Dear You,

My name is Megan Wampler, and I was a student in the University of Michigan in Ecology and Evolutionary Biology / Environmental Science (EEB/PitE) class of 2018, currently enrolled in a dual law / MPA program at the University of Montana.

I absolutely love houseplants, but I have discovered over the years that there is not a whole lot of science in the hobby. Most hobbyists who write care books are not scientists, and most scientists do not write care books. The past year of COVID with everyone stuck at home has seen a massive increase in the hobby, but unfortunately, the surge in hobby popularity has also triggered a surge in nonsense and misinformation online. I would like to combat that trend by pushing out accessible science written by scientists (or scientists in training) that is appealing to a broader audience than who is traditionally reading scientific literature!

I have a book about plant care in the final stages of editing (feel free to contact me about it), but I have also launched a website and blog that is meant to make the science behind the houseplant hobby more accessible.

The goal for the blog is to write articles in a way that is *accessible* and *understandable* to a wide audience without distilling the science so far that it is no longer scientifically accurate -- instead of the scientific jargon of a traditional paper, to write articles in a way that is easily understandable by people who do not have a science background. I have many topics already written and ideas for more, but I simply do not have the time to do it all myself! I will be writing simple FAQ-type articles to generate traffic (my website has been up about a week, and has already had almost 1,000 visitors), but the true goal of the project is the science!

I am looking for science writers to contribute, and I am hoping that is you!

As a fellow STEM student in research, I remember how big of a deal it was to be published and be able to list that on your resume, but also how *difficult* it was to get published. I spent all 4 years of college in research (biomedical research, paleoecology, endangered species conservation, biodiversity and human impact), and was only published ***once*** through one of my research labs. **I would like you publish YOU!**

This blog can be a middle ground for students between Published with a capital P and not being published at all. I know that writing articles for a blog isn't quite the same as being published in a scientific journal, but when I was in college I was a blog writer for the Admissions blog and absolutely loved the experience; when I was applying to post-college jobs and law school I was asked all the time about the articles I wrote and it was a tangible thing I could share.

Writing for this blog can be a fun project that shows analytical skills, writing for different audiences, and writing practice. You can share your articles on social media, list them on your resume, talk about them in job interviews, send them to your grandma, whatever you'd like.

If you're interested, read on for details!

Cheers,

Position:

Science Blog Writer

Who:

College or graduate-level students (sorry, no high schoolers) in STEM degree programs: biology, biochemistry, botany, horticulture, ecology, evolution, environmental science, or anything else with a strong background in science and research. Post-grads welcome to join, but you will be limited on how frequently you can submit materials. (For students interested in art, illustration, or related studies, we'd love your collaboration!)

Timeline:

Indefinite! Participate as many (or as few) times as you would like! Follow your own schedule!

Project description:

Writing science-facing articles analyzing scientific topics in tropical plants, horticulture, and houseplants generally, broadly within topics like physiology, environmental factors (humidity, etc), herbivory and pests/parasites, disease ecology, horticulture methods, and anything else that seems interesting about plants or tropical ecology (or wetland ecology -- carnivorous plants are common in the hobby, and so articles about bogs and fens would be very cool).It could be something you have already written, a meta-analysis, a research project, or something similar. It could even be a small-scale semester project research study.

Collaborating with friends in other departments who are interested in botanical illustration, design, etc, is absolutely allowed / encouraged! I have a few artists I'm already working with that can help with some things but would love any other art students who are interested in participating to also join in.

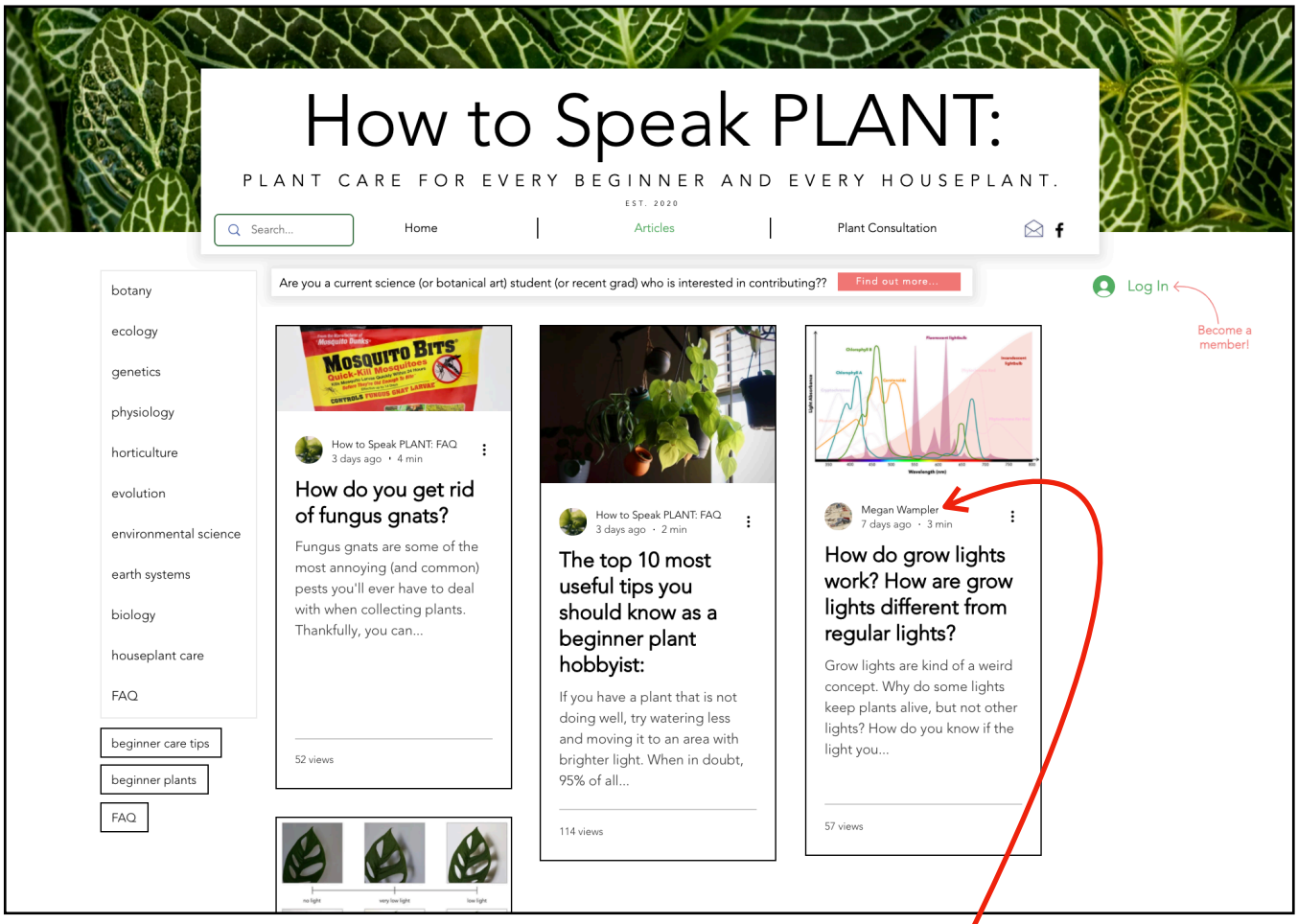
If you need help, I'm happy to supply topic ideas! Some topic ideas are listed below.

Signup process:

Fill out this Google Form.

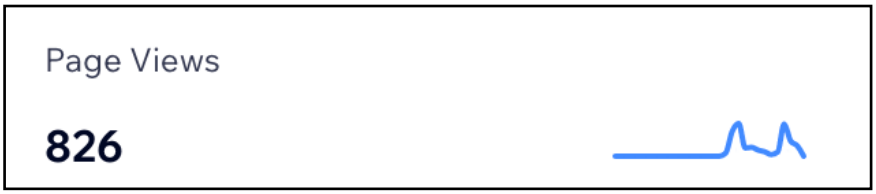
This is ***not*** a job application — I just want to know some information about you, your background, and why you want to contribute. You do not need to have a ton of experience in research and scientific writing to be part of this project, but you do need to be part of a science-based program (or at least preparing to commit to a science-based program, if you are early in your program) and I am looking for people who are *excited* to be part of this project. The only people who will not be invited to join the project are those who do not appear to have a genuine interest in contributing.

(don't forget to keep reading to see the fine print for more detailed information!):



This could be you!

We're already getting some great traffic in just a few days!



THE FINE PRINT / FAQ

Procedure. What happens now? How does this work?

Great! I'm super excited you're here!

I'll send you an email with some introductory information and start some dialogue with you and get you set up as an author on the website. Once you have a good topic for your first article, we'll set a timeline for check-ins, and you can get started! If you have questions while you're writing, send me an email. Don't forget to think about what photos you might want to include (some topics will require you to take photos, others will not — keep this in mind when thinking of a topic)! After you have a draft you're happy with, send it to me (Google Docs works great for this), I'll read and give you feedback about edits and presentation, word choice, audience accessibility, etc. Once we're both happy with a final draft, it'll be posted and you'll be free to share to your heart's content!

Why only STEM students?

Being Published with a capital "P" in research is a really big deal in STEM, and not a lot of students get the opportunity. I want this project to be an opportunity for STEM students to be published with a lowercase "p" as a way to bridge some of the gap. Additionally, I want this to be a science-based website using research and scientific proof as the basis for articles; there are plenty of blogs and websites that repeat the same information as all the other blogs and websites. This website is meant to be an accessible ***science*** blog, not just more of the same generic (and potentially incorrect) articles that aren't science-based.

If you are an art student interested in botanical illustration / etc, please join in! We'd love to have you. I will have separate information for you in the introductory email.

That being said, if you are reading this and you are *not* in a STEM / science based program (or art / illustration) but you're still interested in participating, feel free to **email me** and we can talk about it. I just want to make sure my authors are comfortable with basic research!

Quantity:

Ideally, these articles will be restricted to something you can read in 5 minutes or less. Longer works on more complicated topics aren't necessarily bad, it is just more difficult to keep readers engaged, so make sure the length of your article actually *needs* to be longer to be scientifically accurate. Consider this project an exercise in brevity and compelling writing. :)

Quality:

The goal of this project is to provide you an outlet for creativity and publication. If your writing is not of the caliber that you would want to share with potential employers, what is the point? Make sure you are following industry standards for analysis, citation, sample sizes, critiques, etc. Make sure to make it clear when you are making an indirect comparison or other writing

device — your target audience may not have a background in the sciences (which is the point of the entire blog) that would give some perspective on the topic, so you need to make it clear when you are and are not being literal. Ask yourself, "would my grandparents/other relative understand what I'm trying to say? Is what I'm saying still scientifically correct, even if the concept has been generalized?"

Editing:

I reserve the right to make edits (and final veto on article topics). I will give you feedback about any issues, and you will get to approve the final version(s). I am a big supporter of artistic freedom, but your writing does need to be appropriate for the target audience, accurate, and without substantial grammar issues. I also have an associate editor to help speed up the process, and may add more as the project grows!

If you decide to include any form of statistics or probability in your article, you're on your own to make sure it is correct.

Copyright + Plagiarism:

This goes hand-in-hand with quality — you absolutely must, must, *must* cite your sources. If you can include hyperlinks in the text to exactly where you found your source, that is even more fabulous. Now that you're taking a step into the world of public "journalism / reporting / research / scholarship" instead of purely academic writing, consequences for stealing ideas are serious. Please, do *not* copy or use figures or photos from other people's work. Your ideas need to be *your* ideas, and using material that other people have created is risky territory.

Don't worry — I will have a step-by-step flowchart on citing and when you need to ask permission, and other procedural things that need to be accomplished and double-checked before publication.

Follow standard guidelines for citing, but make sure you don't get lazy. You don't need to have a source for "the sky is blue" or something equally well-known in the field, but if you read a handful of journal articles and find information useful or interesting, cite it. Better safe than sorry. If you're writing a less specific topic using information you've learned from experience, make sure that what you're writing is *actually* scientifically correct. If you are new to science writing and need some guidance, "Writing in the Biological Sciences: A Comprehensive Resource for Scientific Communication by Angelika Hofmann" is an excellent resource.

Important: if I receive any copyright disputes / complaints, the offending article will be taken down immediately. The author of that article may be removed from the project.

Will I receive any money for my writing?

Nope. I won't either though, if it is any consolation. This project is entirely for the notoriety, self-promotion, and (hopefully) fun.

How can I use the things I write?

You are absolutely welcome to share the articles you write far and wide. Share them on social media, LinkedIn, print them out and mail them to your grandparents, whatever.

Just please do **not** submit them to other similar websites, and please check with me before submitting to other kinds of publications. Anything within the university (like a student newspaper, magazine, newsletter, etc) is fine, but please include a link or other information about the website/blog. At this point I'm not planning on doing anything additional beyond the blog, but if I do want to do something else, I will contact you for permission first.

Feel free to share this PDF and the signup Google Form with any other interested students!

TOPIC IDEAS and (hopefully) INSPIRATION

General:

- linguistics and phylogeny: common names, scientific names, and origins of common plant names (bad origins and names that should not be used?)
- the relationship between epiphytes and their host trees
- what exactly is an "aroid"?
- inter-plant competition and what that might mean for indoor plants
- the relationship between poison dart frogs and bromeliads
- primate frugivores and the dispersal of tropical plants
- structural differences between monocots and dicots (I have some photos already) and how those differences affect propagation
- an introductory description of different kinds of plant hair and how they help the plant
- root development in different kinds of plants
- types of bacteria and fungi commonly found in potting soil
- flowering schedules and requirements of orchids
- comparison of the metabolic expense of flowers versus foliage
- roots versus shoots versus reproductive material (and how that is seen in relative growth rates of indoor plants)
- do tropical plants have a growth dormancy in the wild? why or why not? if not, how to prevent dormancy in indoor plants during the winter?

- genetic or physiological triggers for variegation and reversion
- chemical or physiological sources / causes of "sun stress" (symptoms, health consequences or benefits, etc)
- a beginner's guide to photosynthesis and the Krebs cycle
- different kinds of photosynthesis and the pros/cons of each kind
- a deep dive into the different kinds of photosynthetic pigments and how they relate to plant growth and development (I have some good resources / a good starting ground for this)
- bacteria and fungal infections: on the leaves, relationship with stomata, and in the xylem and phloem
- a beginner's guide to learning plant anatomy, or, what to look for in plant anatomy when learning how to identify houseplants
- descriptions of common phrases in horticulture: cultivar, subspecies, hybrid, etc….
- why plants rot when their soil is too wet but not in water propagation
- general structural differences between succulents and tropical plants, including cross sections and photos for comparison
- an analysis of the different kinds of plant toxicities / defenses / chemistry (we will NOT be posting any information about human or animal medicine or treatment for consumption)
- compare and contrast bogs, fens, and other kinds of wetlands
- an analysis of the ecological impact of the houseplant industry on wild areas, plant poaching, etc.
- plant reproduction, pollination, and why (or how) it can (or can not) be easily accomplished indoors
- distinguishing between the different species of *Peperomia*
- physiological (and/or biochemical) differences between temperate, tropical, and desert plants
- a comparison of the origin and ecosystems / microbiomes of interesting plants (ex. a "biography" of different areas around the world and interesting plants found there)
- comparisons between the flora in the time of the dinosaurs to now
- A meta-analysis of how temperature affects development rates in plant parasites (and how that might affect treatment for pests)

Small-scale study ideas (don't forget about the principles of sample size and research to actually back up your theories and results — the best outcomes will probably be to complete these under the supervision of a professor if you are a student):

- whether or not adding a *Tradescantia* cutting (and/or *Salix*, and/or *Epipremnum*) to the propagation water of another plant will speed up the rooting process, and the science behind why (or why not)
- DIY pest control and what is most effective on eggs, nymphs, and adults
- cellular damage associated with various plant stress as seen under the microscope — sunburn, drought, wilting, phytotoxicity, pest predation, etc.
- effects of varying levels of humidity on plant development (using something that grows really fast, probably)
- use of rooting hormone and relative growth rate of roots in various common plants

Some gorgeous Indian Paintbrush (*Castilleja coccinea*) from one of our artists.