

My Green Wet Thumb: Something New – Bucephalandra

Derek P.S. Tustin

One of the true pleasures of the aquarium hobby is that while we have a foundation of knowledge that has been built up over the preceding century and a plethora of known fish, invertebrates and plants, there is always something new being discovered and (eventually) becoming available to the hobbyist. As mentioned, I have an avid interest in aquatic plants, and continue to watch for new species that become available. As part of this, I occasionally visit AquaBid.com to see what is listed, always hoping to see something that I know I want but haven't been able to find, and even more fervently hoping it will be available to me in Canada.

This past week I was scrolling through the entries for rooted plants (rooted plants and floaters are the two areas of aquatic plants that have always captivated me) on AquaBid, when I came across multiple listings of a genus of plant that I was completely unfamiliar with – *Bucephalandra*.

As I write this, there are currently listings for;

- *Bucephalandra* Belindae
- *Bucephalandra* Bilbis Pink
- *Bucephalandra* Cleopatra
- *Bucephalandra* Gigan Gurindam Sekadau
- *Bucephalandra* Grey Sokan
- *Bucephalandra* Karang
- *Bucephalandra* Lamandau (4 listings)
- *Bucephalandra* Lamandau Green Mini
- *Bucephalandra* Lamandau Purple
- *Bucephalandra* Red Gaia (2 listings)
- *Bucephalandra* Shine Green sp. Sokan
- *Bucephalandra* Theia Blue (2 listings)



- *Bucephalandra* Velvet Leaf (3 listings)
- *Bucephalandra* sp. Lalina
- *Bucephalandra* sp. Miranda

Now, this came as a bit of a surprise to me. At this moment, there are 234 different listings for rooted plants, and of those, 22, or roughly 10% of the entire listings, are for a species / cultivar / variety of a plant I have never heard of.



I am ranked as a Grand Master Aquatic Horticulturist with both the Durham Region Aquarium Society (DRAS) and the Canadian Association of Aquarium Clubs (CAOAC). I have a library of over a dozen of the best aquarium plant books. I regularly visit several different forums on aquatic plants, and read numerous hobby publications, both professional and from aquarium clubs across North America. I attend aquarium auctions and shows. The point being that I am pretty well informed on what is available even if I don't keep it. Yet for all my knowledge, I have never seen reference to *Bucephalandra* before.

As is my practice, if I don't know something, I start to research it. I pulled out my copy of the bible of aquatic plants, Christel Kasselmann's *Aquarium Plants*, and turned to the index – no listing. A quick search of my other books revealed that they also didn't list *Bucephalandra*. I had never seen reference to it in either the DRAS or CAOAC AHAP listings, and knew that I had never seen reference in the exchange club publications. So I turned to the internet...and didn't find much. At least at first glance...

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The entry from Wikipedia informs that it a genus of flowering plants, contains three species that are all rheophytes from Borneo and are found growing as dense mats over stones in streams.

Okay, so what's a rheophyte? Again from Wikipedia;

"A rheophyte is an aquatic plant that lives in fast moving water currents in an environment where few other organisms can survive. Rheophytes tend to be found in currents that move at rates of 1 to 2 meters per second and that are 3 to 6 feet deep. ...Rheophytes are able to live in such environments because their leaves are streamlined so as to put up little resistance to the flow of water. The leaves tend to be quite narrow and flexible as well. In order to prevent the plants from being uprooted, Rheophytes have an extremely strong wide spreading root system."

Interesting, but still not a lot of information. I explored some more and found a few (and I do mean few) threads on some aquatic plant forums based in North America discussing *Bucephalandra*. Basically they were bemoaning the fact that they were extremely rare in the United States and when they were available, extremely expensive.

So I continued on, and through the accumulation of separate facts from several different sources, and the discovery of one excellent article, was able to find out a lot more about this genus.

Bucephalandra motleyana was first described by Heinrich Wilhelm Schott in 1858. The genus name of *Bucephalandra* itself is the subject of some disinformation in the internet. One source informs that it honors or was named for Bucephalus, the black horse of Alexander the Great. Now, the name Bucephalus is derived from a combination of the ancient Greek words "*bous*" (meaning "ox") and "*kephale*" (meaning "head"). As Bucephalus has been recorded in history as being a large horse with a large head, the translation of the name of the horse to mean "ox-head" makes sense. But why would this genus of plant be named in honor of a horse from the 4th century BC?



I was able to find on-line the book in which Heinrich Schott originally published the description of *Bucephalandra*, *General Aroidearum*.¹ While interesting that it exists, there is one very large problem with using it as a source when trying to find out more information about *Bucephalandra*; it is written in Latin. However, thanks to the internet once again, we are able to gain a rough understanding of what is written.

This is the excerpt from the original publication;

“Etymologia. Ob cornua ex antherae loculis prominentia constructum nomen; bos, taurus, caput et vir.”

I could break it down word by word, but a rough translation would be; *“Meaning of the Name: For the projecting horns / bags, it is named ‘ox head’.*” In further reading (and roughly translating) the description, it appears that the stamen of the flower of *Bucephalandra* features protrusions reminiscent of horns or antlers.

According to the scientific literature, there are currently only three known species of *Bucephalandra* (*Bucephalandra gigantea* [1984], *Bucephalandra motleyana* [1958] and *Bucephalandra catherineae* [1995]) with a fourth potential species, *Bucephalandra magnifolia* being described in 2000. However, one source, *Schismatoglottideae (Araceae) in Malesia II – Aridarum, Bucephalandra, Phymatarum and Piptospatha*² by J. Bogner and A. Hay, suggests that both *B. catherineae* and *B. magnifolia* are synonyms of *B. motleyana*, meaning that there may in fact only be two known species.

The best description of these plants that I have been able to find is that *Bucephalandra* is a cross between a *Cryptocoryne* and an *Anubias*. The leaves of *Bucephalandra* are variable in appearance, and do appear to be similar to several different species of *Cryptocoryne* in that they are mostly narrow and have an olive green coloration. However, instead of having roots like a *Cryptocoryne*, *Bucephalandra* grows from a rhizome like *Anubias* species do. In fact, the recommended method of growth is to tie the rhizome of the *Bucephalandra* to an aquarium decoration such as a piece of driftwood or rock using thread or electrical ties, just as you would with an *Anubias*.

All *Bucephalandra* are endemic to the island of Borneo in Southeast Asia and, as mentioned above, are only found in locales of swift moving water. They can be found both growing completely submersed, emersed, and along the banks. While there are only 3 (or 2 or 4) described species, there are in excess of 200 varieties / cultivars / trade names currently in use. These names are either descriptive (*Bucephalandra* 'Silky Blue', *B.* 'Velvet Leaf'), indicative of the gathering location (*Bucephalandra* 'Karangan', *B.* 'Lamandau'), a combination of the two (*Bucephalandra* 'Lamandau Purple', *B.* 'Sokan Grey'), or purely whimsical (*Bucephalandra* 'Ulysses', *B.* 'Achilles', and *B.* 'Cleopatra').

They were first introduced to the aquarium hobby around 2005 in Japan. Their popularity quickly spread throughout hobbyists in Asia, and they apparently became available to hobbyists in Europe around 2008 or 2009. They have just recently started to become available in North America.

As mentioned, the plant grows from a rhizome like *Anubias* species do, but reports indicate that they adhere much better to rocks than they do to wood. They are not the hardiest of plants, and are known to succumb to shock after undergoing environmental changes (alterations in light, photoperiod, water chemistry, etc.), similar to "Crypt Rot". But as long as the rhizome stays intact and healthy, the plant will usually recover.

The stem grows from the rhizome, and in the majority of varieties / cultivars, tends to be a shade of pink or red. The leaves, which are the true attraction of these plants, grow along the stem. These leaves are incredibly variable in appearance based on the variety or cultivar that is obtained. Some are rounded, others are longer. Some have wavy edges, others straight. Some are narrow, others are wide. Some form a point, others a tear-drop shape. The color can vary from light green, to dark green, to bronze, to bluish, and to bluish / black. Further, when viewed from different angles and under different lighting conditions, the color can appear significantly different. Finally, the majority of the different varieties / cultivars feature a fine distribution of small, light colored spots over the entire surface of all the leaves. In some cases, this spattering of spots is very noticeable, and in others it is somewhat difficult to detect. It has been noted that these spots are more intense when the plant is grown submersed.

Another interesting aspect of this genus of plant is its propensity to flower while submersed. Not much is known about the inflorescence. It has been recorded that in *Bucephalandra gigantea* there will smaller flowers, produced in 2 or 3 series, each with 2 flowers. In *B. motleyana*, flowers are usually produced singly, with multiple flowers occasionally being recorded in mature plants. The inflorescence stalk can remain close to the plant, or grow significantly past the leaves. Again, there is a wide variety in appearance.

The majority of the plants remain relatively small individually (some being around 1" – 2" [2.5 – 5 cm] in height and others ranging from 3" – 6" [7.5 – 15 cm]), but there is one species (likely *Bucephalandra gigantea*) that grows up to 10" (25 cm) in size.

As Borneo is a tropical island, the temperatures remain relatively steady. The plant has been found at different elevations across the island, in waters with a pH ranging from 5.0 to 8.0. It appears to do well in an aquarium setting with a temperature between 64 – 83°F (18 – 28°C), although some have recorded that it appears to be fine in temperatures up to 90°F (32°C).

In terms of aquarium care, CO² addition is highly recommended, as is fertilization and high lighting. Plants grown without CO² are noted to be less colorful in appearance. Being rheophytes, they thrive in fast flowing water, and it is also highly recommended that spray bars, internal filters or circulation pumps be used to flow water past the plant.

They can be very slow growing, throwing only a single new leaf every two weeks, although different varieties seem to grow faster, with some keepers noting two new leaves every week depending on the variety.

While the plant can be grown emersed in a paludarium or riparium, it is somewhat difficult to do so as the plant requires almost 100% hu-

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midity for the plants to remain healthy. Also, the emersed form will feature thicker and stiffer leaves with decreased colouration.

At present, nothing is known about sexual reproduction of *Bucephalandra* species, but reproduction can be realized through division of the rhizome. As long as there are roots on each section of the rhizome, it can be removed, and will successfully grow as a new plant.

Unfortunately, due to heavy logging and palm oil plantations, the historically extensive rainforest of Borneo is shrinking, and it is possible (even likely) that unknown species of *Bucephalandra* have already become extinct, and that some of the different varieties being exported for the aquarium trade are extinct in the wild.

Bucephalandra are still a very rare aquarium plant, no matter where you are. They fetch high prices at present, but as they are spread throughout the aquarium community, the prices will come down. You may not be able to get this plant today, or tomorrow or even next year, but it will become available in the near future, and I strongly suspect that given its extremely attractive and variable appearance, and its unique characteristics, that in the years to come it will be one of the more popular aquarium plants routinely available.

***Bucephalandra* species**

Latin Name:	<i>Bucephalandra</i>
Pronunciation:	boo-kafe-a-LAND-ra
Height:	1" – 10" (2.5 – 25 cm)
Width:	1" – 6" (2.5 – 15 cm)
Light:	Low to High
Temperature:	64 – 83°F (18 – 28°C)
pH:	6.5 – 7.5
Growth:	Variable – Slow to Fast
Difficulty:	Variable – Easy to Difficult
Origins:	Borneo
Note:	CO2 highly recommended Best placed in water with a strong current

1. <http://www.botanicus.org/title/b11821905>
2. http://rbgsyd.nsw.gov.au/__data/assets/pdf_file/0007/72772/Tel9Bog179.pdf

Image from <http://www.plantedtank.net/forums/showthread.php?t=169098>

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November 3rd, 2am ends
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After the General Meeting you get an
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End of Daylight Saving Time
Turn clocks
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Aymett Family	kdacc@hotmail.com
Ben Si	tcsixing@sbcglobal.net
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Brian Anderson	flight_hog@hotmail.com
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Carole Saling	chronisterrobin@yahoo.com
Chris Chu	tropicalfishfactory@gmail.com
Colin Fisher	col5567@hotmail.com
Costa Family	bigpapacosta1@yahoo.com
Dan Brown	naturestoc@aol.com
Dane Foster	dane@crossroadslive.com
Daniel Curran	Dan@dancurran.us
David Fraguglia	d_frag@yahoo.com
David Van Epps	davanepps@yahoo.com
Don Cable	nankinguy@comcast.net
Doug Lee	douglasalee@netscape.net
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Gerald & Susan Carpenter	susan96021@yahoo.com kele1935@gmail.com
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Jim Ellenberger	jim.s.ellenberger@gmail.com
Joe Brunner	joseph5301@comcast.net
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Joe Murchison	jmurchison@gtusd.org
Joshua Melton	joshskitahoe@yahoo.com
Justin Craig	justinhcraig@yahool.com
Kirsten Klinghammer	Kirsten_klinghammer@hotmail.com
Linda Hirst	lhirst@primate.ucdavis.edu
Linda Siqueido	siqueidogrove2@aol.com
Lisa Von Leden	spytfor148@hotmail.com
Martha Volkoff	mcvolkoff@gmail.com
Michael Gard	misadmin@pacbell.net
Modesta & Stan Moréy	dragonfly7755@gmail.com bard7409@gmail.com
Nan Nquyen	nguyennan4@yahoo.com
Nan Singhasemanon	nsinghasemanon@yahoo.com
Nathan Spangler	nspangler@mc.com
Rich & Laura Bireley	rich@bireley.org laura@bireley.org
Robert Gregory	gregorygr9@aol.com
Rod Finney	finney@saccounty.net
Roger Lederer	RLederer@csuchico.edu
Ron Coleman	rcoleman@cichlidresearch.com
Sam Borstein	sam@borstein.com
Sandra Green	MJJ974@gmail.com
Ted Judy	tjudy@tedsfishroom.com
Tony Griffiths	tony.griffitts@gmail.com
Tracy Whittington	november.rain69@gmail.com
William "Skip" Myers	Im_theman365@hotmail.com
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To join or renew, please see Modesta Moréy, Membership Chair, at the next meeting. Alternatively, mail your name and address, along with your dues (\$24), or \$14 for electronic version, to the Sacramento Aquarium Society, P.O. Box 160545, Sacramento CA 95816. The Society accepts cash, check..

The Sacramento Aquarium Society

welcomes our newest members. We are always pleased to have new talent join our club, so bring your firsthand experiences and trial-and-error mistakes to share with others so we can learn too. If you have any questions, please feel free to ask any of the Board Members or Chairs. We are more than happy to help out in any way we can. If we don't know the answer, we may know someone who does. You will find the list of Board Members and Chairs on the inside back cover of

“The Tropical News.”

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Pending

Happy Birthday!

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Expiring Memberships

—November

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—December

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Sales Table

Donna Laird-Sales Table Chair

We now are carrying a Flourish substitute, it is Liquid CO₂, great for your plants! Sales for \$3 a 12 oz bottle!

Visit the Sales Table, usually in the back of the room. Here are some of the other items that I have:



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8 oz. for \$6.00 16 oz. for \$12.00

Air Line Tubing - \$0.05 per Foot.

Fish Bags 9x18 - \$0.10 per Bag



Minutes from the SAS Board Meeting

Submitted by Cheryl Mitchell

Held: October 5, 2013 at Round Table Pizza, 9800 Greenback Lane

President Kevin Kelley called meeting to order at 4:23 pm.

Board Members present: Kevin Kelley, Gary Lindstrom, Jack Kraft, Cheryl Mitchell, Dan Curran, Gabe Vasquez, Tina Najjar, John Mayer and Matt McGee

Board Members absent: Donna Laird and Mark Robertson.

Members present: Tony Griffiths, Carole Saling, Larry Lindstrom, Paige Wilson and Richard Griffiths

Treasurer's Report: John didn't have a printer available. So, no printouts were available. Board moved to table until next month. John stated we made small gain last month, but had more expenses than usual. And next month will be his last month (moving for new job).

Approval of Agenda: Motion by Dan and 2nd by Jack, approved.

General minutes were amended—as Matt McGee was at September's general meeting.

Old Business: *YouTube* – Dan Curran, Will start up with Matt's talk. YouTube needs to be set up .need phone and email address for videos over 15 minutes. Tony will look into setting up email for photographer. *Library book shelf* - Gary still working on getting a cabinet we can lock and keep in the Round Table store room. *ACA Convention* - We are on track for the 2016 Convention.

Kevin got his computer back.



Next board meeting: Saturday,
November 2 @ 5pm

**Due Date for the November
Newsletter:** October 22nd

Meeting adjourned: at 4:55pm,
motion to adjourn by Jack, Gabe
2nd, carried.



Fish Hat

Graphic by Sandra Preston, Bunny
Sandwich Collective

<http://www.thebunnysandwichcollective.com/>

(Editor's note, this is my 2nd cousin)



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No Donations by Members this month.

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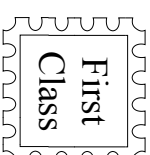
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Sacramento Aquarium Society
P.O. Box 160545
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Nov 2nd **Dr. Paul Loisel** — “Cichlids of Madagascar”
Nov 2nd **Bowl Show** — Brackish and Community (Any Type)
Nov 26th **Board Meeting** — 5:00 @ Round Table
Editor’s deadline for the December issue of the
Tropical News

