

My Green Wet Thumb:

Lagenandra

By Derek P.S. Tustin

Over the years I have found that the average aquarist will go through several different stages. I am by no means a sociologist specializing in the aquarium hobbyist, but from my own observations I think pretty much everyone goes through some variation of the following;

- Initial wide-spread interest and associated errors,
- A focusing of interest into one or two main areas,
- Competence in an area of interest,
- Mastery of an area of interest

Expansion of interest into new areas while either maintaining the old interest, or focusing entirely on the new area of interest.

As an aquatic horticulturist, there are actually very few entry points, or at least entry species, into the hobby. When I started out, I had access to several excellent aquarium stores with an impressive diversity of aquatic creatures, but a very limited selection of aquatic plants. Now, this was back before I joined the Durham Region Aquarium Society (DRAS), so I didn't have access to mentors or their specialized stock, and it was also before there were so many excellent on-line resources. Most of my initial experience came from the limited genera of plants that were available in local stores; *Echinodorus*, *Cryptocoryne*, *Anubias* and some *Aponogeton*. (Oh, there were numerous stem plants, but for some reason, I have never been that interested in those, being much more fascinated by rooted plants, and my interest in ponds and suitable plants came much later.)

Over the past decade, I have grown the majority of commonly available plants from those genera, and now also have the benefit of being exposed to other skilled hobbyists and resources offered through DRAS. As a result, I know that there is a wider selection of aquatic plants, in fact a vast selection, of uncommon and rare species that are just not commonly available.

One genus of plant that I had always been interested in because of its similarity to some of the *Cryptocoryne* species was *Lagenandra*. I first came across mention of this genus in Christel Kasselmann's *Aquarium Plants*. Using connections I had made through the hobby, leveraging off the knowledge that I had accumulated over the years, and utilizing a dose of charm, last year I was able to acquire one species of *Lagenandra*. Most of you probably aren't familiar with this genus or any species of the genus, but I would like to provide a bit of information for you so you know a bit about them in case you ever have the opportunity to acquire any samples of this

overlooked family.

The *Lagenandra* genus actually has a lot of information available about it. Unfortunately, for the English speaker, the majority of the information is repetition of very few facts. The genus actually has much more information available in European languages, most especially Polish, and that information is available on the internet utilizing translation software.

It genus was first erected by Nicol Alexander Dalzell, a Scottish botanist, in *Hooker's Journal of Botany and Kew Garden Miscellany*¹. His article, published in 1852, provided a description of his finding the first species, *Lagenandra toxicara*, in India. He wrote;

“The plant now described, though conspicuous for its size, seems hitherto to have escaped the eyes of botanists in its native country; it is not merely an addition to the number of the Aroideae, but a new form, participating in the distinctive characters of two tribes hitherto clearly separated, having the flowers of Cryptocoryne, distinguished by the union of the spadix with the spathe, and the division of the latter into two chambers, but entirely differing from that genus in its free ovaries, in which it exactly resembles an Arum or Arisaema.”

Since then, numerous other species of *Lagenandra* of been described, with the most recent (*Lagenandra keralensis*) being described in 2001. At present, the scientifically accepted species are;

- *Lagenandra bogneri*
- *Lagenandra dewitii*
- *Lagenandra erosa*
- *Lagenandra gomezii*
- *Lagenandra jacobseni*
- *Lagenandra keralensis*
- *Lagenandra koenigii*
- *Lagenandra lancifolia*
- *Lagenandra meeboldii*
- *Lagenandra nairii*
- *Lagenandra ovata*
- *Lagenandra praetermissa*
- *Lagenandra thwaitesii*
- *Lagenandra toxicaria*
- *Lagenandra undulata*

The genus name is a combination of the Greek words “*lagenos*” (meaning “bottle”) and “*andros*” (meaning “man”), for the literal translation of “bottle-man”, which was considered to be descriptive of the male flowers of this plant.

All are native to southeast India and Sri Lanka, except one species that is

found in the northeast Indian province of Assam (*Lagenandra undulata*) and one species that is found in Bangladesh (*Lagenandra gomezii*). (Interestingly, *Lagenandra gomezii* is on Bangladesh's Red List of Plants and is considered a protected species.)



Lagenandra thwaitesii

They majority grow from a thick rhizome that creeps along the surface as it grows, have oval shaped leaves, and grow in clusters. The leaves can be very small (3" or 7.5 cm in *Lagenandra keralensis*) to quite large (20" or 50 cm in both *Lagenandra praetermissa* and *L. koenigii*). In nature, they are usually found growing either fully submersed, emersed, or completely out of the water in shaded shallows and on the banks of rivers, streams, and swamps.

As referenced by Dalzell in his initial description, they are very similar to plants of the *Cryptocoryne* genus, and indeed some of the *Lagenandra* species (*Lagenandra gomezii*, *L. koenigii*, *L. lancifolia*, and *L. meeboldii*) were first described as *Cryptocoryne* species until revised. One other species, *Lagenandra ovata*, was first described as *Arum ovatum*, until it too was revised as *Lagenandra*.

It is possible to have these plants sexually reproduce, but the process is

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complicated, and those interested should study methods of reproduction for *Cryptocoryne* species, as the process is almost identical. Another method of reproduction is through division and replanting of the rhizome. It is recommended that the rhizome be cut with a sterile knife, as *Lagenandra* have been known to develop bacterial infections along cuts which are irregular.

While there are currently 15 recognized species of *Lagenandra*, only 4 species are occasionally available to the aquarium hobbyist. They are rare and difficult to come by. I've only ever encountered two stores that carry them on a semi-regular basis (maybe twice a year), and they are not often listed on Aquabid. But if you do find one, it will likely be one of the following species;

- *Lagenandra lancifolia*
- *Lagenandra meeboldii*
- *Lagenandra ovata*
- *Lagenandra thwaitesii*

The best source I have been able to find for information on these plants is Christel Kasselmann's *Aquarium Plants*. For the most part, the following information is culled from her entries on the respective plants, but I would personally recommend that if any of these species are grown emersed, that you place them in a high humidity environment to achieve optimal growth.

Lagenandra lancifolia

Endemic to Ceylon, this plant can be grown in a permanent submersed state. Medium sized (sometimes reaching heights of 10" – 12" [25 – 30 cm]), the leaves are oval in shape with pointed ends ("oblong-lanceolate"), and the leaves are usually 2½ times long as they are wide. Slightly acidic water is recommended, and temperatures should be kept above 72°F (22°C), as at lower temperatures the plant will stop growing.

Lagenandra meeboldii

Referenced by Ms. Kasselmann as *Lagenandra dalzellii*, most other sources refer to it as *Lagenandra meeboldii*. Native to India and Ceylon, its appearance is similar to some *Cryptocoryne* species. A small growing plant, usually between 2" and 4" (5 to 10 cm) in height, it features heart shaped leaves that can be green or red / bronze in color. There is also a morph of this plant, *Lagenandra meeboldii* 'pink', that has become popular in recent years in the *Cryptocoryne* community. The pink references pink colored leaves that form when the plant is planted in fully submersed conditions. As with *Lagenandra lancifolia*, temperature should be above 72°F (22°C) and the water slightly acidic.

Lagenandra ovata

Sometimes called the Malayan Sword, this is another species native to Ceylon, but that can also found in India. It is the largest of the *Lagenandra*

sometimes available to the aquatic hobbyist. The leaves can grow extremely large, sometimes reaching lengths of 36" (90 cm) and will grow out of the water except in the deepest of aquariums. The rhizome is very large, easily capable of obtaining a diameter of 2" (5 cm). The leaves of this plant have a darker surface, and the underside is usually lighter in color. Counter to almost all prevailing recommendations for growing conditions of other plants, a nutrient poor substrate and lower lighting is recommended to prevent this plant from obtaining optimal growth and therefore growing out of the tank. Of the sometimes available species of *Lagenandra*, it is the best suited to cultivation in a pond.

Lagenandra thwaitesii

Probably the most commonly available of the *Lagenandra* species, it is also native to Ceylon. It is one of the smaller species available, reaching heights of 10" (25 cm) in nature, but usually not growing higher than 7" (17.5 cm) in the aquarium. Suitable for paludariums, ripariums and aquariums, it may feature silver edged leaves and usually have a scattering of silver / grey flecks over the entire surface of the leaf. The leaves themselves are a very attractive grass green in color. Like *Lagenandra lancifolia*, slightly acidic water is recommended, and temperatures should be kept above 72°F (22°C).

This is one of those plants that in the future will either gain wider recognition in the aquarium hobby, or remain as one of the over-looked gems of aquatic horticulture. It is my sincere belief that with the sustained interest in *Cryptocoryne* species, the recent increased interest in *Bucephalandra* species, the inherent beauty of the *Lagenandra* species, and the similarities between the three genera, that *Lagenandra* species will become more popular and more commonly available in the near future.

Species profile

Lagenandra thwaitesii

Latin Name:	<i>Lagenandra thwaitesii</i>
Height:	2" – 6" (5 – 15 cm)
Width:	4" – 6" (10 – 15 cm)
Light:	Medium to High
Temperature:	24 – 28°C (75 – 82°F)
Growth:	Slow
Difficulty:	Moderate
Origins:	Sri Lanka

<http://www.biodiversitylibrary.org/item/6322#page/364/mode/1up>

Image: <http://public.fotki.com/lytus/l/lagenandrathwaitesii-2.html#media>