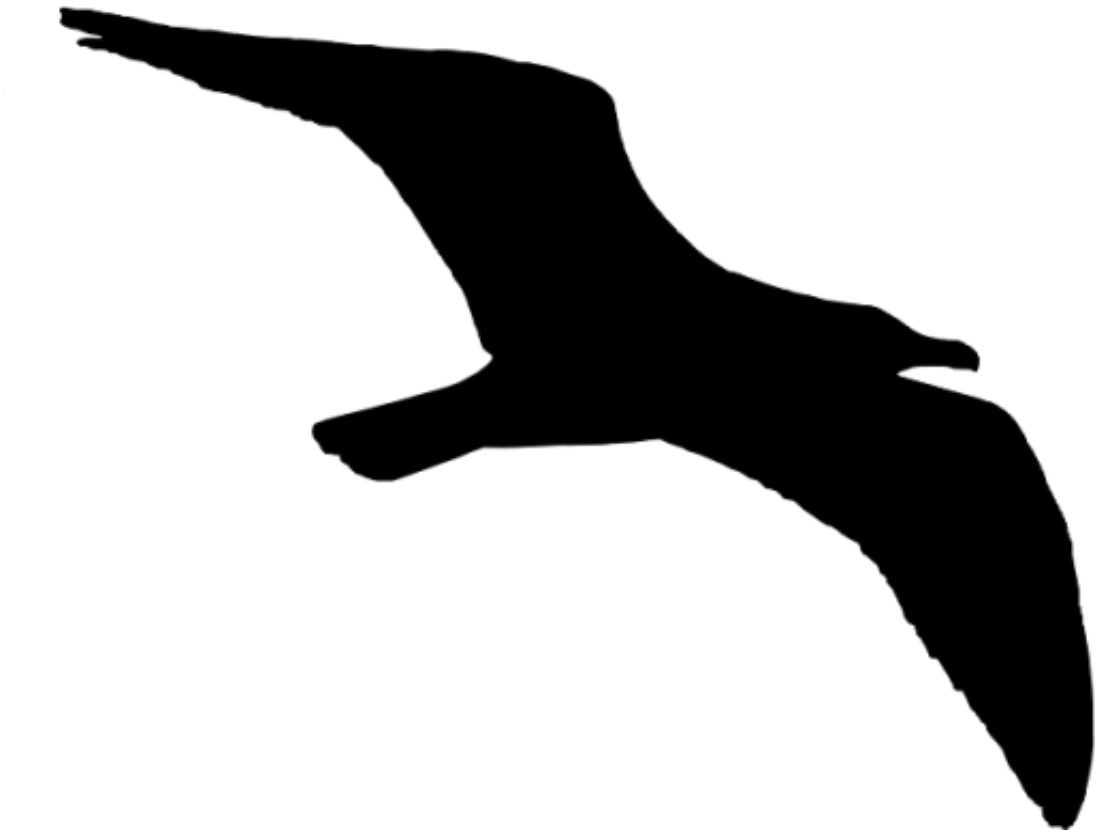
Behind the scenes at PhyloPic

July 21 2015, by Andrew Farke



A gull, Larus. Credit: Public domain image by Mattia Menchetti, via PhyloPic

Open science is about more than just tossing some publications and data notebooks into the digital ether. It's all about communication–so, at this point I'm obligated to say that "A picture is worth a thousand words." One of my favorite open-friendly image sources is PhyloPic, a phenomenal site with over 2,200 silhouettes of organisms past and present. These silhouettes can be quite handy to illustrate family trees

(for instance, we used them in our paper on the horned dinosaur Aquilops), or blog posts, or public presentations. Suffice to say, it's a great resource. [full disclosure: I have contributed some images to the site]

To learn more about PhyloPic, I invited founder Mike Keesey to share his perspective.

Can you tell us a little bit about the genesis of PhyloPic? Where did the idea come from?

Well, Andy, as you remember, back in the late '90s and early '00s, I used to run a website called The Dinosauricon, which featured dinosaur information and illustration. There were pages for every genus in the avian stem group (not just dinosaurs). And there were thousands of illustrations from dozens of contributors. I was never satisfied with it, though. I had these increasingly grandiose plans to do a complete redesign. But, after several aborted attempts, I had to face the fact that I would never, ever have enough time to complete it. In fact, by that point I didn't even have time to maintain the site as it was. I eventually let it die.

As the years went by, I'd occasionally look into the idea of reviving it, but it seemed like other websites were doing a better job at its core missions. Wikipedia is an amazing resource for up-to-date dinosaur information, far better than the Dinosauricon ever was. And for illustrations we have image search services, Wikimedia Commons, DeviantArt, Flickr, and so on.

So I tried to think of something the Dinosauricon had done that wasn't being done better by something else. And I recalled the silhouettes. Every taxon page had a representational silhouette, made by myself or

Frank DeNota. But instead of making hundreds of silhouettes, I just reused several dozen, since related dinosaurs mostly have similar silhouettes. (Except for those dang ceratopsids!) In doing this I had been inspired by a product from my childhood: Safari Cards. For those who've never heard of them, they were a series of collectible cards about animals, including a taxonomic organization system that used silhouettes as a visual key. Another inspiration was David Lambert's A Field Guide to Dinosaurs, one of my favorite books from childhood.

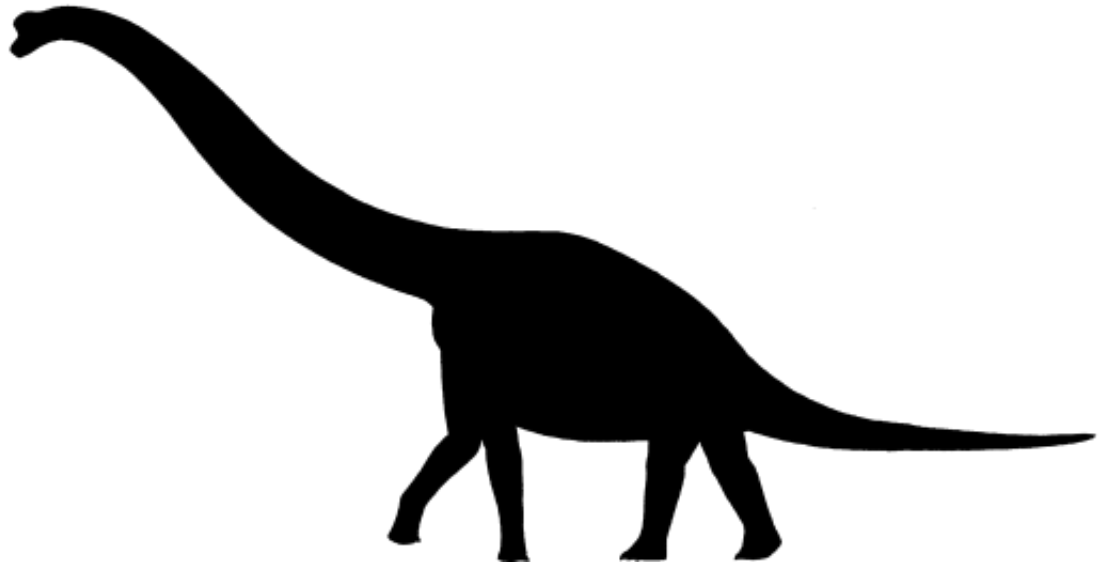
A lot of people had reused Dinosauricon silhouettes in diagrams for presentations and classroom material. Silhouettes are a really common need for researchers and educators. So I thought, what if I were to chuck all those grandiose plans, and narrow the scope? A website with freely reusable silhouettes. That's it. Nothing else. And, like the Dinosauricon, I wanted to make it possible to use the same silhouette for related taxa. By using a third-party resource for the taxonomy (uBio), I could even expand the taxonomic scope without too much extra effort—not just dinosaurs, but all life forms. Finally, I had a project I was able to complete!

What has been your favorite use of imagery from PhyloPic?

I think I'm still waiting for it. I mean, I'm ecstatic that a lot of researchers and educators are using PhyloPic silhouettes in their diagrams, and that developers have built tools that use the API. (If you use R, check out Scott Chamberlain's rphylopic package. The Open Tree of Life also uses the API to grab silhouettes for its pages.) These are exactly the sorts of usage I had hoped for from the start.

But I haven't seen designers or animators really latch onto it yet, except as silhouette contributors. I think there are opportunities to create

amazing pieces using PhyloPic silhouettes, but I'm still waiting for someone to blow my mind with something I never thought of. In the meantime, though, I'm just glad that more and more people are finding it useful.



Giraffatitan. Credit: CC-BY, by Matt Wedel via PhyloPic

You use a mix of licenses (Creative Commons, Public Domain, etc.) on the site. How, in your view, has this played out in the "real world"?

I had to make some tough choices early on. Creative Commons has several different licenses with various restrictions. Initially I just wanted to provide three choices: public domain, attribution, and attribute/share-alike. But some artists I talked to also wanted a noncommercial option. I seriously dislike the Creative Commons NonCommercial component, because it's worded so broadly that it disallows almost any online usage. Wikipedia and Wikimedia can't use noncommercial works, for example,

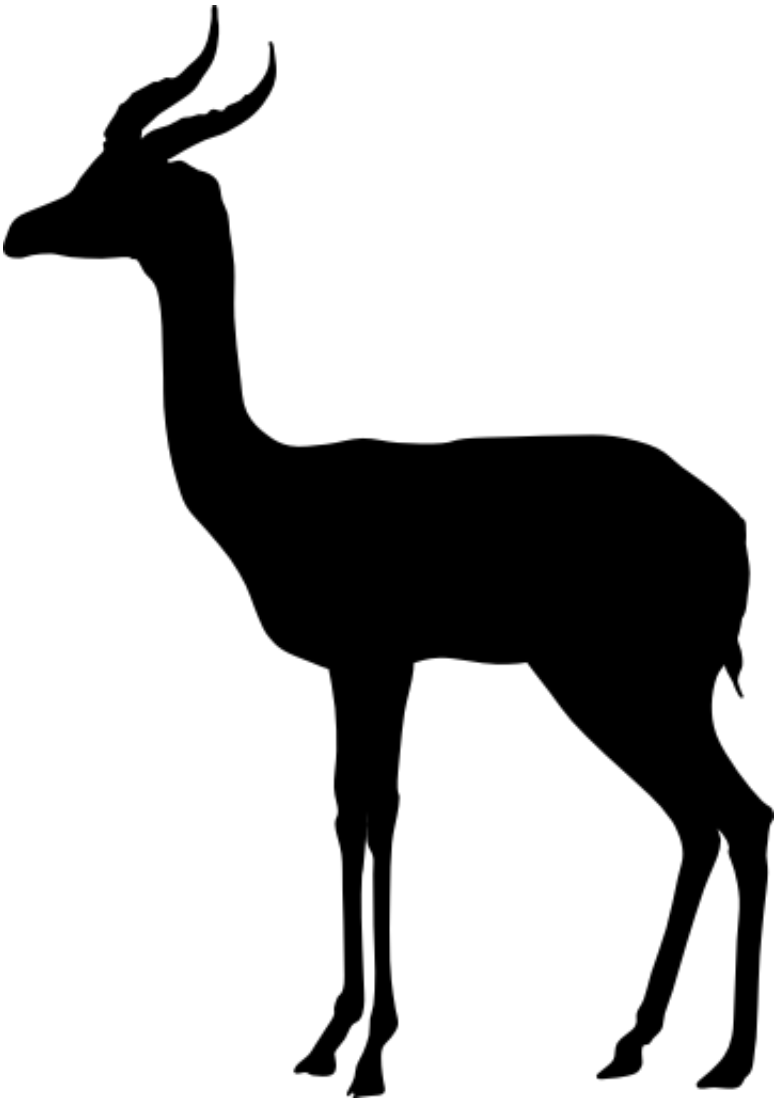
even though they're nonprofit organizations. But I really wanted to build up as large a bank of images as possible, so I grudgingly relented. (And note that you can usually contact the artist if you need them to waive that component of the license for you.)

As for how it has all played out—well, it's funny that the entire point of Creative Commons is to simplify licensing for free reuse, and yet many people still don't follow the terms! Maybe their eyes just glaze over when looking at the bullet points, I don't know. But I see it all the time. People use a silhouette that's under an attribution license, but don't credit the artist. (Often they credit "PhyloPic". While I always appreciate the site being mentioned, it is not itself an artist.) Or people use a silhouette that's under a noncommercial license in a subscription-based journal, or they use a silhouette that's under a share-alike license in a diagram that is not itself under a share-alike license. Quite often the license isn't mentioned at all.

I think part of the problem is that silhouettes aren't seen as "real" artwork. People see "freely reusable" and just think they can grab them with no further obligations. Now, granted, some of them didn't require much effort to make, such as the ovoid I use to represent cellular life—although that one's public domain! But many others are the result of hours of tedious work. On behalf of the artists, I'd like to exhort people using the silhouettes to take a closer look at the license terms. The creators are not asking for money, just some consideration. Please respect the work that went into creating the art. (Unless they're public domain—then do whatever you want.)

I do want to make this easier for users. I've recently moved the license bullet points to a more visible spot on the image pages. And one of my highest priorities is to enable users to manage collections of silhouettes. Collections will include automatic attribution generation and license selection. I think that will be hugely helpful.

And if anyone else has ideas to make this easier, let me know! From anywhere on the site, just click "Dev > Request Feature."



The gerenuk, Litocranius walleri. Credit: CC-BY, by Andy Farke, via PhyloPic

Do you have any long-term dream for PhyloPic? Where do you see the site in two years? Five years?

For me, the beauty of PhyloPic is that it's useful the way it is right now, but you could still spend a lifetime fleshing it out. I can very easily see myself as an old man still finding neglected groups, fixing up their taxonomy, and adding illustrations. The Tree of Life is just so vast.

I have a lot of technical improvements and new features I want to add, too. You can see them on the site, under "Dev > Road Map". One big one will be automated cladogram generation. The idea is that you plug in a Newick string and it spits out an illustrated, linkable cladogram—that would be incredibly useful. And I could even capture phylogenetic information from that and feed it back into the taxonomy!

Eventually I want to add other types of images, too, not just silhouettes. Imagine being able to do a taxonomic search for photographs, restorations, skeletal reconstructions, whatever. But I don't want to take that on until I've "mastered" silhouettes. And I think I have a long way to go.

Protura. Credit: CC-BY, by Birgit Lang, via PhyloPic.org

The scope of PhyloPic is pretty ambitious. What areas would you like to see with more imagery?

Oh man, where to begin? There's a huge emphasis on "charismatic

megafauna" right now. While we are starting to get better coverage for some other groups (for example, Birgit Lang's contributions for soil organisms), there's a long way to go. And even most groups of charismatic megafauna aren't that well covered. As of right now there are only 2,264 silhouettes on the site, covering millions and millions of species.

I guess if I had to make one suggestion for people who want to contribute but aren't sure what they want to do: plants. Please, we need more plants.

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