one place for a while, and once it comes time to transplant them you do not want to be damaging neighbouring seedlings in the process. They are also prone to "damping off" when crowded (this is a fungal disease).

When all is said and done, you have to answer some basic questions when hybridizing water lilies. Such as : Is the result significantly different from the parents? Is it a stronger plant? Any flaws in it? Does it have commercial value? Any distinct markings that set it apart from anything else out there? Is the hybrid easy to grow? Difficult to propagate? Etc.....More importantly though, did I enjoy the experiment and thrill of trying something different in my garden?

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## **Overwintering Tropical Water Lilies**

*Article in OWGS October 2004 Newsletter*

The tropical water lilies need as much a rest in the winter months as do our hardy lilies, although the coldness of our climate will ultimately be their death. So the dormancy they require will be a little different. The tropical water lilies will begin to shut down as the water temperatures start to fall and light levels start to decline.

Fertilizing should have stopped by mid September (for zone 5 this year) as with all water plants containerized in the pond. Doing so for the tropical water lilies has a specific effect; it promotes the growth of small tubers/corms to store energy for the winter ahead.

These small tubers/corms are joined to the mother plant and can be successfully broken off to produce new plants for the next season.

It is important to maintain an ambient temperature of around 60°F for the tropical water lily to survive the winter storage. These are the methods that worked for most people and can be modified for your own situation.

#### Method 1

The wash and store method

1- Remove the water lily from the pond and remove all the soil around the plant, washing it all away to expose the root mass and tuber/corm.

2- If small tubers/corms are produced, remove these and place in damp sand in a glass jar for storage (you may like to dust them with a fungicide before placing them in storage)

3- Remove the full-grown leaves off the mother plant and trim away excess roots.

4- Place the mother plant (dusted with a fungicide) in some damp sand also and keep in an area of the house that will stay above 60°F.

5- Come spring next year, awaken your stored plants by potting them up in fresh soil with fertilizer tabs of your choice and place in your pond, 2-4" below the water surface to get them excited, once the temperatures are safely maintained around 60°F.

6- When they start to grow once again, place them in the appropriate spot in the pond where it can be enjoyed for another season.

#### Method 2

I have the room to store indoors!

1- Bring in your entire tropical water lily from the pond, pot and all intact!

2- Trim off the largest leaves and any damaged leaves so the pot fits into an aquarium or lined pond inside.

3- Keep the temperature above 60°F to keep the plant alive.

4- Here you have 2 choices:

a) Let the water slowly evaporate over the winter, (which is their natural dormant season) and add warm water in the spring when you are ready to start growing the plant again. (This method is employed by Heinjo Lahring, IWGS member from Alberta) Or

b) Some supplemental lights may be required to give it a little more energy over the lower daylight hours/ daylight intensity of our winters, to keep the plant growing.

5- Come springtime when the temperatures and water warms up, you may repot the tropical in some fresh soil, add your fertilizer and place in the pond where it can be enjoyed for another season.

Now my own personal experience has been with the first method, however, I did modify the way I did it.

After washing the soil from the roots of the plant I let the entire plant dry out, all the leaves and roots intact, on the garden bench indoors - out of direct sunlight. I believe this let any stored energy make its way back into the core of the plant and makes the clean up a little easier.

I let it dry for about 3 days, then remove the dried leaves and trim off the finer roots. I had the luck of finding some tubers/corms and potted them up in 4" pots for winter - I had the room!

The small plants I grew on in an aquarium at a warmer temperature with lights, and the mother plant was repotted and placed into a pail of water under the bench.

Over the course of the winter I changed the water every other week then in spring, brought it out, fertilized it and replaced it in the pond. I did not use a fungicide on these plants (and lost some of the small tubers/corms I removed due to rot).

I live in zone 6b. In the southern United States, the water gardeners are able to leave their potted tropical water lilies in the pond; they just move them to deeper water like we do our hardies for the winter. Good luck with trying out these methods! Don't forget to ask the other members at the meetings what they do - some have better success with methods that are rather different

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