

Journal of NATURAL SCIENCE ILLUSTRATION

GUILD OF NATURAL SCIENCE ILLUSTRATORS



VOLUME 55 • NUMBER 3 • 2023

A Note From...

Fiona Martin, JNSI Production Manager

On a crisp autumn afternoon, sketchbook in hand, I hiked along the shores of Camano Island with two tribal officers, an anthropologist, and an environmental reporter. The air smelled of saltwater and dry grass. My assignment: draw “culturally modified trees”—cedars and Douglas firs bearing centuries-old scars from tribal harvesting of bark and planks, or boughs bent at right angles for wayfinding. As I studied these weathered behemoths, some more than 80 feet tall, I struggled fit them on a tiny sketchbook page. But this observation was key to understanding the branching structures and patterns in the foliage. I would rely on these notes later in my studio.

During this project I remembered a sage voice from last summer’s GNSI conference. Nirupa Rao made the case that illustrations are indeed the best way to describe large trees—better than photos. In this issue, Nirupa shares more about her journey in botanical illustration on the Indian subcontinent (pg. 6). She reminds us that our art is not just about conveying scientific facts, but also about creating a “complex well of history and meaning.” She hopes to foster an appreciation for native flora among Indian children. “It is that familiarity which, when celebrated, turns to love, which can then turn into an urge to protect.”

We also honor another botanical illustration legend—the late Dick Rauh (pg. 3). Member Gretchen Halpert describes Dick as a man who was “passionate about everything he pursued,” teaching, writing, and serving as president of several creative organizations including the ASBA and GNSI (1998–2000).

The year 2023 was a tumultuous time for the world, including within the GNSI and our Journal team. Gail Guth and Camille Werther stepped down from their roles to free up time for other pursuits. Former President Sara Taliaferro recognizes Camille’s contributions to the Guild and the Journal in an interview-style Member Spotlight (pg. 12). Camille also shares spreads from her hand-bound day/night sketchbook (pg. 14).

As I step into a new role as JNSI’s Production Manager, I’m committed to maintaining the quality of our premier periodical. I hope we can include more articles covering broader visual SciComm alongside traditional science illustration, digital techniques, and freelance business strategies. I hope to celebrate the diversity of our members and create an inclusive space for all types of SciArt. If you’d like to contribute to the *Journal of Natural Science Illustration*, please don’t hesitate to contact us at journal@nsi.org.

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Cover: A strangler fig reaching up for the sun (from *Hidden Kingdom: Fantastical Plants of the Western Ghats*). © 2023 Nirupa Rao

NATURAL
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The Guild of Natural Science Illustrators is a nonprofit organization devoted to providing information about and encouraging high standards of competence in the field of natural science illustration. The Guild offers membership to those employed or genuinely interested in natural scientific illustration.

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GNSI JOURNAL

Volume 55, Number 3/2023 • © 2023

JOURNAL OF NATURAL SCIENCE ILLUSTRATION (JNSI) (ISSN 01995464) is published at 2201 Wisconsin Ave., NW, Suite 320, Washington, DC 20007, by the Guild of Natural Science Illustrators, Inc.

This paper meets the requirements of ANSI/NISO Z39.48-1992 (Permanence of Paper).

POSTMASTER: CHANGE OF ADDRESS

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In Memoriam

Richard (Dick) Rauh

1925–2023

— Gretchen Halpert

Dr. Richard Allen Rauh—kind, distinguished, generous, thoughtful, intelligent—a leader and communicator, a teacher, artist, poet, and an illustrator who was drawn to nature, particularly seed pods and trees.

Dick was always ready with a warm hug and open ear, reliably attentive and responsive. Until the last few years, he was game for a walk, or dip in the cold Atlantic, later trading both for the swimming pool. Just ten days before he died, he wrote he was not well, and would have to cancel teaching art classes for a few months. He was 98.

The fields of Science and Botanical Illustration were greatly enriched by the second career of Dick Rauh. Dick was an active member of the GNSI since 1989, serving as President from 1998–2000. He taught many workshops, wrote articles for the GNSI newsletter and *Journal of Natural Science Illustration*, chaired the annual conference in 2001 in Bar Harbor, Maine, and co-chaired the second Bar Harbor conference in 2005. He founded the GNSI–New York Chapter. Dick received the GNSI Distinguished Service Award in 2003 and continued contributing to the Guild. He did the same for the American Society of Botanical Artists (ASBA), teaching, writing, and serving as President. Just three years ago, at the age of 95, Dick published his book *The Science Behind Flowers: Plant Morphology for Botanical Artists*.

Born in Brooklyn, New York, Dick enjoyed a full career in film and animation in NYC. He was Art Director and part owner of Optical House, a motion picture effects and editing business. He served as President of the NY screen cartoonist union, and President of the Animation Community organization. Perhaps you can sense Dick was passionate about everything he pursued.

After retiring from the film and advertising business, he completed the Botanical Art Program at the New York Botanical Gardens (NYBG) in 1986. He earned his PhD in botany from Lehman College in 2001 at the age of 76—primarily so he could better inform himself and his students about drawing plants. His plant anatomy and morphology courses educated

many botanical illustrators at the GNSI, ASBA, NYBG, and Brooklyn Botanical Gardens. His work was widely exhibited including at the Hunt Institute for Botanical Documentation, where his art resides in their permanent collection; the Royal Horticultural Society, where he received the prestigious Gold Award; *Focus on Nature* at the NY State Museum, where he received a purchase prize; and many GNSI and ASBA exhibitions, where he also received awards.

It is impossible to distill 98 years of a full life: Dick's 67 years of marriage with Harriette, whom many Guild members fondly

He earned his PhD in botany from Lehman College in 2001 at the age of 76—primarily so he could better inform himself and his students about drawing plants.



Above: *Physalis alkekengi*
Chinese lantern. Watercolor.
© 2020 Dick Rauh

remember from annual conferences; their three children, Daniel, David, and Helen; grandchildren and great grandchildren; a multitude of experiences, such as meeting neurologist Oliver Sacks on a fern trip to Oaxaca, Mexico, with the NY Fern Society—resulting in Dick illustrating Sack’s *Oaxaca Journal*. He also served in the Navy as a communications officer. In Dick’s later years he was an active “aquafitter” featured in the documentary, *Below Surface*: <https://www.belowsurfacedoc.com>.

If you would like to contribute your memories or interesting stories of Dick Rauh, we will add them to the online version of this article (send notes to journal@gnsi.org). He enriched the lives of many.

If you did not have the pleasure of knowing Dick, or if you miss his passion, he is still alive on the internet. You can find several Dick Rauh interviews in the “Created Playlists” section of GNSI’s YouTube channel. This artist’s talk at his retrospective exhibition at the Westport Library’s Sheffer Gallery in January of 2022 is particularly engaging: <https://www.youtube.com/watch?v=1leegvqrBpw>.



Above: Dick and Harriette Rauh.
© Gretchen Halpert



Right: *Apios americana*
ground nut. Watercolor.
©2013 Dick Rauh





Above: *Brachychiton acerfolius* Illawarra flame tree. Watercolor.
© 2020 Dick Rauh

Right: *Portulaca grandiflora*. Watercolor.
© 2018 Dick Rauh



Below: *Lagerstroemia* sp. crepe myrtle. Watercolor.
© 2022 Dick Rauh



Learn more about Dick's work in our JNSI archive:

Colorful Leaves: Classes with Dick Rauh, by Gail Selfridge. 2020. *Journal of Natural Science Illustration*, vol. 52, no. 3.

Book Review: *The Science Behind Flowers*, by Camille Werther. 2020. *Journal of Natural Science Illustration*, vol. 52, no. 3.

Pages from my Sketchbook, by Richard Rauh. 2018. *Journal of Natural Science Illustration*, vol. 50, no. 1.

Member Spotlight: Dick Rauh, by Dick Rauh. 2013. *Journal of Natural Science Illustration*, vol. 45, no. 1.

Chapter Happenings: 38 Healing Gifts from Our Fragile Earth, by Dick Rauh. 2012. *Journal of Natural Science Illustration*, vol. 44, no. 3.

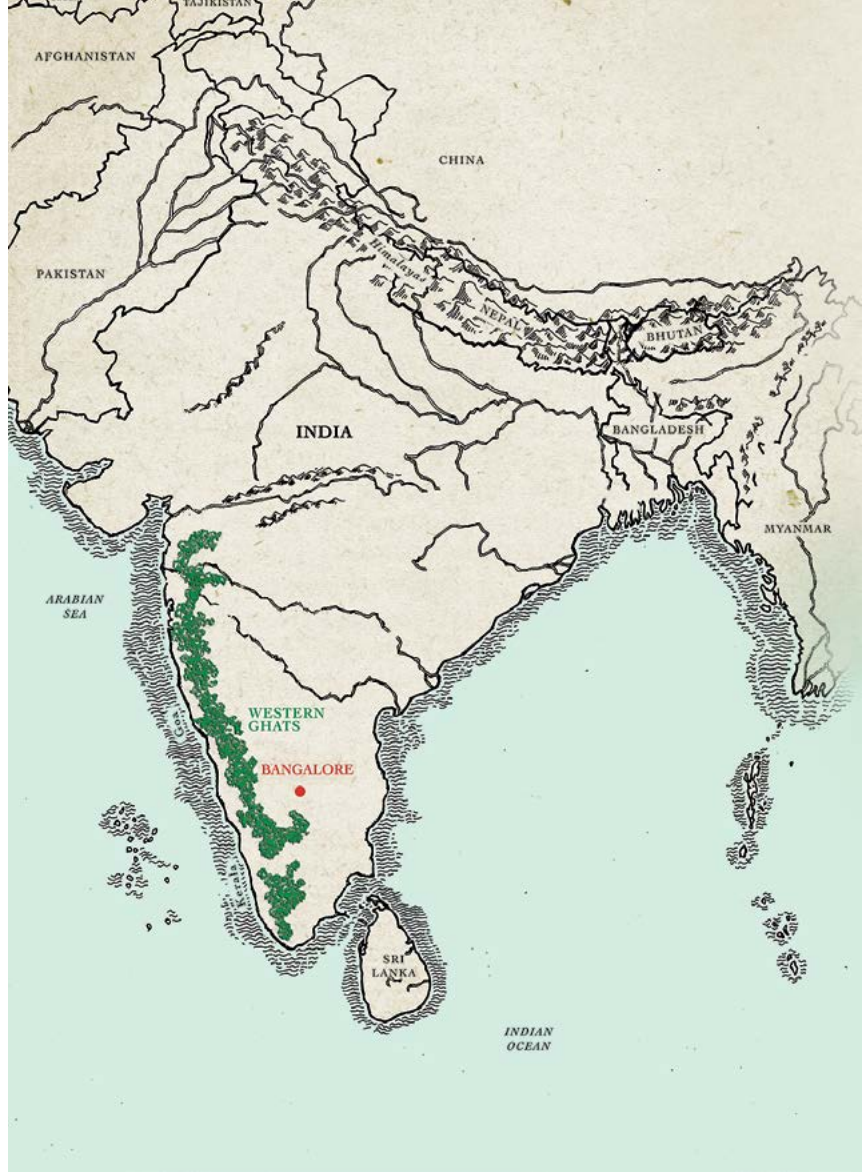
Indian Botanical Art in the 21st Century

— Nirupa Rao

I call myself a botanical artist, but in truth I'm trained in neither botany nor art. When I first started out about eight years ago, I was barely aware of the genre's existence. I just wanted to paint plants.

You see, I grew up in the south Indian city of Bangalore. You may know it for its Information Technology (IT) industry, which has earned it the moniker “Silicon Valley of the East.” This probably brings to mind images of fast-paced lives lived in glass skyscrapers and rush-hour traffic—which is fairly accurate, but a relatively recent phenomenon. When I was growing up, Bangalore was better known as the “Garden City” of India—it boasted 70% green cover in the 1960s, which then dropped to about 40% during my childhood in the 1990s. Now, believe it or not, that number is down to less than 3%.¹ This was difficult for me to witness, and, feeling powerless to stop it, I turned to drawing the trees I saw disappearing from my city's streets.

I always had a heightened awareness of plants: Bangalore is only a few hours away from the Western Ghats or Sahyadri mountain range, which snakes up the southwest coast of India (Fig 1). My extended family is full of botanists and horticulturalists who have worked in the region, so every school holiday we would drive down to this magical retreat filled with diverse habitats such as thick jungle, temperate grasslands, and swamps. In fact my maternal granduncle, Rev. Cecil Saldanha, was the first botanist to carry out a documentation of the flora of our home state, Karnataka, in the 1960s and 70s. Working in collaboration with the Smithsonian Institution, his team used my grandfather's farmhouse in Hassan District as their base. My mother would tell me romantic stories of watching this entire expedition unfold. And, glossing over the undoubted tedium and hard work, I came to associate botany with adventure, discovery, and excitement.



As I grew older, I realised this wasn't a sentiment shared by most increasingly urbanised Indians. I lost sleep over whether generations of children disconnected from nature would strive to save it when needed most, and I was desperate to somehow address this. My cousin Siddarth Machado was by then a practising botanical researcher, and so, in our early 20s, we decided to put our heads together. Combining our abilities, we created an illustrated book set in this same magical region we grew up around: the Western Ghats. We called this book *Hidden Kingdom* in reference to the fact that these plants are all around us, but we fail to pay them heed. They are hidden in plain sight.

We selected species we felt would challenge readers' basic perceptions of plants. For instance, that they have green leaves and chlorophyll. The ghost orchid (*Epipogium roseum*) fulfills neither of these criteria.

Figure. 1: The Western Ghats mountain range flanks the southwest coast of India.

All illustrations © Nirupa Rao unless otherwise noted.

¹ Satellite images show green cover of Bangalore reducing alarmingly fast. (n.d.). Research Matters. <https://researchmatters.in/article/satellite-images-show-green-cover-bangalore-reducing-alarmingly-fast>

Growing on dark forest floors where sunlight is scant, they share a symbiotic relationship with fungi that live in the orchids' roots, which in turn derive nutrients either from dead organic matter or surrounding plants. Hence the name "ghost orchid," inspired by the species' deathly, spectral appearance and almost vampiric way of life.

The strangler fig (*Fig. 2*) was a far more common but no less fascinating choice. A common sight in India, it isn't really a species but an adaptation exhibited by members of the *Ficus* or fig genus. They often grow deep inside the jungles where competition is tough and sunlight is scant. So the strangler adopts a little strategy to cut in line and get ahead. Its seeds are dispersed by birds who drop them among the branches of existing trees. The little sapling will germinate atop a host tree, sending its branches upward to the sun, while its roots creep down below—all the while strangling its host tree, often to death. If the host tree dies and rots away, the strangler will persist as a hollowed out column of roots and branches.

We're so used to thinking of plants as immobile, passive beings, aren't we? But I began to see that it is this very rootedness that makes them fascinating—leading them to adapt to threats and opportunities in ingenious ways that boggle the imagination. Like these beautiful bejeweled, alien-like sundews (*Fig. 3*). They grow in soils with poor nutrient levels, so they supplement their diets by luring, capturing, and ingesting insects using mucilaginous glands on their

leaf surfaces. Small insects are attracted by the sweet secretions of these glands, but once they come in contact, they are ensnared in the sticky substance and then it's game over.

The experience of creating the book *Hidden Kingdom* was both exhilarating and enlightening. For starters, I realised that despite my supposed botanical inheritance, I actually knew very little about plants, and even less about the Western Ghats. I had studied botany in school, of course, but our syllabus was bereft of local context. Yes, we had learned about carnivorous plants, but the example we were given was the Venus flytrap, an incredible plant native to North America. Unfortunately there was no mention of those beautiful sundews, which grow on the outskirts of Bangalore where I lived. How much more relevant and meaningful might high school botany have been if it reflected my own surroundings?

I'm sometimes asked how, as a botanical artist, I'm able to express my own individual creativity. There is a presumption behind this that botanical art, as a vehicle of science, is a neutral medium—carrier only of scientific information. But the more I learned of my newfound profession, the more I realised this was far from the truth. In fact, in India botanical art is conventionally known as "Company Art" or

"I lost sleep over whether generations of children disconnected from nature would strive to save it."

— NIRUPA RAO

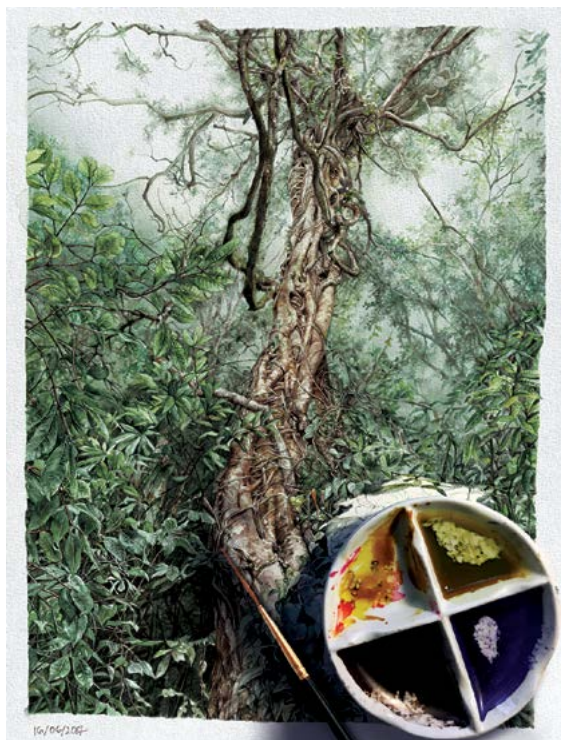


Figure 2 (left): A strangler fig reaching up for the sun (from *Hidden Kingdom: Fantastical Plants of the Western Ghats*).

Figure 3 (right): India's three native sundew species (top to bottom): Shield sundew (*Drosera lunata*), Indian sundew (*Drosera indica*), and tropical sundew (*Drosera burmannii*). From *Hidden Kingdom: Fantastical Plants of the Western Ghats*.



While we have very little information on Company artists, there is mention in some collections of the names Rungiah and Govindoo. These names are not very revealing of their background or ethnicity, but certain clues have led historians to a group of south Indian painters known as *moochies*, based originally in Tanjore. Skilled in making religious and devotional paintings, they pivoted to the natural history drawings required by botanists and zoologists during British times. Historians similarly speculate that other paintings may have been made by *gudigars* or sandalwood carvers, who were also painters.

Figure 4: Plants of the coast of Coromandel. Selected from drawings and descriptions presented to the hon. court of directors of the East India Company by William Roxburgh (1795) from the Missouri Botanical Garden's Rare Books Collection. (A) *Ceropegia acuminata*; (B) *Periploca esculenta*; (C) *Lagerstroemia reginae* (now *Lagerstroemia speciosa*).

“Company *kalam*”—a reference to its association with the Dutch or British East India Companies that once colonised the Indian subcontinent.

During the modern colonial period, as European travel and conquest of various parts of the globe increased, so too did the fascination with entirely new, seemingly exotic flora. Naturalists, botanists and artists often accompanied explorers on their journeys. The HMS *Endeavour*, for instance, set sail from England in 1768—ostensibly, a “research vessel” which we now know was also tasked with a secret mission: to locate and claim the so-called “unknown land of the South”—Australia—for the British crown.² Along with the naturalist Joseph Banks, the ship also carried artist Sydney Parkinson. He lived and worked aboard the ship, studying specimens and drawing day and night, battling off swarms of flies which ate his paints as he worked. He eventually died of dysentery before they managed to return to England. Such was

the value attached to natural history illustration—it was a technology used to systematically catalogue the natural world in the service of both science and empire—a history with which botanical art is inextricably linked.

In India, most of these botanical art collections were commissioned by Company officials for European audiences keen to catalogue the flora of their colonial possessions, and so even today the work itself is treated as being foreign—despite the fact that its subjects, Indian flora, hail from India, as did most of the artists, who usually went unnamed (Fig. 4). And yet, if we look closely at this work, it's clear that this art form wasn't just a foreign import: local artists brought with them the techniques of Rajput and Mughal miniatures, the styles of Tanjavur *moochies* and *gudigars*, combining them with a more European treatment of perspective, volume, and recession.^{3,4}

2 HMS *Endeavour* 250. (n.d.). Natural History Museum. <https://www.nhm.ac.uk/discover/hms-endeavour-250.html>

3 Reddy, S. (n.d.). “Ars Botanica: Refiguring the Botanical Art Archive”. Marg December 2018–March 2019 (The Weight of a Petal), 15.

4 Noltie, H.J. (2018) “Moochies, Gudigars and Other Chitrakars: Their Contribution to 19th-century Botanical Art and Science.” *The Free Library*. The Marg Foundation, 18 Nov. 2023. <https://www.thefreelibrary.com/Moochies%2c+Gudigars+and+Other+Chitrakars%3a+Their+Contribution+to...-a0571836876>

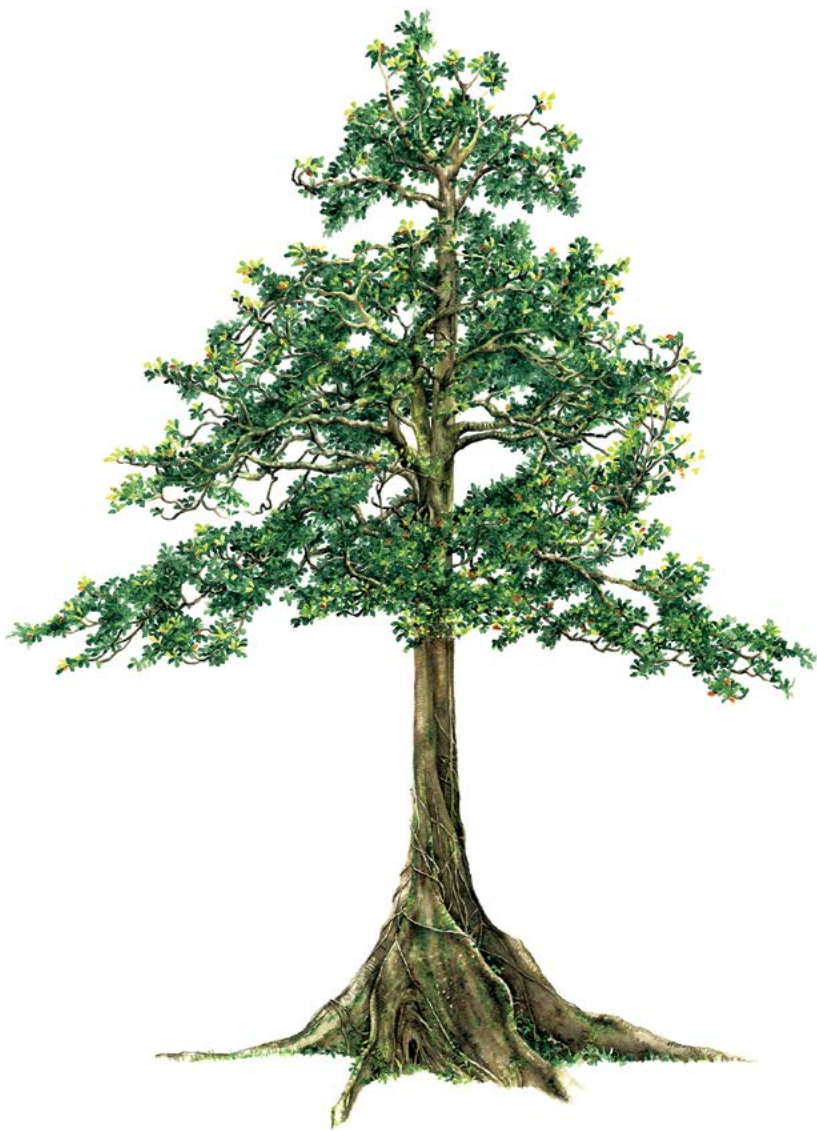


Figure 5 (above): Rough sketch of an *Elaeocarpus tuberculatus* tree, drawn on site.

Figure 6 (left): *Elaeocarpus tuberculatus* final painting from the book *Pillars of Life: Magnificent Trees of the Western Ghats*.

Every one of these images contains not only the botanical fact of a plant, but a complex well of history and meaning.

Early on in my career, I was lucky enough to meet two ecologists, Divya Mudappa and TR Shankar Raman, who live and work in the Valparai region of the Western Ghats—an area dominated by tea estates established by the British in the 19th century. In the process, vast forests were cleared to create plantations. They are now run by Indian corporations who leave

those parts of their land that are unsuitable for cultivation ostensibly wild, but in practice are often dominated by tree species that were brought to India from South America or the Caribbean in the colonial period to beautify the landscape. Unfortunately, these species don't serve the needs of local fauna. So Divya and Shankar Raman work towards encouraging land-owners to grow native species on uncultivated land in an effort to create corridors of true forest connecting plantations.^{5,6,7}

- 5 T R Shankar Raman, Swati Sidhu, Hari Sridhar, Divya Mudappa, Vena Kapoor, Eleni K Foui, Claire F R Wordley, P Jeganathan, Ganesh Raghunathan, Akshay Surendra, T R Shankar Raman, Swati Sidhu, Hari Sridhar, Divya Mudappa, Vena Kapoor, Eleni K Foui, Claire F R Wordley, P Jeganathan, Ganesh Raghunathan, & Akshay Surendra. (2019, September 5). *Wildlife in rainforest fragments*. Nature Conservation Foundation - India. <https://www.ncf-india.org/western-ghats/wildlife-in-rainforest-fragments>
- 6 Divya Mudappa, T R Shankar Raman, Atul Arvind Joshi, Divya Mudappa, T R Shankar Raman, & Atul Arvind Joshi. (2014, May 27). *Whittled-down woods*. Nature Conservation Foundation - India. <https://www.ncf-india.org/western-ghats/whittled-down-woods>
- 7 Chandran, M. D. S., & Mesta, D. K. (2001). On the conservation of the *Myristica* swamps of the Western Ghats. *ResearchGate*. https://www.researchgate.net/publication/259151683_On_the_conservation_of_the_Myristica_swamps_of_the_Western_Ghats

Figure 7: A still from *Spirit of the Forest* showing a *Myristica fatua* tree along with endemic fauna like the Malabar giant squirrel, lion-tailed macaque, *Myristica* swamp tree frog, *Myristica* sapphire damselfly and Malabar tree nymph butterfly.



They were looking to visually document these trees in some way, but the photographers they approached came up empty-handed. These species grow up to 43 meters tall, making them impossible to capture in a single camera frame. Besides, the surrounding foliage is too dense to clearly isolate a single specimen. So together, we decided to give good old painting a shot.

In truth, even while standing before them it was tough to see the entire tree. Instead, I'd study its buttress up close, then climb up a hill to see its crown rising above the canopy. With Divya and Shankar Raman's help, we'd imagine the intervening bits, stitching it all together into one drawing. Over two years, we documented thirty of the region's most iconic trees, along with their fruit, flowers, seeds, and leaves. For those who don't know the jungles as well as these naturalists, these drawings are probably the only way they'll see these trees in their entirety (Figs. 5 and 6).

Through this process, I began to see these jungles differently. The landscape I had been visiting nearly every year since I was born—a region I thought I knew so well—morphed from an undifferentiated sea of green into individual species with individual characters. This had been a seminal moment in my own career—a moment of awakening, when my eyes were opened to what had been hidden all around me in plain sight.

Wanting to recreate this sensation, I decided to push the genre of botanical art far beyond its conventional limits. I wanted to breathe life into a landscape... to, well, *animate* it. Putting together a team of writers, researchers and animators, we created a short film called *Spirit of the Forest*. It tells the story of a little village girl who, through a magical encounter with a forest spirit, comes to see her home and traditions very differently. While taking a shortcut home from school, she stumbles upon a *sacred grove*: pockets of forest found all over India that have been protected by local communities for centuries, using folklore grounded in scientific principle.

This particular grove happens to be an endemic *Myristica* or wild nutmeg swamp (Fig. 7). Besides its wonderful tangle of aerial roots popping up above the ground, what's fascinating about these swamps is that their evolution parallels the very formation of the Indian subcontinent. Scientists suggest that key *Myristica* species may date back to the breakup of Gondwanaland, when dinosaurs roamed the earth, and India was drifting towards its present position on the world map.⁸ As the little girl journeys through this incredible history, she realises that the seed she holds in her hand is not just a trivial plaything, but a kernel that holds within it the past, present, and future. An infinite, deep well of meaning.

⁸ Krishna, S., & Somanathan, H. (2014). Secondary removal of *Myristica fatua* (Myristicaceae) seeds by crabs in *Myristica* swamp forests in India. *Journal of Tropical Ecology*, 30(3), 259-263.

Of course, this would not be the first animated film set in the Indian wild—*Jungle Book* easily comes to mind. But as much as I love the film, you'd be hard-pressed to find an orangutan like King Louie from India, to say nothing of the largely generalised background scenery. With our film, we set out to feature some of the lesser known plants and animals that actually live here (Fig. 8). Visiting them onsite, I used these studies to hand-paint botanically accurate backgrounds for the film. I used the same techniques I had developed drawing trees with Divya and Shankar, but adapted them to suit an entire landscape. Botanist Navendu Page helped me to understand the land's logic: which species were swamp-adapted and grew upon the water, or which species were swamp associates with only partial flood tolerance, therefore merging with the surrounding evergreen forests.

The film's story is composed of ecological tales derived from contemporary scientific research: for example, recent fieldwork has identified that hornbill birds are no longer the primary seed dispersers for nutmeg, as they often drop seeds in areas that once were swamps but have now been converted for agriculture or transport. Instead, researchers discovered tiny crabs burying seeds in their burrows, where they remain dry and germinate when conditions are ideal.⁹ This forms the message of hope at the film's conclusion: the chance for a new culture around plants to take root.

We continue to screen the film in schools around the country, hoping to show Indian children how the jungles of their own landscape came to be. It is that familiarity which, when celebrated, turns to love, which can then turn into an urge to protect.

I think botanical art in the 21st century—despite or even because of its history—can help us reflect upon our own landscape and surroundings. To me, this kind of representation isn't necessarily about patriotism or what belongs to us, because the natural world belongs to no one. It is about understanding our own context, with all its nuance and individuality, because it is ultimately our duty to love and protect it.



Figure 8 (right): Movie poster, *Spirit of the Forest*.



www.nirupa-rao.com

NIRUPA RAO is a botanical illustrator whose work is inspired by close collaboration with natural history scientists. A National Geographic Explorer and Fellow, Nirupa is the youngest artist featured in Kew Botanical Garden's *Indian Botanical Art: An Illustrated History*. She has illustrated two books: *Hidden Kingdom: Fantastical Plants of the Western Ghats* and *Pillars of Life: Magnificent Trees of the Western Ghats*, as well as the cover of Amitav Ghosh's latest novel, *Gun Island*. She co-directed a short animated film set in the *Myristica* swamps of south India titled *Spirit of the Forest*, screened at Annecy 2023. In 2022 she was Artist-in-Residence at Harvard University's Dumbarton Oaks.

⁹ Jain, N. (2019, Nov 4). *New species remain hidden in the myristica swamps of the Western Ghats*. Mongabay.



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Member Spotlight

Camille Werther

OUTGOING JNSI PRODUCTION EDITOR AND 2022 GNSI SPECIAL PROJECTS AWARD RECIPIENT

— Sara Taliaferro

The Guild of Natural Science Illustrators (GNSI) is a member-led organization that brings together a diverse spectrum of people who explore, celebrate, and advocate for the natural world through illustration, visual science communication, and art. Members who take leadership roles with the GNSI often share their strengths and expertise behind the scenes.

The occasion of Camille Werther stepping down as the *Journal of Natural Science Illustration's* Production Editor in 2023 provides an opportunity to bring a member contributor's story into the spotlight. Camille Werther joined the *Journal of Natural Science Illustration* (JNSI) as a Content Editor in 2017. Her stint on the journal team allowed her to play to her strengths of ideation, strategizing, and lifelong learning as her position evolved.

Camille was nominated for the 2022 GNSI Special Projects award because of her innovations in production management. Initially, as a Content Editor, she contacted potential authors and worked with them on developing manuscripts that fit the JNSI's needs. The team needed an updated system for production scheduling and tying "all the various pieces together," which takes a lot of time. Camille developed a master scheduling system to improve the process flow of contributed articles.

Camille thrives on management of multiple project tasks such as the juggling and balancing required to track everything from the number of pages and articles in an issue to monitoring progress of each Content Editor and the author they are paired with as they progress toward article submission. She shepherded production and logistics, tracking the moving parts as the team assembled articles into a print-ready JNSI edition. In the past couple years, Camille also contributed to the overall production with content editing and some book reviews.

A New Orleans native, Camille's story is very much connected to her home state of Louisiana, although she currently lives in Omaha, Nebraska. While working on a Bachelor's degree and then a Masters in horticulture at Louisiana State University (LSU), Camille was also working for the LSU Department of Forestry and Wildlife and had a wildlife professor as her boss. It was he who convinced her that the

sketches she did around campus of the egrets, snakes, and turtles were more than just a pleasant hobby.

While at LSU, she heard about the Guild of Natural Science Illustrators. Eventually, she joined the GNSI listserv and “lurked” there for ten years. She and her family lived for a number of years in Tennessee and had no GNSI chapter nearby. That changed when they moved to Nebraska. She joined the GNSI Great Plains Chapter in 2014 and the national GNSI in 2015.

Camille has shared her love of science and nature throughout her career. She worked as an extension agent, and taught illustration and nature drawing from Texas to Tennessee. She specializes in botanical illustration and nature drawing. Camille even taught high school science, math, and art in Omaha, Nebraska, and says she misses teaching teens. She notes that while teaching teens, she experienced “such energy and enthusiasm. Everything is new and fun!”

Camille’s favorite class in school was dendrology—the study of trees and their characteristics. She kept her collection of 120 specimens created during that class, and harbored a desire to share the collection with people for many years. She notes her beginnings were in forestry, which remains “in her heart-place.” Years later, enrolled in grad school at the University of Nebraska at Omaha and taking a writing class, she wrote an essay about traveling in Louisiana. She described the different, beautiful changes one sees in the forest composition while driving down Interstate 49 in Louisiana. “I used pictures of my herbarium collection in the essay. My professor said, ‘Those are pretty enough to frame!’”

“One of the things we learned in forestry class was the ecological advantages of each different type of tree. So we would have to remember, well, this one is good for deer, this one is good for squirrels, good for turkey. I just think it’s a really powerful way to learn.”

— CAMILLE WERTHER

She wanted to create an exhibit that, especially for younger people, modeled a way to create an herbarium collection in an eco-sensitive way. She explains: “If there is a place that we could encourage them to responsibly get some samples and preserve it, it’s a really good hands-on way to learn about nature,

to learn about the trees around you so you’re not blind to what’s around you. It’s so easy to just walk down the street and not see the different types of leaves and types of trees.”

Her opportunity to share came in 2022 with a summer exhibit at Lauritzen Gardens in Omaha, Nebraska. She developed her own way of “building the values in pencil on a specially prepared acrylic background that was especially good for accepting pencil. I used a combination of media.

The graphite gives the values, and then I put about ten washes of acrylic transparent colors on top. It’s a big project! I had a very tight timeline. I would wake up excited at 8:00 a.m. in the morning and realize at 8:00 p.m. at night that, oh, boy, I need to eat something! I did that for a good six months.”

Camille continues: “I like stories. I like storytelling, too, and I try to bring that out in the paintings. Not just putting a hickory nut in [the painting of a hickory] but showing it chewed on by a squirrel. Occasionally, I would just walk around the gallery and just see what people were saying. And people were saying, ‘I know that tree!’ or ‘I have that tree in my yard!’ or ‘My neighbor has that one!’ or ‘Oh, yeah, it does have those little nutlets—what is that?’ So it did exactly what I wanted it to do. The whole point was to prompt people to think about the nature around them, think about the trees around them, and think: ‘Oh, that fruit does belong to that tree! Oh!’ That was my whole goal, and I think it did do that; it prompted a lot of discussions.” Creating the exhibit and visiting it afterward brought “lots of good memories” for her as well, remembering the places where she collected each specimen and her wonderful mentor and boss who inspired her.

Thank you, Camille Werther, for sharing your gifts of visual storytelling and for managing the multi-level chess game played by the JNSI editorial team, enabling others to tell their stories through images and words.



Above: Delta Post Oak, *Quercus similis* Ashe.
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Figure 1: 3–4 September 2020: Waning gibbous moon, cicada, and garlic chives on a hot day. Colored pencil, ink liner pen, and white roller ball pen on Ingres paper.

All illustrations
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Sketchbook

Day/Night Journal

— Camille Werther

Late in 2020, with my family at home due to the COVID-19 pandemic, I felt oddly disconnected with time and the natural world. Even though I work at home as a freelancer, the disruption to everyone's routines and schedules had left me feeling adrift. I decided to take on a small art project that would connect me with the seasons and time.

My journal is hand-bound, using textured Ingres paper (cream for day and blue for night) and a pastel paper cover that I ran through a crimper to give a corrugated look. I wanted to feel my materials and connect with something on a physical level. The book was bound using an exposed stitch binding and measures just 4.5" by 6.5". I chose this small format to ensure that I would complete a page each day and night for a month.

Sitting on my backyard deck, I recorded some of the plants, insects, and astronomical events I

observed. I also recorded the length of the daylight as it changed in the fall (sourced from the NOAA *Sunrise & Sunset / Moonrise & Moonset* charts online for my location). I recorded the temperature (from the *National Weather Service* page for my location), and any other interesting conditions, like smoke and haze from wildfires. I am only an amateur when it comes to astronomy, primarily using my binoculars and what I can see with the naked eye, but taking the time to observe and sketch nightly was something I had always wanted to do. I also used the book as an opportunity to play, experimenting with silverpoint and watercolor grounds.

I'd encourage anyone to give a project like this a try. It did help to ground me in the reality of nature. I'm thinking about doing this again soon.



Figure 2 (left): 6–7 September 2020: Waning moon glows red from wildfire smoke, borage flower sketches. Colored pencil, HB pencil, white roller ball pen on Ingres paper.



Figure 3 (above): 16–17 September 2020: Venus high in the hazy night sky, smartweed sketch. Colored pencil, HB pencil, white roller ball pen on Ingres paper.

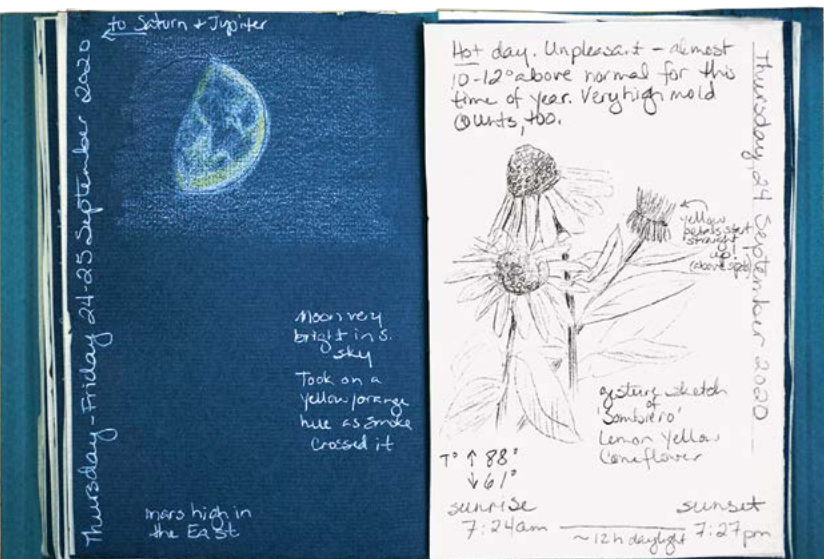


Figure 5: 24–25 September 2020. Moon in a smoky haze, cone flower sketch. Colored pencil, HB pencil, white roller ball pen on Ingres paper.

"I decided to take on a small art project that would connect me with the seasons and time."

— CAMILLE WERTHER

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