

Chinquapin

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Southern Magnolias in Hawai'i



Figure 1

1846 to benefit from Hawai'i's warmer weather. Brown brought numerous plants with him enclosed in seaworthy glasshouses. Among these plants were wisteria, heliotrope, and several Southern Magnolias originally cultivated at Kew (Goto 1982). Brown planted one of these Southern Magnolias in Honolulu on O'ahu before settling on the island of Kaua'i (Hardy 1958). There he planted two more in developing gardens at Hanalei in northern Kaua'i and Wailua in the southeast. These were purported to be the parents of all other Magnolias in the Hawaiian Islands (Restarick 1930).

Today, *M. grandiflora* and other ornamental Magnolia cultivars can be found in cultivation across the State of Hawai'i. Southern Magnolias are chiefly used as an ornamental tree in homesteads, municipal areas, and botanical gardens. The University of Hawai'i's Cooperative Extension Service mentions that Southern Magnolias grow best in cooler areas at higher elevations and in valleys (Rauch and Murakami 1997). Despite Hawai'i's mild climate, Southern Magnolia does not thrive there. In Hawai'i, Southern Magnolias have been described as rare and stunted (Neal 1965) and typically do not grow taller than 25 feet (Staples & Herbst 2005). To exemplify this, one specimen planted in front of the State Office Building in Lihue, Kaua'i is particularly shabby (Fig 1).

The Hawaiian name for Magnolia is Mikinolia. Though there is not a traditional Hawaiian use for the genus, Magnolias have been incorporated into modern Hawaiian culture. Thomas Sylvester Kalama (1856-1906), a songwriter, composer, and member of the Hawaiian Music Hall of Fame, wrote the classic Hawaiian song *Pua Mikinolia* (Magnolia Blossom) over a century ago. The romantic ballad starts with the phrase: *Aloha ku'u pua mikinolia, I lobia I ka wai kuauboe* (My beloved Magnolia blossom, with an intoxicating, scented nectar) (Kalama n.d.). *Pua Mikinolia* has been re-recorded by different Hawaiian artists and may be accompanied by hula. The fragrant flowers of Southern Magnolia and their persistent evergreen

Southern Magnolias (*Magnolia grandiflora*) are native to the southeastern United States, where they are a ubiquitous component of gardens and native ecosystems. They are also conspicuous feature of cultivated landscapes across the Hawaiian Islands. The first Southern Magnolias in Hawai'i did not come directly from the native range of the species, but from cultivated specimens in England. Thomas Brown, a horticulturalist at Kew Gardens, moved his family to Hawai'i in

leaves also make this tree a valuable contribution to wreaths and holiday displays in Hawai'i (Neal 1965).

Magnolias are also employed throughout Hawai'i to educate about plant evolution. Flowers of Southern Magnolia are used in Botany classes at Kaua'i Community College as a demonstration of potentially primitive characteristics in angiosperms. The National Tropical Botanical Garden (NTBG) on Kaua'i also includes a specimen of Southern Magnolia in their "Biodiversity Trail", a walking tour through millions of years of plant evolution. The Southern Magnolia at the NTBG is in the Cretaceous section of the garden at the transition between gymnosperms and angiosperms. The specimen is surrounded by Bottle Palm (*Hyophorbe logenicaulis*), Tahina Palm (*Tahina spectabilis*), Araucaria (*Araucaria biramulata*), and Giant White Bird of Paradise (*Strelitzia nicolai*), uncommon companions for this southern species (Fig 2).

Centuries of exotic introductions have wreaked havoc in most of Hawai'i's ecosystems, giving the islands the unfortunate nickname of the "endangered species capital of the world". In the southeastern United States, the range of Southern Magnolia has expanded north and west following hundreds of years of horticultural plantings and bird-mediated dispersal (Weakley et al 2024). Despite almost two-hundred years of cultivation history across Hawai'i, Southern Magnolia has not become naturalized. While *M. champaca*, a southeast Asian Magnolia, may have become naturalized on O'ahu, *M. grandiflora* is not listed on the Hawaiian Naturalized Vascular Plants Checklist (Imada 2019). Though not a major threat to Hawaiian ecosystems yet, another Magnoliaceae family member native to the southeastern United States, *Liriodendron tulipifera*, has become naturalized on Hawai'i's Big Island (Imada 2019).

Southern Magnolias have been a component of Hawai'i's cultivated landscapes for almost two hundred years. Though Hawai'i has no lack of native plants to beautify its landscape, Southern Magnolia has helped to enhance gardens, educate students of botany, and inspire songs, all while not threatening Hawai'i's native ecosystems. In doing so, this distinctly southern species has served to augment, not diminish, the botanical landscape of the nation's southernmost state.



Figure 2

(continued on page 4)

The Weakley Reader

Plant name changes – is *Anatherum anathema*? Is *Senega sinister*?



Image of *Senega lutea*
courtesy Will Stuart.

I hardly lead a field trip, teach a class, give a talk, or go on a plant-oriented social media page without hearing “why do they keep changing the names so much – it...is... SO... ANNOYING! It seems like THEY are changing them faster and faster. I can’t keep up.”

I feel your pain... After all, one of the reasons given for why scientific names are preferable to common names is their stability. For instance, a Hoyt Arboretum blog writes

“People that work with many plant species at once, closely related species, or plants from different regions, benefit by and often prefer to use scientific names over common names because scientific names stay constant over time, across different regions and languages.”

“... stay constant over time...” – harrumph! It sure doesn’t seem that way! So let’s examine why scientific names change.

Some of the changes are caused by the rules of the International Code of Nomenclature for algae, fungi, and plants, or “ICNafp”, or informally (and maybe a bit ominously?) often just called “the Code.” One rule that sometimes causes a name change is the principle of priority -- an older name (a name with nomenclatural priority) is discovered, and must be used instead of a more familiar name. For instance, the tree-sized buckeye of the Southern Appalachians -- which many of us who “grew up botanically” with the “Green Book” (the *Manual of the Vascular Flora of the Carolinas*, by A.E. Radford, H.E. Ahles, and C.R. Bell) learned as *Aesculus octandra* -- was given that name by Humphry Marshall in 1785. But, in the 1970s it was discovered that Daniel Solander had named the same species *Aesculus flava* in 1778, giving that name priority by seven years. And so, in the 1970s, botanists switched over to using *Aesculus flava*. As one who had learned *Aesculus octandra*, and then needed to unlearn it and learn *Aesculus flava* (but remember both names as meaning the same tree), it was a bit irritating, but no very big deal.

Which brings up the generational aspect of name changes. For botanists under age 50, they’ve only ever had to know one name: *Aesculus flava* – but that’s because we older botanists didn’t get our knickers in a twist, and say “I’m just going to keep calling it *Aesculus octandra*, because that’s how I learned it!” [When *Aster* got split up into many genera in the 1990s, there WERE some botanists who basically said “you’re going to have to take *Aster* out of my cold, dead fingers”, and indeed they did go to their graves clutching (metaphorically speaking) *Aster*.]

As suggested by the *Aster* saga, though, the great majority of scientific name changes are the result not of nomenclatural issues (like *Aesculus octandra* → *A. flava*), but of taxonomic changes. Three main kinds of taxonomic changes result in name changes: 1. Lumping or splitting of genera, 2. Lumping or splitting of species, or 3. Recognition or not of infrataxa (varieties or subspecies). We only have space today to take on one of these, so we’ll ponder genus changes.

Changing genera is not something new under the sun. Under the binomial system established by Linnaeus in 1753 and used ever since by western science, genus changes necessarily mean name changes, because the genus is the first part of the binomial name. We use genera

to group together related and similar species, and in recent decades the relationship aspect has been made explicit in the form of monophyly. Since Linnaeus and other 18th century scientists used very broad generic boundaries (Linnaeus recognized one genus of cactus, where now we recognize almost 200, and eight genera of orchids, where now we recognize more than a thousand), it has mainly been a story of splitting genera more and more finely, as we see more nearly the full flora of the World, perceive more details and differences in the plants, and augment our understanding of evolutionary relationships with additional data. The following quote of Caleb Cushing complaining about Thomas Nuttall in 1817 may be a useful tonic.

“He has proposed above sixty new genera...chiefly by the subdivision of old genera. And we think here lies the greatest defect of the work; namely, in a disposition to innovate upon the established genera, not always on the safest grounds. Thus to make a new genus *Comandra* of *Thesium umbellatum* and a genus *Epifagus* of *Orobanche virginiana*, in separating the genus *Juglans* into *Juglans* and *Carya*, in adopting Desfontaines’ dismemberment of the genus *Convallaria* into *Convallaria*, *Smilacina*, and *Polygonatum*, in confirming Michaux’s and Pursh’s division of the genus *Pyrola* into *Pyrola* and *Chimaphila*, in these and in other instances, that could be pointed out, Nuttall appears to us to have ventured upon or assented to changes, which the generic differences he has indicated do not warrant, and which materially injure the science of botany by embarrassing its nomenclature and impairing the symmetry of its arrangements.”

Two centuries on, it’s easy for us to smile over Cushing’s sense of “injury to the science of botany” – why of course *Juglans* and *Carya* warrant recognition as separate genera!

But, what about *Senega* for what used to be most of the eastern United species of *Polygala*? And *Anatherum* for what used to be section *Leptopogon* of *Andropogon* (all of the eastern North American species except *Andropogon gerardi*)? *Senega* is phylogenetically, morphologically, and geographically separated from *Polygala*, which is Old World (see Pastore, J.F.B., A. Martinez, J.R. Abbott, and K. Neubig. 2023. Toward new generic delimitations in Polygalaceae II: *Senega*. *Ann. Mo. Bot. Gard.* 108: 126-249). The North American species of *Andropogon* section *Leptopogon* are morphologically distinctive and form a monophyletic clade; they can only be included in *Andropogon* if the circumscription of *Andropogon* is expanded to include all of subtribe Andropogoninae, including genera *Schizachyrium*, *Themeda*, *Hyparrhenia*, *Elymandra*, and *Monocymbium*, and so instead it seems best to recognize them as genus *Anatherum* (see Vorontsova, M.S., K.B. Petersen, P. Minx, T.M. Aubuchon-Elder, M.C. Romay, E.S. Buckler, and E.A. Kellogg. 2023. Reinstatement and expansion of the genus *Anatherum* (Andropogoneae, Panicoideae, Poaceae). *Systematics and Biodiversity* 21(1): 2274386).

Perhaps by 2050, *Polygala lutea* and *Andropogon virginicus* will seem as quaint and obscure as *Aesculus octandra*, *Aster divaricatus*, *Thesium umbellatum*, *Orobanche virginiana*, *Convallaria racemosa*, *Convallaria biflora*, *Juglans glabra*, and *Juglans tomentosa*!

Alan Weakley, UNC-CH Herbarium (NCU), North Carolina Botanical Garden, UNC-Chapel Hill

Botanical Brainteasers

By Joe Pollard and Janie Marlow

Our Brainteasers in the last issue [*Chinquapin* 30(3)] were (A) *Cirsium horridulum*, bull thistle; (B) *Dipsacus fullonum*, common teasel; (C) *Sonchus asper*, sow thistle; (D) *Cirsium arvense*, field thistle or Canada thistle; and (E) *Carduus nutans*, nodding thistle or musk thistle. All of these are obviously very spiny plants – the sort you really wouldn't want to bump into when doing fieldwork in shorts (which the safety experts tell us not to do). Apart from identifying the pictures, we asked you to work out which was the “odd one out”, both in a taxonomic sense and in terms of their native distributions. Taxonomically, all except (B) are in the Asteraceae, or sunflower family; however, despite their prickly leaves and spiny, head-like inflorescences, teasels are in a different family, the Dipsacaceae. For the other part of the puzzle, only (A) is thought to be native to North America; the other four are common exotic species introduced from Europe.

We only had two entries this time. Maybe the pictures weren't very diagnostic, or maybe a lot of people just don't like weedy composites! Anyway, both players were essentially correct in their identifications and figured out both parts of the puzzle, so because we received her response earlier, we'll declare Donna Ford-Werntz to be the winner of this Brainteaser. This was also the final issue published in Volume 30, so it's time to add up the points and declare the winner for 2024. Over the course of the year's three competitions, nine people submitted entries, but it turns out that only one person did so twice. Since the winner is chosen based on total points, playing repeatedly is an almost insurmountable advantage. In 2024, Laura Nichols was the winner for Issue 2, plus a close second in Issue 1, so she is declared the annual champion. Congratulations, Laura! As a prize, we'll be sending Laura a copy of a recently published book entitled *Botanical Puzzles*. We're not sure their puzzles are quite as tough as ours, but maybe this will help to make up for the fact that Botanical Brainteasers is coming to an end.

Perhaps a short history is in order. *Chinquapin*, the newsletter of the Southern Appalachian Botanical Society, was first published in 1993, with Dr. J. Dan Pittillo of Western Carolina University as the founding editor. Early issues had limited graphics, but once the newsletter gained the ability to publish photographs, Dan began a series of botanical quizzes he called “Mystery Plants”. In 2013, I agreed to take over as editor for *Chinquapin*, but to ease my transition into the job, Dan graciously offered to continue his “Mystery Plants” as a guest contributor, which he did for the next year. I had always liked these puzzles (in fact I often turned to them first when I received my newsletter), so I wanted to continue them, but how?

I knew I would need a source of good photographs and an idea of how the game might work. For the pictures, I asked my friend Janie Marlow, who has a website called “Name That Plant”. Janie is not a formally trained academic, but is an accomplished photographer and a dedicated member of the South Carolina Native Plant Society. If you haven't checked out the site, you should do so, at <http://www.namethatplant.net>. It has now been going for 17 years and has many great features that I haven't seen in other wildflower sites or books. I will always be grateful to Janie for her generosity and patience in acting as my co-author on these puzzles.

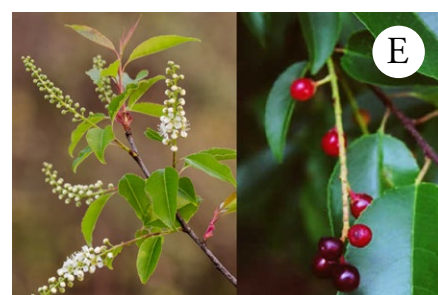
For the format of the game, I stole an idea from a British television show mixing current events and comedy called “Have I Got News for You”, which has aired in the UK since 1990, but has only recently been adapted for American viewers on CNN. One of their weekly features is an “odd one out” round, in which contestants see a group of seemingly disparate pictures, try to guess the connection between them, and identify the one that doesn't belong. That was the inspiration for the “Botanical Brainteasers” series that Janie and I produced from 2014 to 2024.

So why stop now? As many of you may know, I retired from Furman University at the end of 2020, after 33 years on the faculty. After retirement, I asked the SABS Council to find a new editor for *Chinquapin*, and I was happy to hand over the reins to the current editor, Dr. Lytton John Musselman, starting in 2023. Like Dan Pittillo before me, I offered to continue producing a puzzle feature for a while, to ease the transition, and did so for the last two years. In the summer of 2024, my wife and I moved to Santa Rosa, in the Sonoma Valley of California. The main impetus for the move was proximity to our two daughters, who both live in the Bay Area. It's also a beautiful region, with a lot of new botany for me to learn. I will always have connections to the southern Appalachian region, and I cherish my lifetime membership in SABS, but as I'm taking on new challenges, it seems best to set this one aside.

As I understand it, there are no specific plans to continue a puzzle feature in *Chinquapin*. But as I often said when I was editor, if there's something you'd like to see in your newsletter, we're always looking for contributors. Feel free to get in touch with Lytton if you would like to volunteer!

Joe Pollard

Send your answers to: joe_pollard@att.net (that's an underscore character between first and last names). Color photos that you can enlarge for a closer look are posted online at <https://sabs.us/publications/#chinquapin>.



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Southern Magnolias *(continued from page 1)*

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Figure Legends:

Figure 1. Brian Yamamoto inspects Southern Magnolia in the parking lot of the State Office Building in Lihue, Kaua'i.

Figure 2. Southern Magnolia at the National Tropical Botanical Garden. J. Christopher Havran (Campbell University) and Brian Yamamoto (Kaua'i Community College)

From the editor. . .

I want to make you aware of changes to our newsletter beginning with this issue.

– First, a hearty thank you to Joe Pollard who has challenged us with his Botany Brainteasers. This will be his last column. Thanks again Joe, and all the best in your new ecological niche in California.

– Starting with this issue we shall no longer include a listing of the club officers which will now be available on the SABS website. This will allow more space for contributions from you!

– In this issue Chris Havran and Brian Yamamoto trace the history of an iconic southern tree to Hawai'i and how it entered island ethnobotany. Frustrated with changing plant names? Read all about it in the Weakley Reader column that addresses nomenclatural tangles all of us deal with.

Plantfully
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