

# HOTWGPS Newsletter

Volume 11 Issue 6

June 2019

## Meeting

Our meeting this month will be June 18 at 6:30 PM. We will meet at the Robinson Greenhouse.



AquaNooga tip of the week 5/7/19

For best aquatic plant performance make sure to fertilize your aquatic plants regularly. Water lilies and lotus are heavy feeders and can be fertilized every 3 to 4 weeks in the growing season. Fertilize your potted plants with tablets like [Pondtabbs](#). Regular fertilization coupled with the right growing conditions will give you the maximum benefit of growth and blooming.



AquaNooga tip of the week 5/14/19

Have you noticed tiny red worms in your pond filter? No need for concern. These harmless creatures are Blood Worms and they can be beneficial to the pond by consuming some of the detritus (sludge) in your filter. Blood Worms are the larvae stage of chironomid midges – a very small fly that resembles a mosquito but does not bite.

AquaNooga tip of the week 5/21/19

Draining a pond with green water is not a sustainable solution to an algae problem. A water garden needs to develop an ecosystem to create the best balance and ensure long-term success. Draining the pond starts the pond over delaying an established ecosystem. The green water would return within a few days after cleaning. Please [see our page on algae control methods](#) for better options. And, as always, feel free to contact us if you need assistance.

*Editor note; the link has some good info on algae control.*



*This from the Pond Guy Blog 6/2/19*

**I'm tired of fighting algae. Will a UV take care of all the algae growth?**

ASKED BY: Beth of Casselberry, FL

**A:** Who isn't tired of battling algae!?! It is caused by excess fish waste and dead organics from leaves or previous algae blooms combined with excessive sunlight. All that garish green growth looks horrible, ruins your water quality, and creates a headache for you and your fish.

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Is an ultraviolet clarifier the answer? It depends on the type of algae you're trying to destroy.

## **Know Your Algae**

The algae that forms in your pond come in two basic flavors: planktonic and filamentous.

**Planktonic algae**, the source of pea soup algae blooms, are floating, microscopic plants that color pond water shades of green, blue-green, brown or variations in between.

In controlled amounts, this type of algae can actually be beneficial. It's considered the start of the pond food chain as the tiny plants feed fish inhabitants, and it can also shade the pond's bottom, preventing subsurface nuisance plants from growing. In uncontrolled amounts, however, planktonic algae can cause oxygen depletions and fish kill.

**Filamentous (string) algae** are single-celled plants that form long, visible chain, threads or filaments. These threads, which start growing along the bottom of the pond in shallow water or on rocks or other aquatic plants, intertwine and form mats that resemble wet wool. When these mats rise to the surface, they're commonly referred to as pond scum. These mats make great homes for micro- and macro-invertebrates, like bugs and worms, but they're also unsightly.

UV clarifiers work by destroying the ultrafine planktonic algae – but, unfortunately, they do nothing to combat the filamentous algae. You'll need a different strategy for the stringy stuff.

## **Battling Planktonic Algae**

So how does ultraviolet light fight planktonic algae? When the algae cells are exposed to the bulb's ultraviolet rays, radiation destroys the plants' cellular walls. As a result, the tiny particles of dead algae clump together, and those clumps are then removed by your mechanical filtration system.

For the UV Clarifier to work properly, follow these guidelines:

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**Replace bulbs yearly.** Worn-out bulbs – even if they still light up – may not be as effective at controlling green water.

**Watch your flow rate.** Pushing water past the UV too fast can damage the unit and not allow enough contact time with the UV bulb for it to be effective.

**Don't flow too slowly.** Running a UV at too slow of a flow will act as a sterilizer and may also have a negative effect on natural bacteria meant to help decompose dead organics and fish waste.

## Finding Balance

If you have an algae problem, be it planktonic or filamentous, it indicates your pond is out of balance. An ultraviolet clarifier should actually be one of your last tactics! Add some beneficial bacteria to help reduce the amount of organics in your pond. Start aerating the water. Consider using pond dye. If you have a thriving fish population, think about finding a new home for them (but don't release them into the wild!). Manage the nutrients, sunlight and oxygen levels, and your algae proliferation should naturally level out on its own.



And another  
AquaNooga tip of the week 5/28/19

Whether you feed your fish every other day or 3 times per day, feed only what the fish can eat in under 5 minutes. If there is still food floating after 5 minutes scoop out the excess and feed less next time. Uneaten food can be harmful to the pond's water quality.



A tip from Webb's Water Gardens

Treating a pond with chemical algacides is sometimes necessary. When doing so, properly calculate the gallons and use the product only as directed. Stay pond side and monitor for any fish stress-related behaviors.



This from the Science News JUL 12 2016

## Invasive success of the mosquitofish is due to its genetic variability

The Eastern gambusia (*Gambusia holbrooki*), also known as the mosquitofish, is one of the world's 100 most invasive species. To understand its expansion across Europe from Spain -where it was introduced in the 1920s- a group of Spanish researchers has analyzed, for the first time, the evolutionary changes of this animal through its genes. According to the study, genetic variability has allowed this fish to adapt and spread throughout its new environment.

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Havoc can be wreaked on native ecosystems when a species that is introduced into a habitat different from its own is able to become acclimated and expand. Biological invasions are one of the main global threats to biodiversity and, for that reason, the subject of careful study.

The Eastern gambusia (*Gambusia holbrooki*), also known as the mosquitofish, was taken from the United States to Spain in the 1920s as a way to naturally control disease-carrying mosquitoes, such as the ones carrying malaria.

This animal, however, has had an enormous environmental impact on local fauna, thus becoming one of the world's 100 most harmful invasive exotic species, according to the International Union for Conservation of Nature (IUCN).

To understand the evolutionary changes this species has undergone while adapting to European waters, a group of Spanish researchers, led by Manel Vera and José Luis García-Martín from the University of Girona, has compared the genomes of the fish in both ecosystems.

"This is the first genomic study that demonstrates the role played by genetic drift and selection in invasive processes in freshwater fish," asserts Vera -a professor in the Biology Department.

The study, published in the journal 'Molecular Ecology', confirmed that levels of genetic diversity in Spanish mosquitofish populations are significantly reduced. This is

due to the fact that few specimens were used to introduce the species to Spain.

But the experts detected that there was indeed variability (variation of genetic material within the species) in the genes associated with the survival of individuals. "When the variability in these genes is important to the survival of specimens, maintaining it becomes especially important in invasive processes," comments the chief researcher of the study. "It is clear that the first thing that individuals arriving to a new environment must do is survive," adds Vera.

Effects in colonized ecosystems During the invasion, the conservation of genetic polymorphism in mosquitofish favors their survival and has implications in the habitats they spread throughout.

"Typically, an introduced species is expected to adapt worse than those that are found there naturally, as the latter possess local adaptations to this environment," points out Manel Vera. "Problems arise when the introduced species is better than the native species," he acknowledges.

Since their arrival to Spanish waters, these fish have proved to adapt quickly, spreading to the lower reaches of rivers and marshlands on the Iberian Peninsula and in other European countries. "These fish are a real danger to native species," declares Vera.

The mosquitofish displaces the rest of the animals, competes for the same food and even preys on them. "Since native species are very well adapted to their environments, the variations that strengthen them in that

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habitat can be useless in the areas they are displaced to," concludes the researcher. Some of the native fish threatened by the mosquitofish include the Valencia toothcarp (*Valencia hispánica*) and the Spanish toothcarp (*Aphanius iberus*)

Note to self: NEVER EVER release mosquitofish into the wild!!



## Points to Ponder

"Cowards die many times before their deaths; the valiant never taste of death but once." William Shakespeare



"Let us not forget that the cultivation of the earth is the most important labor of man. When tillage begins, other arts follow. The farmers therefore are the founders of human civilization." Daniel Webster



"A man is not old until regrets take the place of dreams."  
John Barrymore



"People who think they know everything are a great annoyance to those of us who do."  
Isaac Asimov



"If you only read the books that everyone else is reading, you can only think what everyone else is thinking."  
Haruki Murakami



"Both optimists and pessimists contribute to society. The optimist invents the airplane, the pessimist the parachute."  
George Bernard Shaw



"Moving fast is not the same as going somewhere."  
Robert Anthony



"Don't say you don't have enough time. You have exactly the same number of hours per day that were given to Helen Keller, Pasteur, Michelangelo, Mother Teresa, Leonardo da Vinci, Thomas Jefferson and Albert Einstein."  
H. Jackson Brown, Jr.



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## Words of wisdom

If God sends a storm, He will also steer the vessel.



A friend may well be reckoned the masterpiece of nature. -- Ralph Waldo Emerson



Confidence comes from not fearing to be wrong.



He who is thankful for little things enjoys much.



Freedom is not a gift bestowed upon us by other men, but a right that belongs to us by the laws of God and nature  
John Webbe



## Pond Vac

As a reminder, this is a "Members Only" benefit. You can rent this super-duper pond cleaning machine very reasonably! John Enders is the "official pond Vac keeper".

Call him 254-848-9596 or send him an email at [jnenders@aol.com](mailto:jnenders@aol.com) to schedule your time with the machine. One note of caution when using the pond Vac, watch how much water you are removing from your pond!! It works so well sucking up the "yuk" that one can easily forget how much water is also being removed! That is the voice of experience talking!!



## On the Lighter Side



Ole and Sven were walking down the street one day. Ole said, "Hey, Sven, did yew know dat I'm a walking economy." Sven replied, "Vhat do yew mean Ole?" "Vell, it's like dis," said Ole. "My hairline is in recession, my stomach is a victim of inflation, and both of dose tings is putting me into a deep depression."



A passer-by noticed an old man - named Ole sitting on his front step and stopped by to chat: "I couldn't help noticing how happy you look! What's your secret for such a long, happy life?"

"Vell, I smoke 4 packs of cigarettes a day," Ole said. "Before I go ta bed, I drink up a bottle of Jack Daniels, and I eat only

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junk food. On da weekends I take lots of pills and do no exercise at all."

"That's absolutely amazing at your age!" says the passerby. "How old are you anyway?"

"I yust turnt 24," replied Ole.



Ole was getting married and his prospective father-in-law asked him, "Young man, can you support a family?" The surprised groom-to-be replied, "Veil, no. I vas yust planning ta support yer daughter. Da rest of yew vill have to fend for yerselves."



## Taking the heat

My sister Metta stood on a stool near the stove, watching our mother stir the strawberry jam. "Mom, Metta asked her, what melts?"

Mom proceeded to tell Metta some things that melt, ice cream, ice, and butter.

Wiping off sweat, Metta cried out, "I think I'm melting!" Judy Thompson Prineville, Oregon



## Full Coverage

One hot summer day, a man was painting his garage while wearing three coats.

Another man asked why he was dressed like that. "Look at the can," he said. "For best results, put on three coats."



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**Robinson**  
GREENHOUSE

254.662.0311

628 North Robinson Dr. • Robinson, Tx 76706  
RobinsonGreenhouse@gmail.com • Fax 254.666.0919

Steve Kainer  
Owner/General Manager



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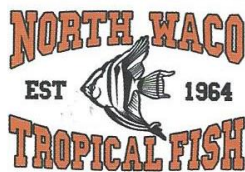
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