

Journal of NATURAL SCIENCE ILLUSTRATION

GUILD OF NATURAL SCIENCE ILLUSTRATORS



A Note From...

Gail Guth, GNSI Journal Co-Editor-In-Chief

We are happy and proud to present another issue of the Journal, filled with beautiful images and information that we hope is useful and interesting to our members. In this issue we roam from Julia Scott's paleo pangolins to Linda Feltner's Studio Tips on watercolor friskets, from Sandy Williams' winter sketching to Gail Selfridge's Colorful Leaves project. Then, if all that isn't enough, there's more! We delve into Vicky Earle's pitcher plants, and wind up with an in-depth discussion on how to combat the ever-growing problem of copyright infringement.

And in the middle of it all, a four-page insert on the upcoming GNSI Annual Conference in Asheville, NC! Be sure to read the insert's introductory article that details the rich biodiversity of the Smokies. GNSI conferences are always wonderful and rewarding events; but if you need persuading, this article should give you added incentive to join us in exploring this amazing area.

Please take special note of page 27: it contains our oft-repeated plea for Journal content, including guidelines for submitting articles, plus a call for Journal volunteers. If you think you might be interested in working on the Journal, please read this section and let us know. Journal work is a great way to hone your publishing skills: it's challenging and fun, and much better if there is a full team to share the work load. Whether you contribute articles or work as part of the Journal team (or both!), it's a great addition to your CV!

Regards,

Gail Guth

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Cover: Symbiotic relationship between Hardwicke's Woolly Bat (*Kerivoula hardwickii*) and Tropical Pitcher Plant (*Nepenthes hemsleyana*). Watercolor on Paper 9 x 20 inches
© 2015 Vicky Earle, Vancouver, Canada

GUILD OF
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Rendering a Paleo Pangolin

—Julia Morgan Scott

Abstract

Science illustration can be a long term endeavor. Along the way I have developed my own idiosyncratic techniques, but the consistency, thoroughness and attention to detail is of utmost importance. The 14 year project to render the details of America's only native pangolin species will give novice illustrators an idea of what a hardcore species description monograph can encompass.

In 1995, on the campus of the University of Tennessee at Chattanooga (UTC), my alma mater, I ran across a poster that read, "Can You Draw?" My first thought was, "Heck, yeah!" I'd graduated in 1984 with a B.A. in Art, but only my drawing teacher was a traditionalist and encouraged my talent for realistic rendering. My goal was to be a science-fiction book illustrator, and although I had built my portfolio with small-press work, it didn't pay much and I was always on the lookout for art jobs.

I marched into the office of Dr. Timothy Gaudin, where he handed me a horse vertebra to take home and draw. I had no idea I was walking into my real career, and even less that I would be spending nearly 14 of the intervening years working on a single massive project: a monograph on *Patriomanis americanus*, recently published by Smithsonian Scholarly Press, which Dr. Gaudin co-authored with Dr. Robert Emry, retired curator in the Department of Paleobiology at the Smithsonian's National Museum of Natural History, and Jeremy Morris, a former undergrad at UTC.

I soon found out that Dr. Gaudin's main interest was Xenarthran, a zoological order consisting of armadillos, anteaters, and sloths, along with their

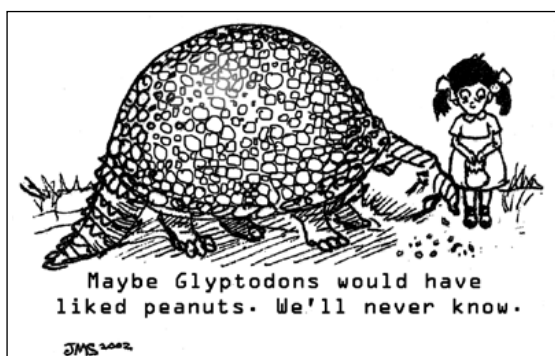


Figure 1: Cartoon featuring a Xenarthran, *Glyptodon*, © 2002 Julia Morgan Scott

Figure 2: Life reconstruction of *Patriomanis americanus* foraging for termites in the treetops. The tree is from the genus *Carya*, which, according to Prothero (1994), was present in this part of Wyoming during the Chadronian North American Land Mammal Age (latest Eocene). 11"x14" Oils on Claybord, © 2016 Julia Morgan Scott, for Smithsonian Institution.



Figure 3: Rendering setup; fossil skull of *Holmesina floridiana*, a giant Florida armadillo, resting on a bed of garnet sand. Illuminated from the standard upper left quadrant.

© 2016 Julia Morgan Scott

Figure 4: Pangolin fossil resting on a bed of garnet sand; fossil is coated with ammonium vapors to hide discolorations that can obscure the shapes of the specimen object.

© 2009 Dr. Timothy Gaudin, Smithsonian Institution

enormous, extinct cousins, among them the ground sloths and glyptodonts. He also studied pangolins, since they superficially resemble Xenarthrans, and although it turned out they are only distant cousins, he has continued to write about them too. In the intervening twenty-five years, these peculiar and fascinating creatures have become internet darlings, with World Pangolin Day (February 18, 2017) vying with baby sloths in pajamas. They've even managed to sneak into my non-science illustration (Fig. 1)! And along the way, although I'm not a scientist, I've learned a lot about them.

Dr. Gaudin's involvement with *Patriomanis* began in 2002, with an NSF grant to work four months with Dr. Emry in Washington, DC. Dr. Emry discovered the type specimen, now in the American Museum

of Natural History in New York, and wrote the first paper on *Patriomanis* in 1970. In all, three skeletons of *Patriomanis* have been found, the other two residing at the Smithsonian. After his sabbatical, Dr. Gaudin brought back casts, a skull, and some vertebrae. I began drawing them. In all, I drew more than 100 drawings for the monograph, comprising 53 figures, plus a full-color life reconstruction (Fig. 2).

My technique is an old-fashioned, yet idiosyncratic amalgam I've developed over the years, using graphite pencils, Koh-I-Noor black ink, and Dr. Martin's Process White on hot-press paper. My goal is to render fine detail, with an emphasis on value, not line (although some broken specimens require more lines than I would like). In addition, my technique needs to be flexible enough to allow me to make changes at the last minute.

Step one is photographic reference of the fossil. Photos tend to distort, and although a telephoto lens helps, I don't always get to control the process, and the photos are often made in a small office (Fig. 3). My worst nightmare is a poorly lit photo, not in the right position, with the specimen in a museum far away! When that happens I find a similar specimen in the drawer and hope for the best.

Luckily, I usually have the fossil, and use the photo to size the drawing from 1X to 3X, then create a rough outline and mark major features. A caliper helps with accuracy, but mostly it's "eyeballing" after that. The fossil is gently supported in a box of garnet sand, lit from the left and above (another challenge in a busy office). For small fossils, modeling clay can be used to make adjustable supports. Clay also helps to make models when a shape is hard to "see," a problem when the fossil is discolored, shiny or crucial parts are obscured. Discolored fossils can also be coated with white ammonium vapors (Fig. 4), which creates uniform lights and shadows.

I start with a Staedtler HB pencil to slowly build up value, using stumps to smooth marks until the final stages, being careful not to use hard pressure. I'm not looking for dramatic darks or details at first. In the beginning I often use just a grubby stump to draw because it makes a soft, pale mark. I build progressively darker values, first with Staedtler 4Bs, finally finishing up with 7B or Ebony for the darkest darks. My kneaded eraser adjusts highlights and gently lightens without damaging the paper. I rely heavily on my electric sharpener and electric eraser (a Staedtler so ancient that eraser inserts must be bought from Ebay). Sharpening eraser inserts with a knife allows me to add tiny, intense highlights. Accents in black ink render the deepest holes (with a layer of 7B over the ink) and sutures. Finally, a few highlights are accented thinly with process white.



I still love making stipple drawings with my trusty Koh-I-Noor technical pens. I learned that technique working for the small press, back when only “line copy” was accepted, since half-tones required expensive photographic equipment. I’ve also done pen-and-ink drawings with fine croquille or larger Silverado points, but now I’m researching computer drawing with a pressure-sensitive stylus.

I’ve learned about Photoshop on the job. I scan the finished work at 300 dpi and then adjust contrast if necessary. I clean up the background using the “magic eraser” and regular eraser tools, then run the blur tool, set very small, around the edges of the drawing. My grandson, who has a degree in graphic design, says no one is ever going to notice this, but I dislike the eraser artifacts. I also use the band aid tool, the blur tool, and the dodge tool to give highlights a “pearly” look. These techniques have evolved slowly over the years.

When I scanned founding GNSI member Larry Isham’s drawings of *Patriomanis* for the monograph, it was a learning experience seeing them up close. His masterful handling (it looked as if he used mostly Ebony pencils) gave a full range of values without unnecessary dependence on outlines. I cleaned up the background and did a bit of smoothing and highlighting on his drawings, but of course I didn’t want to do too much. (See GNSI Journal Vol. 44, Issue 3 for examples of Larry’s fine pencil work.)

The life reconstruction of *Patriomanis* was my first chance to do full-color work in the science field, although of course I’d done color work elsewhere. First I compiled modern pangolin photos from the internet, to decide what color to make my critter, since pangolins vary from a golden color to dark brown. I settled on gold, to show contrast against the dark green background (a pecan tree, found in late Eocene rain forests in Wyoming). I photographed pecan trees in my neighborhood (Fig. 5) and cut small branches to get the leaves in detail. Then I found termite nest photos online, worked out the color range and shapes formed when broken, and made a clay model to see shadows.

The color life reconstruction was based for the most part on Larry Isham’s skeletal reconstruction. I also had a skull and other skeletal bits which I used to create a preliminary drawing. I transferred the drawing to an 11”x14” piece of Claybord, applied a translucent imprimatura in yellow ocher acrylic, and executed the underpainting in black and white acrylics. Then I worked over the painting with oils, alternating transparent glazes and layers of opaque color, using Liquin Fine Detail medium and very fine brushes. My oil palette consisted of Mars black, titanium white, green umber, Dioxazine purple,

ultramarine blue, Winsor red, cadmium yellow deep, yellow ocher, burnt sienna and Thalo greens.

At this point I made a clay model, spray-painted it gold, then stretched the clay to form cracks resembling the pangolin’s scales (that’s why my *Patriomanis* model looks like a prehistoric Dachshund!). I added a moss-covered “branch” created from a shipping tube and some lime-green shag, fresh pecan branches around it, and my Eocene bower was complete. It took a few tries with lighting to achieve the misty, dappled look I was aiming for, but the purpose was to understand color, light and shadow so I could be confident about applying the finishing touches (Fig. 6).

Of course, along the way, I’ve worked on many other projects with Dr. Gaudin. One of the most important was Morphobank and the Mammal Tree of Life (www.morphobank.org) an NSF-funded project which provides an online platform for analyzing anatomical data – features used in evolutionary analysis – with visual data, which is where I came in. I drew many illustrations showing unique features of modern and extinct Xenarthrans and pangolins, which were then uploaded onto the platform and are available to researchers all over the world.

Dr. Gaudin describes the *Patriomanis* monograph as a broadly useful paper which will be cited for a very long time. *Patriomanis* was the only pangolin ever in the Western Hemisphere and one of the very oldest pangolins, living in a rain-forest in Wyoming 34-36 million years ago. The existing specimens are some of the best fossil mammal skeletons we have, period. He says, “*Patriomanis* has the potential to tell us a lot about, not just early evolution of pangolins, but of mammals in general. This type of detailed anatomical description remains useful for a really long time. Anybody who studies *Patriomanis* is going to use this paper.”



Figure 5: Pecan Tree with moss. Reference photo, © 2009 Julia Morgan Scott.



Figure 6: Rough maquet sculpture, and diorama for depicting light and shadow. Reference photo © 2014 Julia Morgan Scott.

Figure 7: Detail of the monograph frontispiece. Translucent imprimatura in yellow ochre acrylic, underpainting in black and white acrylics. Then over painted with oils, alternating transparent glazes and layers of opaque color, using Liquin Fine Detail medium and very fine brushes. ©2016 Julia Morgan Scott, for Smithsonian Institution.



Note: As of 2017, the Latin name of *Patriomanis americana* has been changed to *Patriomanis americanus*. You can see the whole 2016 monograph online at the Smithsonian Press in PDF form: opensi.si.edu/index.php/smithsonian/catalog/book/98

Figure 8: Example of the tone work found in the monograph. Sacrum of *Patriomanis americanus*, USNM-P 299960: (a) in dorsal view; (b) in left lateral view. Scale bar = 1 cm. Illustrations 2016 by Julia Morgan Scott. Image Courtesy of the Smithsonian Institution.

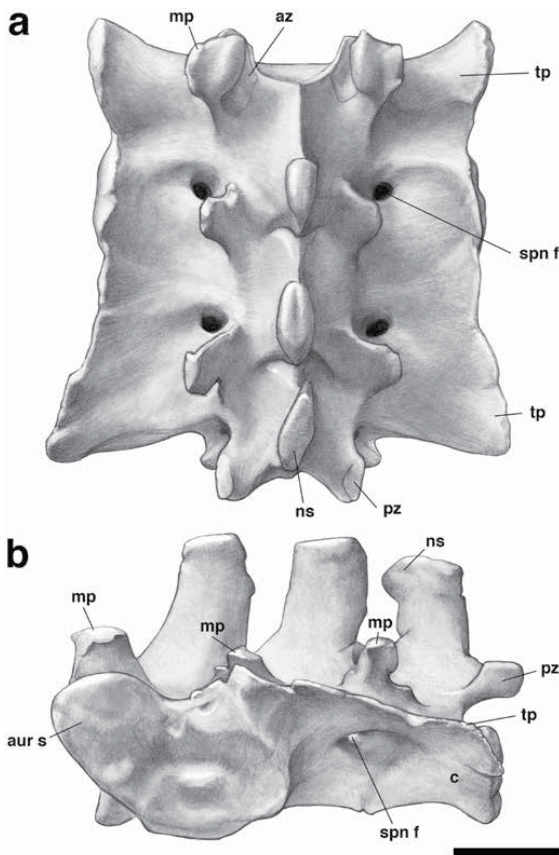
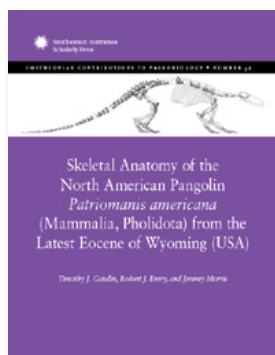


Figure 9: Monograph Cover with Larry Isham skeleton reconstruction. Image Courtesy of the Smithsonian Institution.



Paleontology is a slow-moving field, with fewer scientists working at any one time, and work does not go out of date as quickly as it might in more modern fields, such as neuroscience, for example. Works in paleontology can be cited for decades - or even centuries. A number of years ago I exchanged a few friendly words in the hallway with a colleague of Dr. Gaudin. She asked me about my work, and then said something that truly surprised me at the time: “You know, don’t you, that your drawings are part of the scientific literature, and will be used by scientists for a very long time? Maybe even a hundred years from now.”

The thought had never crossed my mind. I think of what I do as very obscure, even within the small world of science illustration, but it is mindboggling, and thrilling, to think my work might be used as reference for scientists long after I’m gone. That alone makes it feel very worthwhile indeed.

I’m told that the Smithsonian is busy wiring together *Patriomanis* for display sometime before 2018, along with a print of my reconstruction, so I’m planning a visit!

L

Studio Tips:

Masking Fluid for Watercolor Painting

— Linda M. Feltner

Abstract:

Illustrators have traditionally applied masking fluid to preserve white paper or isolate regions while painting adjacent areas. Discussions began on the GNSI ListServ with contributors declaring both successes and spectacular failures. A list of masking fluid performance grew to a considerable amount of information and was organized and included in this article. Masking fluids are described, as well as composition, applicators, methods of use and maintenance. Comparisons of the behavior between common masking fluid brands and various watercolor papers have proven valuable to avoid lost time and laborious detail for both professionals and students.

There are several ways of maintaining the white, unadorned surface of watercolor paper while painting. Instructors once taught a purist attitude for watercolor painting which was simply to paint around an area and leave the paper white. Since that time, with experience and complex techniques developed, there were times when there was nothing “simple” about painting around a white area. Atmospheric conditions play an important part in the reactions of a paper that can absorb water.

For instance, 4% winter humidity in Arizona does not allow time to paint a consistent wet background around tiny flower blossoms on a stalk. While in Costa Rica the humidity was so high, the watercolors only completely dried when returned to Arizona.

Paper sizing, an additive during manufacturing, is used to reduce absorbency by capillary action. High-quality papers have sizing applied to both the interior and exterior of the paper. This element can also impact masking fluid results.

A common pitfall has been to rely too much on masking fluid to preserve the whites and neglect the pre-planning required to generate a fresh, transparent quality in a watercolor painting. Some illustrators have thought of it as “white paint” because, in some instances, the remaining marks became a dominant part of the painting.

Despite a few challenges, masking fluid has become



Figure 1: (left) The use of masking fluid allows for precise detail in the foreground with a multi-layered background wash. After removal of the masking fluid, fully expect to adjust every edge with some sort of painting technique.

Figure 2: (below) The completed painting “Canyon Illumination” (Violet-crowned Hummingbird (*Amazilia violiceps*), Parry’s Penstemon (*Penstemon parryi*) and Convergent Lady Bird Beetle (*Hippodamia convergens*)).

Images © 2011 Linda M. Feltner



MASKING FLUID APPLICATORS



3x0 brush



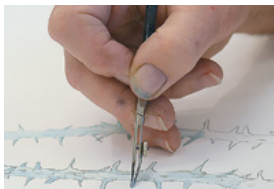
Gillott 659 flexible nib



Incredible Nib-chisel end



Incredible Nib-pointed nib



Ruling pen



Rubber colour shaper



Toothpick

an extremely useful and flexible tool to the creative process. When used skillfully it has been used to achieve a whole variety of desired results.

WHAT IS IT?

Masking fluid is a removable liquid used generally on paper to block or mask out areas that should not receive paint. It's composed of latex and ammonia. Some brands have a stronger smell than others. Some artists are sensitive to either ingredient and if they must use it, it should be in a highly ventilated room, or outdoors.

Masking fluid is often called frisket or liquid frisket or maskoid. "Frisket film" is a different product which is a self-adhesive film that can be cut and placed on paper to mask out areas and is reusable. It's used for airbrush, stencils and general-purpose masking.

HOW TO USE IT:

Masking fluid must be applied to completely dry paper. Otherwise, it will sink into the fibers of the paper and will be extremely difficult to remove without damage to the paper.

Shaking the bottle is not encouraged. This adds a bazillion tiny bubbles that might inhibit smooth coverage, but they also dry inside the liquid and create small strings that could stick to your applicator while using it. If you must stir it up, *lightly* rock the bottle from side to side.

The product is created to dry upon contact with air; keeping the bottle open for long periods during use will soon thicken the product. A helpful hint is to pour a small amount (a tablespoon?) of the fluid into a smaller container, allowing the large bottle to be sealed up during use. Use the fluid directly from the tiny airtight container (1" across x ¾" high), 35mm film canister, or an old prescription bottle that has an airtight lid. An added advantage to holding the tiny container and applicator closer to the work allows a faster use of the product and fewer accidental drips.

For infrequent use, the large economy-sized bottle isn't often a bargain, because after a year the product may no longer perform well. Store the bottle out of sunlight.

APPLICATORS:

Precision often drives the decision of what applicator to use. Picking the right one will save a lot of clean up of blobs that overspill the shape. For instance, a toothpick does not serve well for the delicate tip of a tiny bird beak or tip of a cactus spine. However, there are many options and there is no reason why several kinds of applicators cannot be combined.

Keep a disposable container of water nearby and use a paper towel to frequently clean the applicator as it continually clots up with dried latex. Submerge the applicator in water if interrupted. Use disposable containers, such as a paper cup, because latex bits are hard to clean out of good watercolor containers.

1. A personal preference is a 3x0 synthetic brush with a super fine point. An inexpensive synthetic brush will withstand the frequent cleaning and de-clotting to keep the brush with a usable fine tip, and will not cause heartburn when it's thrown out.

2. Some artists recommend coating a natural-hair brush with liquid dish detergent or soap before using the fluid. However, it's easy to get caught up in the work and forget to refresh the detergent. Risking a sable brush to this product seems scary, but some



Masking fluid must be applied to dry paper, and it should be thoroughly dry before applying paint.

illustrators report to have success with this method.

3. Toothpicks: Commonly available, they work well for medium-to-small areas but are not as precise as other applicators. Wood absorbs the latex making it harder to clean.

4. Masquepen: Brand name fluid in a squeeze bottle with metal nib. Two thicknesses of nibs are available. The metal nib can apply extremely fine lines but despite the pin that fits into the tube to de-clog, it easily dries out. Personal experience has resulted in frequent clogging despite acute attention and cleaning.

5. Graphix Incredible Nib: Brand name applicator with a wooden tip on each end. A flat wedge tip can spread a lot of fluid around. The pointed end dulls easily and is not pointed enough for the tiniest details. Wood absorbs latex and is harder to clean.

6. A ruling pen/mapping pen. A mechanical tool with two metal jaws that are held at a consistent distance by a cog on the side. Normally used for ink lines. Can be adjusted with the cog to create a variety of thicknesses. This creates very consistent strokes and is easily handled.

7. A rubber blender or “colour shaper” for colored pencils or pastels. It is easy to clean and holds its shape.

8. Toothbrush: to spatter for random texture or highlights on water.

9. A flexible dip pen. Can achieve nice lines with variable widths.

10. A horrible old brush of medium size that can be loaded with masking fluid and tapped, spattering onto the paper, creating variable globs and random marks for texture.

11. Combining applicators: To avoid coating an entire object in liquid, such as a large bird or vegetable, try combining masking methods. Apply the masking fluid to achieve precise edges, then mask the large interior with something else such as paper, frisket film or tape. However, all materials have to withstand the amount of water you are using surrounding the subject.

OTHER MEANS OF MASKING:

1. Tape: can be great for horizon lines on a scene or lake and building or structure edges. Drafting tape and blue “painter’s” tape has lighter adhesive than traditional masking tape.

2. White Artist’s tape has a medium adhesive and is generally acceptable for not pulling off the paper when it’s gently removed, but I’d sure do a test first on hot pressed or soft paper.

3. Candle wax and white crayon can be used, but cannot be removed. It can achieve some interesting random textures, such as leaves in a forest scene. It is used mostly in multi-media artwork.

COLORED MASKING FLUID:

Some brands use a blue or orange colorant in the fluid for easy detection on white paper. Some illustrators find this is visually disturbing when painting next to one of these colors. It’s easier to judge a color next to a neutral gray. It’s also not recommended for really soft papers or when you have to leave the masking fluid on the paper for a long time, because some colorant might seep into the watercolor paper and stain it.

THICKNESS OF APPLICATION:

In extremely delicate areas with tiny shapes, the thinner the application of liquid will produce more precise lines. In larger areas of coverage, the thicker the application, the easier it will be to pull off.

CLEANER/THINNER:

Generally, soapy water can help clean applicators, but mostly the action of pulling out dried latex cleans the applicators. Wooden ones are harder to clean because they absorb the latex deep into the fibers.

Richeson Shiva Liquid Masque and Liquid Masque Cleaner. The Cleaner is for cleaning brushes, they also advertise it as a thinner. Use with caution, it is an extreme eye irritant.

Some have tried thinning rubber cement with Bestine. Again, caution should be used with this chemical irritant, which is both smelly and highly flammable.

RAPID DRYING:

Drying with a hair dryer on certain softer paper can melt the masking fluid into the paper, making it nearly impossible to remove.

Length of time masking fluid can stay on the paper: the amount of time depends on the type of paper and atmospheric conditions. If it sits in the full sun it will melt or fuse into the paper. In studio conditions, suggestions vary between a few hours to a few weeks.



Applying masking fluid to large areas: large areas can be coated fairly heavily; more delicate details require a thinner application to preserve details.

Photo © 2015 Gail Guth



STEP BY STEP: "DESERT FAN-CRESTED SAGUARO":

(Top) Detail of Winsor & Newton Colourless Art Masking Fluid on the painting, covering the flowers and bird: note the fine lines covering the cactus ribs and spines.

(Middle) After the masking fluid has been removed, hard edges either remain as sharp spines or painting continues on the bird and flower details.

(Bottom) The finished painting: Saguaro (*Carnegiea gigantea*), Gila Woodpecker (*Melanerpes uropygialis*), Honey Bee (*Apis mellifera*). Transparent watercolor.

© 2013 Linda M. Feltner

REMOVAL:

Prior to removal, make sure the paper is completely dry.

Several devices can remove frisket: a rubber cement "pickup eraser", a ball of dried masking fluid, soft eraser, or you can rub off with fingers. Gently coaxing the masking fluid off the paper will lift it without disturbing the surrounding paper and pigment. Don't rush it. Vigorous pulling might pull paper up with it. Comments from the ListServ include several masking fluid brands and certain papers that do not perform well together.

Gail Guth relates a story from John Cody's workshop at a GNSI conference in Maine: "It was summer, next to the ocean and humidity was sky-high. Dr. John had prepped his watercolor demo with masking fluid and let it sit overnight. He worked on very large sheets of 300# paper, which later proved to be fortunate. The next morning he started to remove

the masking fluid, but the paper was so damp from humidity that in places, the dried masking fluid was pulling up the paper. He worked very carefully to not damage the paper and it was *very* time-consuming. All of us pitched in to help him gently remove the masking fluid; it took several painstaking hours. However, the time was not wasted, as it proved a good lesson for us and we had the extra bonus of listening to Dr. John's hilarious stories. We laughed as much as we worked!"

AFTER IT'S REMOVED:

See Figs. 1 and 2 on page 7

1. After removal of the masking fluid, fully expect to adjust every edge with some sort of painting technique. The result of masking leaves harsh edges that could look incongruous with the rest of the artwork. In some techniques, however, hard edges are planned and desired.

2. The good news is the pencil outline of the object will probably be lifted when the dried fluid comes off so there may be no erasing left to do. Therefore precision on the edge is important. The bad news is that if the entire object was coated in masking fluid, it is possible that all of the interior pencil lines that were so carefully drawn could lift up also. Some registration marks might aid in redrawing those interior landmarks. Despite this issue, covering the entire object with masking fluid may be the better choice if washes that use a lot of water and/or dye pigments are used. Masking large areas with plain paper will not stand up to that, while the masking fluid will. Dyes in the paint pigment could stain the plain paper and thus seep down to the watercolor paper beneath.

MASKING OVER PREVIOUSLY PAINTED AREAS:

Masking fluid can be used over painted areas with some caution. Granular pigments may have a tendency to pick up easier than dye pigments. Some papers are more tolerant than others. Under these circumstances, always do a test first. There are some recommendations from others in the compiled list below.

LEFTOVER FLUID:

Don't pour it down the sink, unless you are good friends with a plumber. Don't pour it back into the main container; it may already contain small strings forming from exposure to the air. Let it dry and peel it out, or wipe with a paper towel and toss in the trash. One person suggested rolling it around the end of an old brush, making an odd-shaped glob, and then once dry, dip in liquid masking fluid, and bounce it on the paper to make random marks. This dried glob might also be useful as a pickup device.

In conclusion, masking fluid is a practical tool, flexible and helpful to achieve our goals. Universal advice from the contributors: Before you commit, do a test first!

The comments compiled below came from the fount of knowledge and expertise that is our GNSI ListServ! Their advice has been of great benefit to many professionals and students. Thank you GNSI ListServ!

MASKING FLUID COMMENTS FROM THE GNSI LISTSERV

Contributors:

Linda M. Feltner (LMF), Carie Nixon (CN), Kathleen Garness (KG), Bruce Bartrug (BB), Anne Runyon (AR), Consie Powell (CP), Holly Butlett (HB), Hannah Bonner (HB2), Patricia Savage (PS), Jo Ann Loza (JAL), Gail Guth (GG), Linda Koffengerger (LK), Vera Ming Wong (VMW), Rebecca Brown-Thompson (RB-T), Lore Ruttan (LR)

Caution: Health Hazard. Some have reported allergy-like symptoms to these products, and added that Pebeo was a brand that one student could tolerate, but still used it with ventilation.

Winsor & Newton Colourless Masking Fluid:

- Arches hot press: Good (CN)
- Arches hot press 300#: Good (HB)
- Arches cold press 140# and 300#: Good (LMF)
- Fabriano Artistico cold press 140# and 300#: Good (LMF)
- Strathmore Bristol 500 series (3 ply): Good. (AR)
- Twinrocker hot press 300#: Interferes with the sizing.

Winsor & Newton Art Masking Fluid (yellowish color):

- Twinrocker hot press: Questionable. Better than Graphix Incredible mask, but still lifted some paper (BB)
- Strathmore 500 watercolor paper, older version hot press: Good (HB2)
- Arches hot press 300#, pre-painted with W&N watercolor: OK, picked up a small amount of paint. (PS)

Grafix Incredible White Mask:

- Twinrocker hot press: AVOID (lifted a significant amount of paper)(BB) (Twinrocker said they were working on that issue.) Please test first!
- Strathmore Bristol 500 (3 or 4 ply): Good (CP)
- Fabriano Artistico 90# or 140# hot press: OK (CP)

Pebeo:

- Fabriano Artistico: Good (KG)
- Arches: Some problems with sizing (KG)
*One student of LMF said that Pebeo Drawing Gum was the only product that did not make them cough.

Masquepen Art Masking Fluid:

- Very difficult to clean their applicators after first use. But botanical artists like it for cactus spines. (JAL)
- Vellum: Good: used to draw with, especially the fine applicator. Care needed in removing and cleaning. (VW)

Schmincke Masking Fluid:

- Hot press watercolor paper: Good (RB-T)

Rubber Cement:

- Undesirable. Hard to see, toxic, flammable, stinky (KG, BB)
- Stonehenge drawing paper: Good, thinned with Bestine Solvent (LK via PS)

Carie Nixon:

I have tried several different masking fluids and I have settled on the Winsor and Newton Colourless that you like. I use it on Arches Hot Press Watercolor Paper. I have a set of nice brushes that I only use with that, and clean them up ASAP. I can get incredibly fine lines with it. At first, I thought the W&N wasn't that good because it is so thin, but now I appreciate it. That is why I can get such good detail with it when I use a fine brush.

Kathy Garness:

Linda, I usually use Pebeo; it's grey so easy to see. I have to replace my bottle every year or so because it tends to break down and get gloppy but even then it's still usable. Other brands tend to harden up in the bottle over time. Since I don't use a lot of maskoid in my work it's nice for the product to last a while for me. I like it because I can leave it on more than 24 hours, even up to a few days, and it doesn't leave any color behind. The only drawback to Pebeo is that my local Dick Blick store is only stocking the W/N stuff (and in the large size!) now on the shelves so I have to order online.

I have also used plain rubber cement but that's not quite as easy to use since it's hard to see once down, it smells terrible, and needs a solvent to thin when it gets old.

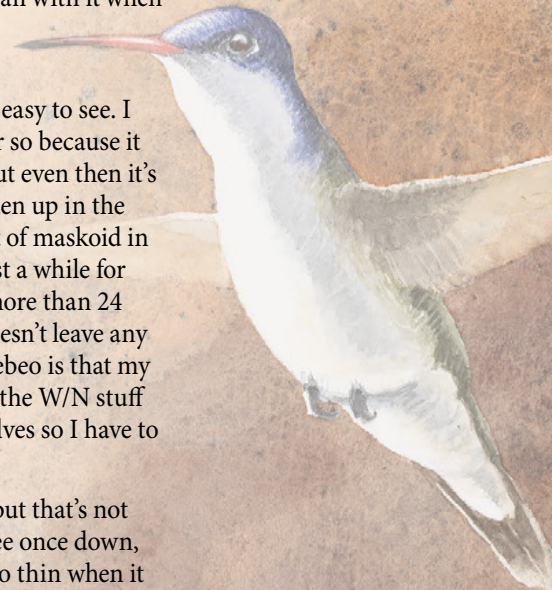
Bruce Bartrug

Winsor and Newton liquid mask works well on Fabriano Artistico hot press, but it does lift some (all?) of the surface sizing. One can see a slight difference in the appearance of the paper at any rate after removing the mask. I bought the regular masking fluid as the Colourless wasn't available at the local store. It's slightly yellow now, not vivid pink.

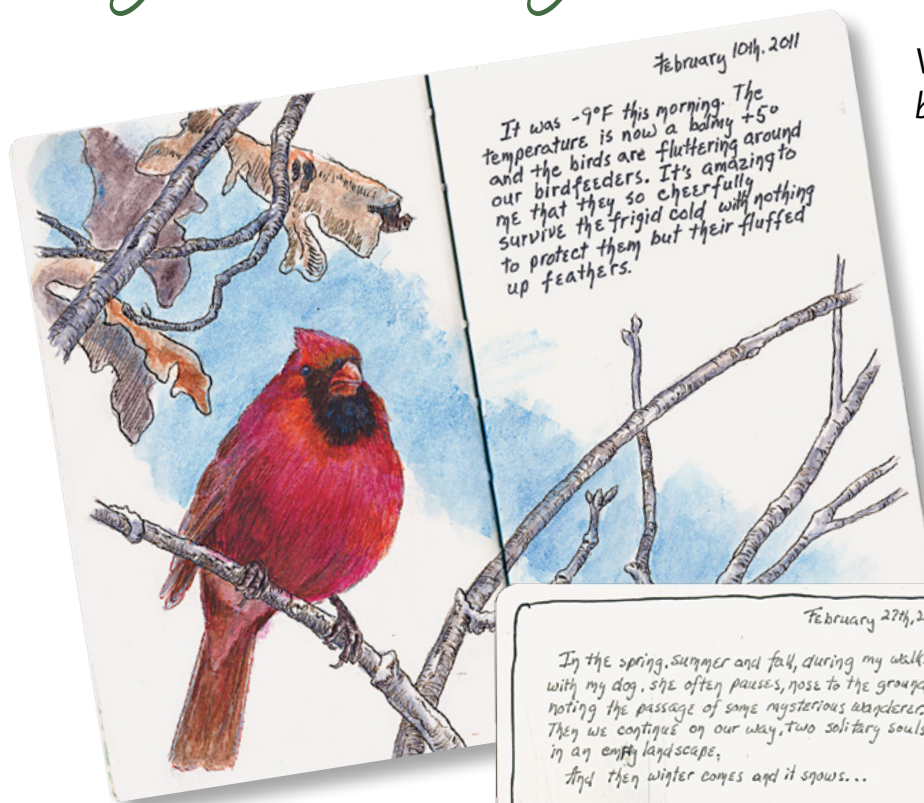
Don't use masking fluid on Twinrocker hot press, especially Grafix Incredible White Mask, which lifted a significant layer of paper. W&N was better but still lifted some paper. Twinrocker is apparently working to correct or minimize this with their papers.

Lore Ruttan:

Twinrocker hot press, 300#. Did not exactly lift paper like Bruce's experience, but did "mess with the sizing".



Pages From My Sketchbook



Winter nature journaling
by Sandy Williams

"When I have a bit of free time I love to pull out my journal and record bits and pieces from our gardens, open fields or just something out of my head. I generally use watercolor pencils and pen and ink with a bit of white gouache thrown in for snow."



Pen and Ink Sketch - January 16th, 2010
Watercolor Wash - January 17th, 2010, 6:05 pm, 28°

I did the pen and ink sketch for this painting on the cloudy afternoon of January 16th, hoping to catch the light of the rising sun the next morning. No luck - the morning was cloaked in a heavy blanket of clouds. But, midafternoon, the sun finally made an appearance and as it set I tried to record the soft yellow sky behind a black lattice work of trees and branches. A bit of blue left in the sky reflected off the darkening snow.

All images © Sandy Williams

Highlands, Hellbenders, and History:

Exploring the rich biodiversity of the Blue Ridge Mountains

— By Dr. Amy Boyd, Professor of Biology, Warren Wilson College



The Blue Ridge Mountains are one of the most biologically diverse areas in North America. These are very old mountains, formed at least 440 million years (compare that to the relatively

young age of the Rockies, which are only 55-80 million years old). Their age makes them well weathered, with soft curves and a relatively low profile. But their age also means that life has been evolving here for a very long time, leading to a high amount of biological diversity and endemism.

The history of the mountains has helped shape and encourage that biodiversity. Plants and animals found refuge here during the Pleistocene glaciation, when ice covered much of North America but did not reach down into these mountains. During this period, organisms adapted to cold Northern climates moved south into these mountains, and some, such as the firs on our highest peaks, still remain. In addition, you can find here some species with a more tropical affinity, such as the pawpaws (*Asimina triloba*). Interestingly, there is a very strong connection between species found in the southern Appalachian Mountains and eastern Asia. Some plant groups, such as tulip poplars (*Liriodendron*) and silverbells (*Halesia*), are found only in these two areas, completely missing from the rest of the planet. Why? Again, the answer lies in glacial history: the groups were widely distributed, but were wiped out by glaciation throughout the range except for the refugia in these two areas.

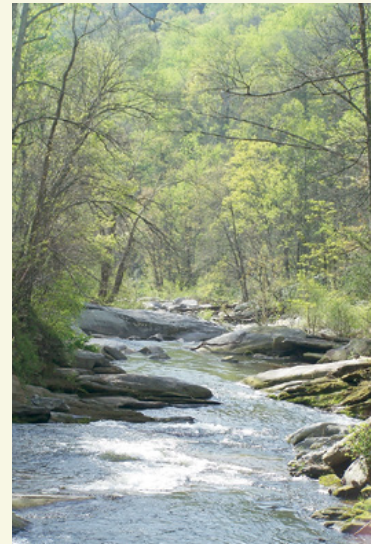
Another reason for the high biodiversity is the diversity of habitats. If you drive from Asheville, NC, to the top of Mt. Mitchell, the highest point in the U.S. east of the Rockies, you will drive through an equivalent spectrum of ecosystems as if you were

driving from Asheville to northern Maine—and it only takes about 45 minutes. Get to the top, and you find yourself in something very similar to boreal forests, with fir trees and species only otherwise found in much more northern forests.

Our mountains have some particularly interesting and unusual ecosystems nestled among the more typical forests. One of these is the mountain bog, a wetland system whose origins are uncertain but which house rare and endangered plants such as the mountain sweet pitcher plant (*Sarracenia jonesii*) and the swamp pink (*Helonias bullata*). Another is the high-elevation rock outcrop, where thin soils and exposure restrict inhabitants to specialized plants and animals such as the Virginia big-eared bat (*Corynorhinus townsendii virginianus*) and spreading avens (*Geum radiatum*).

These forests were transformed more recently by the chestnut blight. You don't have to look very hard in these forests to find small American chestnut shoots, even though the adults of this species were wiped out by the chestnut blight fungus in the early part of the 20th century, and the fungus still prevents existing plants from ever reaching reproductive maturity. This species was majestically dominant in these forests before the blight, and was enormously important to wildlife, generating huge quantities of nuts that fed deer, turkeys, bear, and many other forest animals. Today, shoots still emerge from underground roots that remain from some of these decimated giants.

The North Carolina mountains are home to more species of salamander than any other area of comparable size in the world, with more than 45 species from 5 different families. Some are restricted to a single small watershed or one mountain peak. More specifically, our mountains are the world center for diversity of *Plethodontids*, the lungless salamanders, which breathe solely through their skin. Many of them have evolved brightly colored skin patterns to warn predators of their toxicity, and some have evolved coloration that mimics one another so



Top: Stream in Hickory Nut Grove

Above: Bloodroot

Both photos ©Dr. Amy Boyd



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Hellbender; photo courtesy of the National Wildlife Service



Right: Wood Aster
Photo ©Dr. Amy Boyd

that they share in the benefit of this warning signal. They are often the most abundant vertebrate in the forest, with densities up to 2 per square meter, and play an important role in food webs, as both predators and prey. New species of salamander are still being discovered; for example, the patch-nosed salamander (*Urspeleperpes brucei*) was discovered in 2009 and represents an entirely new genus. It is also the smallest salamander in the country, reaching only about 2.5 cm long at its peak of growth. On the other end of the spectrum, southern Appalachian mountain streams are home to the hellbender (*Cryptobranchus alleghehiensis*), a salamander that can grow to an astounding total length of up to 74 cm. They are the third largest salamander in the world, surpassed only by their two Asian cousins (another Appalachian/Asian connection).

The Blue Ridge Mountains are a center for diversity of land snails, and millipedes reach record diversity levels here, with over 230 species. They are home to more than 250 birds, 78 mammals, 58 reptiles and 76 amphibians, and more tree species than all of Europe. Hike deep into the steepest gorges and you will find more old-growth forest stands than in any other Southern Appalachian state. Finding these wonders amidst the moist, dense greenery of our forests may require turning over logs to look for salamanders, getting down on your knees to appreciate the exquisite tiny mosses, or looking carefully at leaf shapes to notice the incredible diversity of tree species. But your efforts will be rewarded with a rich and diverse experience of natural history that has been evolving in this place for more than 400 million years.

MEMBER'S EXHIBITION DON'T FORGET! Submit your entries for the 2017 GNSI Annual Juried Member's Exhibition! This year we will have both a traditional and a digital online exhibit.

Submissions accepted through March 31. The online submission form and entry rules can be found at: 2017.conf.gnsi.org/exhibits

AUCTION!! DON'T FORGET! Start gathering up your auction goodies! Bring them along with you or ship them ahead. Almost anything is fair game for this riotous event!

Send your auction items to our local coordinator:
Amelia Janes, 21 So Hi Trail Black Mountain, NC 28711



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—Plenary Speakers—

NOTE: Biographical information and detailed descriptions of these presenters and their talks is available on the conference website: www.2017.conf.gnsi.org



ROBERT JOHNSON

Taking Nature Notes: Robert Johnson Working Method

In his presentation, Robert Johnson, a painter living in Western North Carolina, will explain his system of “Nature Notes” in the field and share the step by step process he uses to turn these notes into one of his vibrant, imaginative works of art.

robertjohnsonpaintings.com

NANCY LOWE

Art + Science in the Field: AS IF Center

Nancy Lowe is Director of Art + Science In the Field and is passionate about using art to communicate science. AS IF Center is a hub for artists, scientists, and hybrid artist-scientists to work in collaboration or in parallel with others who share their interests. The AS IF Center’s mission is to develop curiosity and creativity through collaborative and participatory art and science.

www.asif.center

JOHN PICKERING

Save All Species – Moth Lights A Way?

Dr. Pickering has been a naturalist since his childhood in England. He is now a Senior Research Scientist at Sam Houston State Natural History Collections in Huntsville, Texas.

Dr. Pickering will detail Discover Life’s “Save All species” initiative, specifically the Mothing Project, part of a series of initiatives to map out the best strategies for preserving all species.

www.discoverlife.org/moth/

TODD WITCHER

All Taxa Biodiversity Inventory in Great Smoky Mountains National Park

Todd P. Witcher is the Executive Director of Discover Life in America (DLIA). DLIA is the nonprofit coordinating the All Taxa Biodiversity Inventory (ATBI) in Great Smoky Mountains National Park.

Scientists estimate that the Smokies contain an estimated 60,000 to 80,000 forms of life, of which only 18,000 are known. New discoveries are being catalogued at a pace of more than one per week, and the inventory’s immensely valuable data is then utilized by park management, and can be shared with conservation organizations and the international scientific community. DLIA-supported scientists have discovered an astonishing 951 species new to science, and 8,095 species that were not previously known to exist within the park.

www.dlia.org



—Field Trips...just a taste!—

BAND & BEER ART TOUR - HALF DAY

Climb on board Asheville’s funniest tour bus and get to know the public murals and artwork found amidst the art deco architecture of Asheville. LaZoom hosts guided tours with musical accompaniment and comedic interpretation. Along with the fun of seeing Asheville’s eclectic downtown and vibrant art, LaZoom will include stops at a few of the many craft breweries that give Asheville the moniker of “Beer City”.

PISGAH WILDLIFE TOUR - HALF DAY

Take a trip into the Nantahala National Forest to visit the Pisgah Center for Wildlife Education and Looking Glass Falls. This center features access to brook, rainbow, and brown trout fish hatcheries and wildflower gardens with accessible interpretive trails that wind through a hardwood forest habitat. The Center’s auditorium offers an award-winning documentary on the natural history of the mountains and the ways the commission works with the population to conserve wildlife diversity, and the Mountain Wildlife exhibit features live animals, including a diverse collection of fish, frogs, salamanders and snakes.



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—Presentations...just a taste!—

JJ APODACA

Conserving the Rare and Imperiled Amphibians and Reptiles of the Southern Appalachians

JJ Apodaca is a professor of conservation biology at Warren Wilson College, and has been conducting conservation-based research for 15 years, focusing on imperiled species and habitats in the southeastern US. He has worked on a variety of species, but specializes in the endemic and imperiled amphibians and reptiles of the southeastern United States. He will be discussing the protection and conservation of some of the amazing amphibians and reptiles native to the southern Appalachians, including the charismatic hellbender, bog turtle, and green salamander.

HELENA CHIN

Suite Design! Creating Educational and Outreach Materials with Photoshop, Illustrator, and InDesign

University of California Museum of Paleontology (UCMP) graphic designer Helina Chin will talk through her process creating educational materials for the McKittrick Tar Seep fossil collection. Long thought to be an urban legend, the story of fossils in the bell tower turned out to be true! With support from an Institute of Museum and Library grant, UCMP was finally able to prepare, catalogue and digitize the collection, as well as make educational resources about the Pleistocene animals, the environment they lived in, and the geology of the area.

PAUL J. BARTELS

The Microscopic World of Water Bears

Paul Bartels and his students at Warren Wilson have been exploring the world of tardigrades, colloquially called “water bears,” for over 15 years; they have discovered over 20 species new to science. Paul calls water bears “charismatic microfauna” and he will introduce you to these remarkable, poorly studied animals with photos, videos, and a hands-on lab tour demonstrating collecting and photomicroscopy techniques.



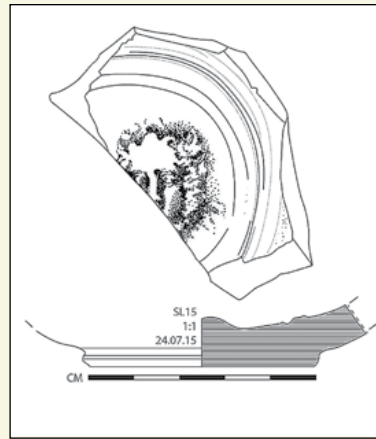
CONFERENCE SOCIAL MEDIA

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ROSA LOVESZY

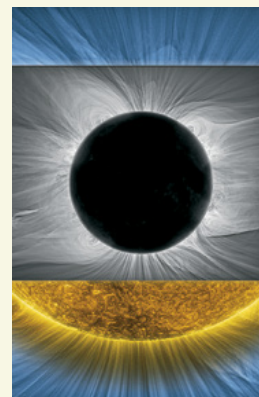
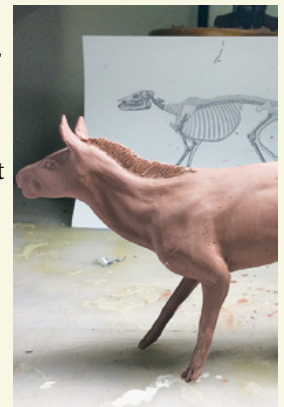
The Catacombs of Santa Lucia – An Archaeological Reconstruction

In the catacombs of Santa Lucia in Syracuse, Italy, several thousand tombs have been carved out over the centuries, but today's visitors are left with a different impression of the environment than initially intended by the artisans and architects of the third and fourth century. While excavating tombs at the archaeological site in the summer of 2015, Rosa Loveszy pieced together clues from the site and historical documents, and began to develop images that bring the dead back to life.

REID PSALTIS

Building an Eohippus: Using Grant Funding to Create Your Own Opportunities

Reid Psaltis received a 2017 Project Grant from the Regional Arts and Culture Council in Oregon to create a life-sized sculpture of the prehistoric horse eohippus. In this talk, Reid will discuss the process and method of creating the model including research, sculpting, molding and casting, as well as the writing the grant.



KAREN TERAMURA

Under the Moon's Shadow: Preparing for the 21 August 2017 Total Solar Eclipse

Join Karen to hear how a scientific illustrator became involved with an international group dedicated to science and public outreach to prepare communities along the 70 mile wide path of the Moon's shadow. Where will you be on August 21, 2017?



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The Art and Science of Colorful Leaves

— Gail Selfridge

I was educated to be an illustrator in the old school tradition, and even though the professors did not come to class wearing academic robes and require us to rise to attention when they entered the room, I am certain they all entertained such fantasies. It was rigorous training, long before computers, but even though digital and electronic advances have greatly impacted the printing process and added new dimensions to illustration, much of what was taught remains relevant. For example, the development of a preliminary drawing is still the first step in creating a scientifically accurate illustration. They may be called working drawings, sketches, final sketches, or preliminary drawings but throughout the literature they are always identified as the start of the illustration.

In addition to working as a professional illustrator, I also teach drawing classes but the students are not, as we were back at the university, a captive audience agreeing to be there for a lengthy period of time, pay a lot of money, and eventually work in the field. My classes are part of educational outreach programs and the participants do not have either the time for rigorous training or the inclination to become professional illustrators. They are there to learn about nature drawing as a means of enjoyment.

The initial challenge of working in educational outreach is overcoming drawing phobia, a condition that ranks along side the fears of math and public speaking. At the beginning of each class or workshop, I ask for those who know how to draw to raise their hands, and they all protest and insist that they can't draw a straight line—whatever that means. Time is an important factor here because classes may only last from one to four sessions, and I quickly saw that given both the objectives and the constraints, what was needed was a way to bypass a lengthy development of drawing skills and study of color theories. But even working at this level an underlying image is required, so I started providing participants with scientifically accurate preliminary leaf drawings in order to move them directly into observing actual leaf specimens and matching/reproducing the color(s) of the specimens.

Why choose leaves? Well, as specimens they are readily/abundantly available to anybody, free of charge, come in a wonderful array of colors, and can be used to both teach and learn about art materials and techniques as well as science concepts including leaf identification, leaf structure, leaf

shapes, leaf venation, photosynthesis, seasonal color changes, etc.

This approach was so successful that I submitted a funding proposal to the American Society of Botanical Artists and received the 2015 Anne Ophelia Dowden Award to create *Colorful Leaves*, an instructional publication for persons wanting to learn how to create botanical art either for personal use or as part of an educational program. The intention was not to train professional illustrators but rather to create scientifically accurate materials that would serve as tools and encourage both children and adults to observe nature and use drawing plus coloring for recording their observations. The grant ran for one year and the program was created as two separate units.

PART ONE: THE ART OF COLORFUL LEAVES

Finding the appropriate specimens, creating the line drawings, writing the text, preparing the material for printing, and delivering it to the printer took six months. *Colorful Leaves*, the publication, combines color inspiration from nature with a selection of reproducible and/or transferable preliminary line drawings. There is also information on how to develop scientifically accurate line drawings from materials found in your own neighborhood, a practice section with step-by-step illustrations matching colors found in nature to colors available in art materials, and a listing of all the colors/materials that were used to create the examples.

Deciding which leaves to include was the first order



Colorful Leaves has become available as a pdf download on the ASBA Website along with a second download that includes descriptions and photos of workshops that were given as part of the grant project. Reviews can still be seen on the Amazon site; however, the download is free to everyone and available at: www.asba-art.org/node/13130

Please direct any comments or questions regarding the online material to: gl@ksu.edu



of business, and they needed to be ones with a wide distribution. Then there was the creation of the line drawings. Each final drawing, while scientifically accurate, did not represent a leaf or branch of leaves that I just walked out and found hanging on a tree or lying on the ground. It is important then to be able to rearrange, reposition, add or subtract details, repair torn edges, over and over at times in order to create a drawing with satisfactory lines and composition. Tracing paper facilitates all of this. Thus the preliminary work was done on tracing paper(s) but which tracing paper, which pen or pencil? Some of the early work was quite beautiful but I would scan it and then print it only to decide that it might not hold up through the printing process. I loved the drawings made with pencils (2H thru 2B) but alas, pens worked best. But then not those beloved ink pens with nibs (left from my university days) but rather technical pens (Pigma Micron and Prismacolor 01 and 005).



Eastern Cottonwood (*Populus deltoides*) © 2016 Gail Selfridge

I hesitate to use samples of my work as examples because students will always compare their drawings with mine—even though this is their first drawing and, as I remind them, I have been doing this for years. But eventually the decision was made to include some finished drawings along with a list of the materials (colors and brands) that were used. This turned out to be a good decision and very helpful to users of the materials because it gave them a starting point, not to copy, but upon which to build.

Using the line drawings in *Colorful Leaves*

In addition to personal use, the line drawings of *Colorful Leaves* can be used in a classroom setting or educational outreach program and there are several different methods for working with the images:

1. Work can be done directly on the pages of the book (Exact Vellum Bristol) using crayons, colored pencils, and graphite pencils. For watercolors I recommend transferring the images to watercolor paper and to bleed proof paper for markers.
2. The images can be reproduced on a copy machine and coloring can be done on the copies. Permission is given for making copies of these line drawings for personal use.
3. Images can be transferred to suitable art paper

on which the coloring is then done. This method preserves the original drawings, and images can be repeatedly transferred for experimenting with different papers and various techniques including colored pencils, watercolors, crayons, graphite pencils, markers, pen and ink.

PART TWO: THE SCIENCE OF COLORFUL LEAVES

Part two was the presentation of workshops using the text and images featured in the publication and ultimately a report of the program's success at the annual ASBA national conference.

The second half of the year was spent managing the distribution, communicating with reviewers and workshop presenters, and compiling the results of these efforts. Review copies were sent, and to promote the use of *Colorful Leaves* as part of an educational outreach activity, complimentary copies were made available to ASBA and GNSI members in exchange for giving an educational program and then preparing a short description of the event and photos. Fourteen respondents agreed to participate: five in California; two in Pennsylvania; one each in Florida; Massachusetts; Colorado; Nebraska; New York; Toronto, Ontario, and Montevideo, Uruguay.

The workshop activities were quite varied and interesting and no two were alike. Some workshops were directed to adults, others to children. There was no curriculum that accompanied the use of the books nor instructions for how workshops should be given. Persons were free to read the text and decide for themselves how best to present the material for their group. There were fourteen presenters and fourteen different and creative ways for connecting workshop participants with science, nature, and botanical drawing/coloring, and all of the results were amazing.

Leaf shape, leaf identification, photosynthesis, and seasonal color changes were just a few of the science topics covered. One group that worked with children



Right: A *Colorful Leaves* workshop. Photo © 2016 Dorothy DePaulo

used the *Colorful Leaves* material as a starting point for exploring nature and went on to make nature journals that included drawings of animals and plants in their own neighborhood. A group of adults planned to continue working after the event and share the materials with their grandchildren. Yet another chose to continue over the year and make personal notebooks recording leaf colors as they changed with the seasons.

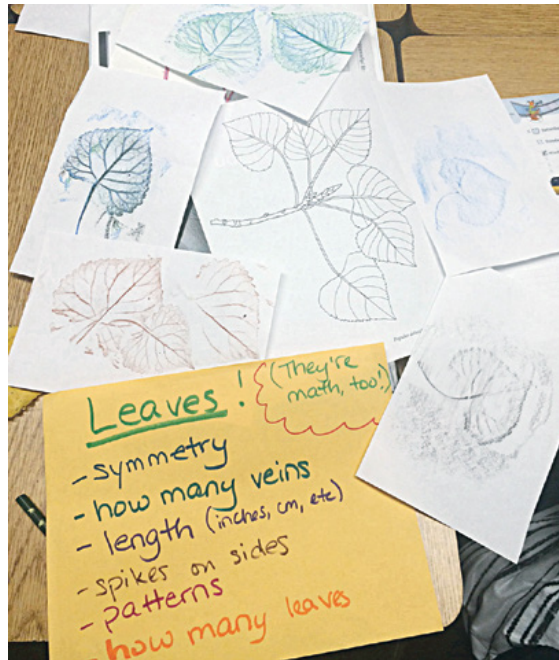
Although each workshop presenter had six copies of *Colorful Leaves* with which to work, a workshop or presentation could be given using only one copy of the publication.

Colorful Leaves: a coloring book of artwork from nature along with reviews can be seen at

www.amazon.com/Colorful-Leaves-Coloring-Artwork-Nature/dp/0974669016

LONG-TERM BENEFITS

Long before studying illustration at the university I enjoyed working with plants, animals, and drawing. There were no video or computer games. In fact there were no computers. We had to amuse and entertain ourselves and I learned to do that by exploring nature and drawing. The purpose of the *Colorful Leaves* program was not only to connect individuals to nature through drawing but also to encourage them to develop a lifetime interest in the natural world that exists all around us because our very existence relies on the plants and other animals. It was rewarding to see the results of the workshops, and the success of the grant was greatly increased by the presenters and the workshop activities.



Left (top and middle): Teaching math concepts using *Colorful Leaves*. Photo © 2016 Erika Kvande

Below: Results of the *Colorful Leaves* workshop in Uruguay. Photo © 2016 Gabriela Jolochin



DUETS:

The Dance of Symbiotic Relationships

— Vicky Earle



Detail: Pitcher Plant (*Nepenthes copelandii*) and ants

Watercolor on paper 9 x 20 in

All art © 2015 Vicky Earle
www.drawinnature.com

Abstract:

I am currently working on a series of 13 tropical botanical paintings that highlight unique plant adaptations and/or the unusual relationships that have evolved with insects, animals or humans. This project's goal is to promote educational awareness of the intricate interdependence of species within tropical ecosystems, as well as our own dependence on plants. It aims to heighten public understanding, pique curiosity, and generate an emotional connection with incredible stories that unfold everyday in rainforests around the world.

Duets was chosen as a title for this project to bring attention to the interactive dance of two distinct species in nature that together create (often) harmonic relationships, allowing life to move forward.

The paintings for this project are focused on plant species readily found at the Bloedel Conservatory: a lush, tropical triodetic dome located at the highest point in Vancouver, British Columbia. Because British Columbia is the temperate rainforest capital

of the world, Bloedel provides a magnificent and symbolic counterpoint where the appreciation and education of both ecosystems can be brought to thousands of visitors.

The tropical pitcher plants I selected compare 3 different species of *Nepenthes*, all with fascinating connections to different animals, but all with the same goal: survival.

Also known as Monkey Cups or Trumpet Pitchers, these plants grow in environments where the soil is acidic, nutrient poor and deficient in nitrogen, a compound essential for plants to survive. Over millions of years, *Nepenthes* species have evolved unique leaves that develop into very specialized pitfall traps. The tactic of most pitchers is to attract insects with the odor of nectar secreted from glands on the underside of their lids. While many will find a sweet meal, the rims of the pitchers are often slippery. Once an insect falls into the trap, it cannot get footing to escape due to a waxy coating on the inside of the tube. Digestive juices are secreted by the plant, so the more an insect struggles, the more the plant is stimulated to secrete acidic enzymes needed to decompose its meal. Insects provide the nitrogen these plants need to thrive. The lid, or operculum, doubles as an umbrella to shield the pitcher from collecting too much rain and diluting its digestive fluids. Some scientists hypothesize that the hair-like structures found on the anterior 'wings' of some pitchers may act like a ladder, helping insects climb towards the scent of nectar. *Nepenthes* consists of approximately 90 species, making it the largest family of pitcher plants in the world. They are native to Malaysia, India, the Philippines, Southeast Asia, Papua New Guinea and Australia.

Nepenthes hemsleyana has developed a different tactic. Found in the tropical peat swamps of Borneo, this pitcher's shape reflects high frequency echolocation waves sent out by Hardwicke's Woolly Bats looking for shelter. While most species of *Nepenthes* emit the odor of nectar to attract their prey, *N. hemsleyana* does not. Instead, it has developed a symbiotic relationship with this tiny bat (averaging 2.25 inches in length). The pitcher of *N. hemsleyana* is just big enough for one adult (or sometimes one adult with her pup) to roost inside. It has also evolved a 'girdle' approximately ½ way

down its pitcher to facilitate roosting. The bats receive protection from predators and the environment during the daytime. And when they leave, the plant receives a gift of nitrogen-packed feces — 33% more nitrogen than from digesting insects!

Also in Borneo, the Mountain Tree Shrew (*Tupaia montana*) has developed a similar symbiotic relationship with another species of pitcher plant. Insect prey is scarce in the mountainous cloud forests where *Nepenthes lowii* are found, but like insects, tree shrews are attracted to the nectar secreted from the underside of the pitcher's lid. When a shrew stops in for a meal, it must straddle the pitcher 'pot'. Tree shrews often 'do their business' in the pot before leaving, again providing nitrogen-rich feces that the plant needs to survive. Researchers have found that *Nepenthes lowii* receives 57% to 100% of its nitrogen from this relationship. *N. lowii* has also evolved a dry, non-slippery rim. This gives the tree shrew a secure

foothold and reduces the risk of it falling into the pitcher!

Videos have shown that tree shrews mark their favourite food plants by rubbing scent glands on the lids of the pitchers. They will then visit the same series of plants to feed. *N. lowii* produces the largest quantity of nectar of any *Nepenthes* species, enough to satiate a tree shrew up to three times a day!

Exhibitions are planned in Vancouver at the Bloedel Conservatory and VanDusen Botanical Garden later in 2017. A big thank you to Bats International and Mr. Ch'ien Lee for providing reference material for this project. I am also tremendously grateful to the American Society of Botanical Artists for being awarded the 2016 Anne Ophelia Dowden Education Grant to help make these exhibitions a reality.

The completed panel for the Pitcher Plant Series, one of 13 panels depicting unique plant adaptations and/or unusual relationships between species in tropical rainforests around the world.

Below, left: Pitcher Plant (*Nepenthes copelandii*) and ants. Watercolor on paper 9 x 20 in

Below, center: Hardwicke's Woolly Bat (*Kerivoula hardwickii*) and Pitcher Plant (*Nepenthes hemsleyana*). Watercolor on Paper 9 x 20 in.

Below, right: Borneo Mountain Tree Shrew (*Tupaia montana*) and Aerial Pitcher Plant (*Nepenthes lowii*). Watercolor on Paper 13 x 20 in..





Introduction

Imagine, one day while working on a project, you are running a Google image search for visual representation of one body part or another, perhaps a creature of interest, and you recognize one or more images in the search results as yours! At first, your ego gets a little boost — it's always good to see your hard work looking back at you from out there. But the thrill is very short lived, quickly being replaced with feelings of puzzlement and annoyance fading into anger and frustration.

Partly because you remember that you released your image into the world in print, and therefore it has no godly business existing in hyperspace, and partly because you realize that you have been victimized. You have stumbled upon a case of blatant copyright theft of your work, and it leaves you feeling violated.

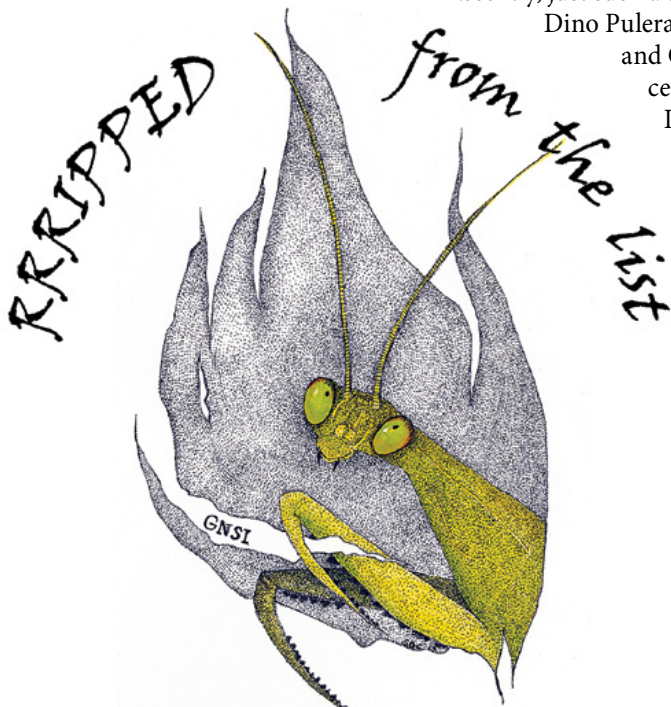
Recently, just such a thing happened to Dino Pulera, an accomplished and C.M.I. Board certified Medical Illustrator from Canada.

Unfortunately, this seems to have become a commonplace occurrence, and most of us will eventually be subjected to it, sometimes multiple times.

Dino reached out to the group on the GNSI email listserv. This began an engrossing

exchange, which spawned many more questions and concerns about Copyright Infringement on the Web today, and what we illustrators can do in response to such an affront. While I was reading through the email thread, I could not help but think of **Bill Westwood**, of Albany, New York, my professor and a good friend. A well-established and longtime medical illustrator, Bill is known to many of us in both the Guild and the Association of Medical Illustrators (AMI). I had learned from him years ago some of the basic facts of copyright protection and the importance of registering our artwork. As time went on, I would enjoy catching the local public radio talk show called "The Copyright Forum", in which he participates as a panelist. He has always been extremely helpful and willing to share information on art business matters, but especially in the area of copyrights. I wondered what Bill might have to say about this current email list discussion, so I contacted him and asked him if he would be willing to weigh in. Graciously, he obliged me, and after laying out the email thread, I have included his take on Dino's (and our) predicament. I have always respected his knowledge and experience in these matters, and thank him for once again sharing with us. I would also like to thank Dino Pulera for his help and for the use of his images here. I hope that you can take some heart from this column, and make good use of the information presented, both from Bill and from our fellow illustrators who responded to Dino's query in the email listserv.

Stephen DiCerbo



Original Post From Dino Pulerà

Date: 20 Jan 2017

Subject: Illegal use of Artwork

Hello,

I have illustrated a book and unfortunately many of my images are posted on a website without my permission. Here's an example of some of my work on this site (Figs. 1 and 2).

I have already contacted a lawyer for assistance. He sent a cease and desist letter a couple of times to the company, Study Blue, but they were ignored. My lawyer said if I wanted to pursue this further I would have to contact an attorney in California or Wisconsin because that's where this company operates.

Has anyone had similar experiences? If so, how did you stop the illegal use of your work and/or receive compensation?

Can anyone recommend a lawyer for my case?

Any suggestions or advice would be greatly appreciated.

Many thanks,
Dino

Dino Pulerà, BSc, MScBMC, CMI,
Certified Medical Illustrator
www.dinopulera.com

Responses From The Listserv

Deb Haines:

Did you send a cease and desist to Auburn University as well and let them know faculty are using copyright material and posting them on Study Blue which is a pay per use site. This is beyond classroom and fair use. You may get some traction.

Emily S. Damstra:

How frustrating, Dino.

I think your best bet is to follow the protocol of the Digital Millennium Copyright Act, and get the website host for Study Blue to remove the pages with the infringing content. The host is obligated to do so if you follow the procedure correctly. You can identify the host with a Whois search at various sites such as GoDaddy. You do not need a lawyer for that. I have had success doing that a few times in the past.

In my opinion, you're pretty unlikely to get any compensation from the offender. They simply have no

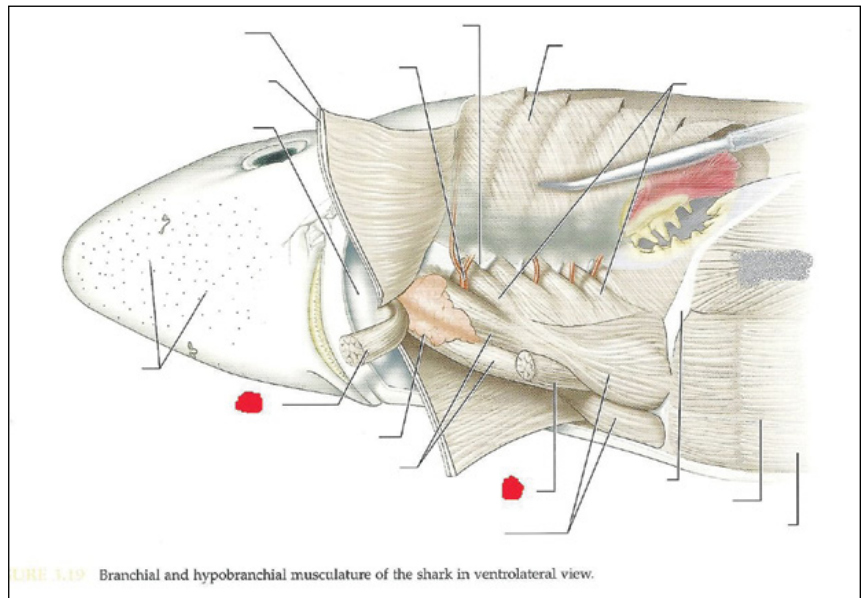


Figure 1: Pirated work on the Study Blue Site

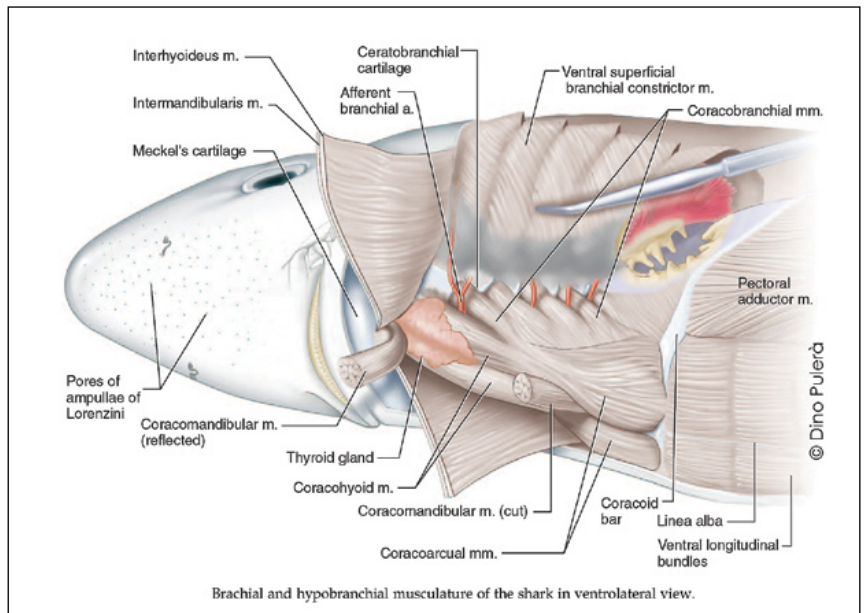


Figure 2: Original print illustration. © Dino Pulerà

incentive to reply, because if they ignore you the only thing you can do to them is sue in Federal Court, and that would be prohibitively expensive for you. I'm not even sure if you'd find a lawyer willing to do it.

Good luck!

Vicky Earle:

Hi Dino ~

Agreed, how frustrating!! If following the Digital Millennium Copyright Act procedure, as Emily suggests, doesn't work, Lynette Cook kindly provided California lawyer info to one of my previous questions.

If you still need a lawyer in Calif., Marc Paisin was a founder of California Lawyers for the Arts and has lectured at some GNSI conferences and the medical illustrator's group. He is still in business. His phone is 510-893-2338 in Oakland, CA. "He's very well-liked and respected. Quick too - doesn't have mull over an issue." If Marc isn't available, you can approach CLA directly and get some info. Here's a link if you want to check it out:

www.calawyersforthearts.org/need-a-lawyer.html

Best of Luck!

Britt Griswold:

Dino,

You should also be able to send a takedown notice as specified in the Digital Millennium Copyright Act to the hosting service that serves the StudyBlue site.

Read this: nppa.org/page/5617

James A. Perkins:

Hi Dino,

The critical question is whether you registered the illustrations "in a timely fashion" which means, I believe, within three months of publication or within three months of the infringement.

If you did timely register them, then you have the right to sue for up to \$150,000 in statutory damages PER IMAGE, plus all of your legal fees. That's a huge incentive for the infringer to settle and it makes it worthwhile to litigate. It also means that you could very likely find an attorney who would take the case on contingency (i.e., no money up front out of your pocket).

If, on the other hand, the illustrations were not timely registered, then you could only sue for actual damages, which would not be worth your while. Then your best bet would probably be a DMCA take down notice, as Britt suggested.

This underscores the importance of registering your work and understanding the deadlines for timely registration.

Dino Pulera:

Hi Jim,

I don't have access to my home files at the moment, but I'm fairly certain I registered the first and second editions my book (and therefore all my art work therein) shortly after they were published with the Canadian Copyright Office. I unfortunately did not register my work with the U.S. Copyright Office until after I found out my work was being used without

permission. Does it make a difference where the work was registered and/or created to sue for statutory damages?

Britt Griswold:

You can still register your work after the three months, for protection on future infringements.

Dino is in Canada, I don't know anything about the situation where someone in another country infringes on Canadian produced art.

Lynette Cook:

Dino and all,

While I want to be encouraging, my experience is otherwise. My space art is all over the web without permission and name credit. For a time I made a concerted effort to contact the mis-users and I ended up spending a lot of energy, getting frustrated, and realizing few results. I never made a penny from unauthorized users paying up. I WAS able to get many of my images removed from various websites. In some cases I agreed to let the users keep the post up if they added name credit and copyright notice (see below for the form e-mail I developed and used as a template). As you read below, I eventually decided to allow a small number of free uses. This said, I faced a lot of resistance when I asked for my art to be removed: people not responding to take-down notices, university professors getting mad and refusing to cooperate, thinking they had a right under Fair Use to post my stuff at will for classroom purposes. In the end, I decided I hadn't the time and energy to continue making a point.

Most of my early work is registered in the US Copyright Office. I spent a lot of money on this once upon a time for the very reasons you state, Jim. At this point in time I feel that suing for statutory damages is a wishful "pie in the sky" dream. After all, part of the process is having to prove intent to do harm. In other words, being able to show that the person who used your stuff without permission knowingly and willfully did so. Few illegal uses, of my work anyway, are by individuals who fit that description. Plus, there isn't much point in suing someone who is unlikely to pay up - who either can't or won't. Most illegal uses are on personal blogs, professor websites, etc. I think if you put it to the test few lawyers out there would sue these people on contingency for statutory damages. The only way I see for this to work out on an artist's behalf is for the infringement to be by a large-ish company or corporation that is selling or using the image in a way that clearly does major damage to said artist's income. The run-of-the-mill web mis-use is nothing like this. In my humble opinion, anyway. Feel free to

prove me wrong. If you decide to consult a lawyer, I'd like to know what he/she suggests.

Right at the moment I'm steamed about some people who are stealing my images off Zazzle and posting t-shirts and caps on Amazon under their own company name. I've filled out Amazon's copyright form numerous times, only to have the images pop up again (on Amazon) as soon as they are removed. The hours spent just on this (so far) are eating into my paid work time and I have nothing to show for it. Apparently this has become a huge problem for artists with Zazzle and Cafe Press shops. Grrrrrrrrrr.

Dear XYZ,

I have discovered that my art is being used, apparently by you, at the following locations:

(URL so-and-so)

I am glad that you like it and find it useful. You may not realize that this art is copyrighted and is not in the public domain. Since I am self-employed and make a living from my art, there are two issues that concern me. (1) First, visibility of name credit, copyright notice, and a link to my website at extrasolar.spaceart.org; and (2) observance of copyright and fair use law.

Fair Use, as defined by the US Copyright Office, indicates that a specific work of art may be used one time only (i.e., as a handout for one semester of a specific class or in one PowerPoint lecture). If the work is posted online, it must be available only to students enrolled in the class (such as password protection). References: "Chapter 11 Subject Matter and Scope of Copyright" at www.copyright.gov/title17/92chap1.pdf and Circular 21, "Reproduction of Copyrighted Works by Educators and Librarians" at www.copyright.gov/circs/circ21.pdf.

In the interests of assisting educators with their mission, I am choosing to allow free, ongoing use in PowerPoint presentations (any image) and free, ongoing use of 1-2 images in classroom handouts and on class-related web pages. Name credit, copyright notice, and a link to my website must be included. Fees will be charged for using more than 2 illustrations for non-PPT, ongoing purposes and for preparing and sending files when requested.

As you are currently using four illustrations, please either (1) remove two of them, including their jpg locations listed above OR (2) contact me at lynette@spaceart.org for permission to use these illustrations and fees.

For the two that you use without charge, please add name credit (Lynette Cook), copyright notice, and a link to my website, extrasolar.spaceart.org/extraso2.html.

You may verify that these artworks are mine at:

(Art Title)

(Art URL)

If I do not hear from you within ten days, I will search for another contact.

Good luck with your astronomy course/site. I much appreciate your assistance with this.

Regards,

Lynette

Emily S. Damstra:

I totally agree with Lynette.

One Idea: call out Study Blue via Twitter, which is public. Get other artists to retweet. You might get their attention that way, and at least achieve a speedy take-down of the infringing material w/out even using the DMCA.

Thanks, Lynette, for sharing your message template regarding infringements of your work.

Glendon Mellow:

Totally agree with Emily's last point.

The paleo-art world online has had a lot of success by calling out companies and websites publicly, on Twitter or in blog comments. If a large volume of people highlight that work was swiped, uncredited, and just plain stolen, it can force action. If you decide to go that route (if the DMCA fails) let me know and I would be happy to shine as bright a light on that as I can.

It's sad and unpleasant but public shaming for sites acting in bad faith can be even more effective than legal mechanisms in my experience.

Dino Pulera:

Hi Glendon,

I'm in the process of writing my DMCA message. If this fails I will definitely take you up on your offer! Or can I do both?

Glendon Mellow:

You can, but better to start with the DMCA first in my opinion.

Britt Griswold:

Here are some links on the Canadian Copyright issue. I assume you could sue easily if they have some presence in Canada, so I assume they don't.

gowingwlg.com/en/canada/insights-resources/canada-and-the-united-states--differences-in-copyright-law

www.acc.com/legalresources/quickcounsel/icpituscaeu.cfm

—This one says there are some problems with the Canadian Copyright Law. They have not yet signed onto some international legal frameworks:

www.copyright.gov/circs/circ38a.pdf

– There may be a cross-national agreement with Canada that might make your Copyright in Canada valid in the USA. But it might depend on the state of the law at first publication date:

www.thebalance.com/copyright-in-canada-2948246

– According to this page there maybe some extra protection in Canadian Copyright for Educational/Library Non-profits. But you need to read the details in the Canadian Copyright Act to see if it would apply here (laws-lois.justice.gc.ca/eng/acts/C-42/page-10.html#docCont). Looks like it does not apply here because the exceptions are for display

and communication on the “Premises”. I think broadcasting to the world would not apply at all. And does not apply if the work is commercially available.

Chris Gralapp:

I am constantly finding infringements of my work online. Often when I do an image search for reference material, my own art pops up in the browser, and my heart sinks. Many of the infringers are offshore, in China, India and other countries that have no respect for our copyright laws. Even when I find US infringers, like you Dino, I get no reply when I ping them. I attended a local regional med illus meeting, and there was a copyright lawyer there from Stanford, who in essence said we should prepare for a post-copyright world!

Lynette, you are so right that policing infringements of our work is a big job, and a total time sink. Some MI's I know have done well in the legal arena, and have nailed the bad guys and gotten big settlements. I just don't have the stomach to get into it all, but Dino, I really hope you can prevail--you work too hard on your gorgeous illustrations to have them walk away from you like this.

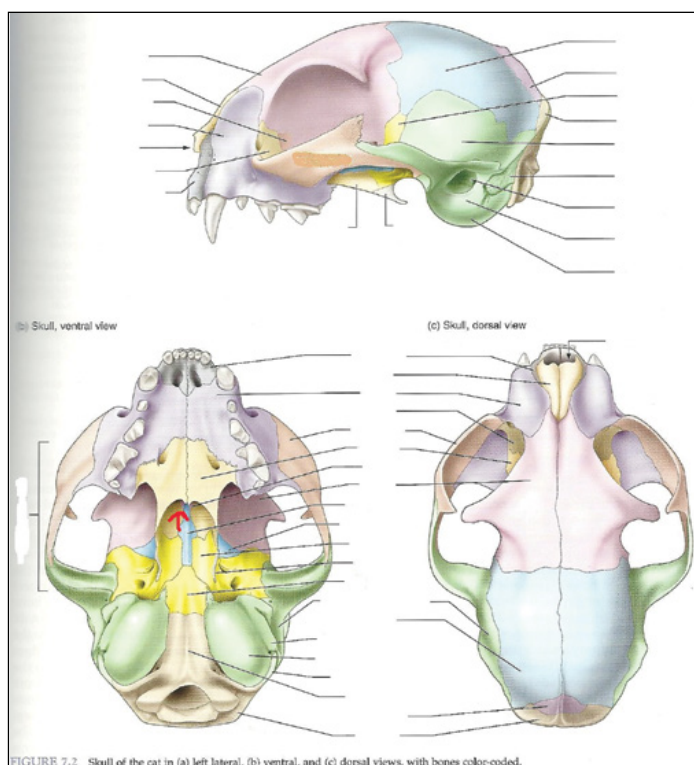
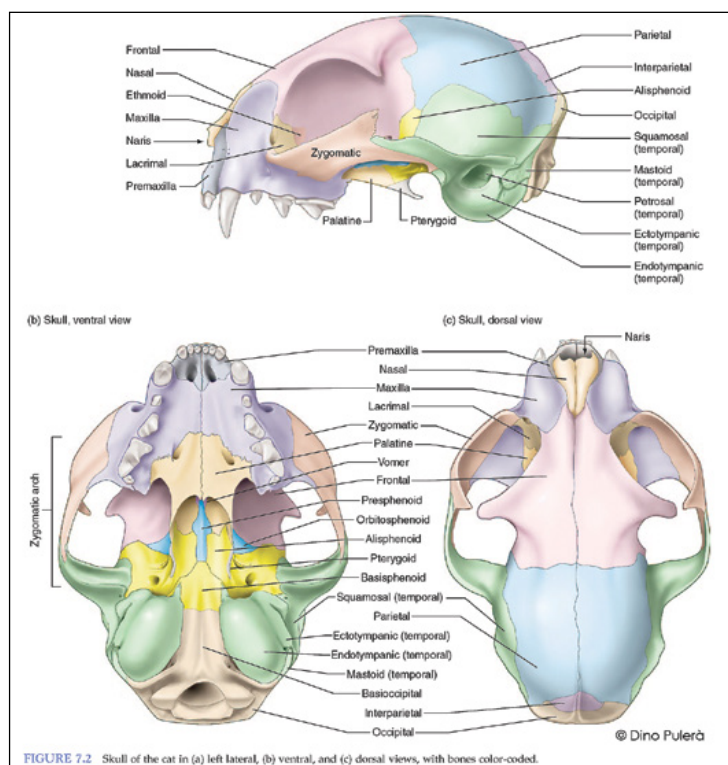
Dino Pulerà:

Thanks Chris (and everyone else) for your support and encouragement. Even though the odds are stacked against me (us), I haven't given up just yet. I'll keep everyone posted with the outcome of my case.

Figure 3 (left): Original print Illustration complete with copyright notice.

Figure 4 (right): Scanned image, copyright notice removed, as seen on Study Blue Website.

Images © Dino Pulerà



Response from Bill Westwood:

Last week, when Stephen DiCerbo asked me to comment on a copyright infringement involving a GNSI member, I readily agreed, but was surprised to find out that the aggrieved illustrator was Dino Pulera. It turns out that Dino and I already had spoken about this infringement some weeks ago, when I'd offered to look for a copyright attorney in Colorado who might be able to help him with this case (which I am in the process of doing).

As most of you know, Dino found some of his copyrighted, registered artwork posted without his permission, on a site called Study Blue. For a fee, Study Blue posts members' (these are typically college students) study materials that they have found helpful and which they feel would be helpful to others. These materials can take the form of class notes, quizzes or illustrations made into flash cards. Because the company Study Blue does not do the actual copying of material such as illustrations, the Digital Millennium Copyright Act (DMCA) potentially enables them to get around being considered the actual infringers of any protected work because they are simply hosting student's and professor's collections. They state clearly that "the material on this site is created by Study Blue users" (Figs. 3 & 4).

For this reason it becomes difficult to take legal action against Study Blue for copyrightinfringements. Without an ability to sue, usually the only viable option for the infringed is to file a DMCA takedown notice requiring Study Blue to remove the artwork from their site. (Dino's situation, even if he could sue, is further complicated by the fact that his work is protected by Canada's copyright law and Study Blue is a US company.)

The Digital Millennium Copyright Act (the DMCA), was added to US Copyright law in 1998. The DMCA is a law actually intended to help copyright holders get their stolen content removed promptly from an infringing site. The DMCA Act provides internet access providers (IAPs), such as Comcast, AT&T, Verizon) and online service providers (OSPs) such as social media websites, (think Facebook, Youtube, Study Blue) web hosts and other internet services with a "safe harbor" (i.e., they can't be sued) from copyright infringement claims as long as they follow certain rules.

Among the conditions that companies like Study Blue must meet to be exempt from infringement liability are:

1. No actual or constructive knowledge of infringing behavior (this basically excludes any site that

maintains editorial control over the posted content, such as a moderated fan-fiction site);

2. No financial benefit directly attributable to the infringing activity, in a case in which the service provider has the right and ability to control such activity;

3. When given a proper notice of infringing material being posted on its network, the OSP "responds expeditiously to remove, or disable access to, the material that is claimed to be infringing."

The law requires these companies to quickly remove infringing material upon receipt of a "DMCA takedown notice". Such a notice must contain certain specific information and follow a prescribed format and be presented to a "designated agent" specifically set up to receive takedown notices. (The Copyright Office has published a directory of agents online at: www.copyright.gov/onlineesp/list/a_agents.html). Study Blue is listed in this directory.

There are many other study sites similar to Study Blue and built on similar models - Quizlet, Kahoot and FlashCard Machine, just to name a few. If you want to know more about the DMCA, here's a link to a very good article from the Science Fiction & Fantasy Writers of America: www.sfwaworld.com/2013/03/the-dmca-takedown-notice-demystified/.

In my personal opinion, (and keep in mind I am not a lawyer) there are still unexplored legal questions regarding conditions 1 and 2 above relative to companies like Study Blue. It would seem to me that an argument could be made that they are deliberately turning a blind eye to their members infringing use of copyrighted material and also that they are clearly benefitting monetarily from infringing activity. However, getting an attorney to wade into this dense legal thicket would be difficult to do. The Copyright Office recently asked rights holders and others to comment on how DMCA provisions are working, so perhaps they've gotten an earful and maybe some movement on this might still evolve. Significant changes to many aspects of the US Copyright law are on the near horizon. That said, Study Blue did (finally) disable the link to Dino's artwork after receiving a take down notice. Note that they did not do this after receiving a cease and desist notice from his attorney, but only after getting the legally prescribed notice.

However, just because some sites like Study Blue currently can't be made to pay for infringements, doesn't mean that all other infringers can get off so easily. I have been very successful in pursuing infringers of my illustrations, both for registered and unregistered works. Since 2013, I have netted

(after attorney's fees) over \$107,000 from multiple infringers and am currently preparing to sue four more. This does not include monies I (and 15 other medical illustrators) obtained from Advanstar Communications in 2009 as part of a \$2,000,000 settlement for a large infringement case that dragged on for 10 years. (Google: *McDermott v. Advanstar Communications* for more information on this case.) I'm not trying to thump my chest by telling you this, but I want to try to assure each of you that obtaining money for infringements of your work is not a "pie in the sky" dream, and although it's also not "easy as pie" (sorry), it can be worth the effort.

Remember, your artwork is copyrighted from the moment you create it (in the US and Canada). But in the US, you must register it with the Copyright Office to obtain maximum protection. You can go after someone for infringement of unregistered artwork, but generally, even if you have an attorney, typically the most a court would award you would be the amount you would usually license your illustration for. In these types of cases, direct negotiated settlement efforts will often yield better results than lawsuits. Using an attorney for leverage, I have negotiated settlements for amounts between \$4500 and \$6500 for single uses of one of my unregistered illustrations by several doctors' offices. Our Advanstar case involved hundreds of infringements of nothing but unregistered artwork.

However, if your artwork is registered prior to infringement, the US Copyright Act provides penalties of \$250-\$30,000 for a non-willful infringement and \$750 - \$150,000 for a willful infringement. This can give a creator great leverage against an infringer to bring them to the table for settlement purposes.

Copyright laws in Canada are different in many ways from US Copyright law. Infringement penalties under Canadian copyright law are much less than those in the US, and Canada makes a distinction between non-commercial and commercial infringement with the liability for non-commercial use being from \$100 to \$5,000 per infringement and from \$500 to \$20,000 per infringement for a commercial use. Other differences are that in Canada, one doesn't have to have registered a work to get statutory protection; Canada's copyright law has "fair dealing" provisions that are narrower than the US's "fair use" provisions; and Canada's law also provides creators with "moral rights" protecting the integrity and reputation of creators.

I would like to comment directly on a few of the posts in the email thread relating to Dino's infringement.

If your work has been infringed and your only goal is to have the infringing work taken down, then using the DMCA is usually your best approach. But keep in mind what Emily Damstra said, it is important to follow the DMCA protocol. As stated above, an infringing site must, by law, take the work down quickly. (And your work doesn't have to have been registered for you to file a takedown notice.) If an ISP does not obey the DMCA provisions (for example, by failing to designate an agent or by neglecting to immediately remove infringing copy once notified), a copyright owner has the right to seek financial damages against the ISP as a contributory or vicarious copyright infringer. However, the takedown notice must be presented in the proper format and contain the proper information or they are not obligated to take action. As previously noted, a cease and desist letter, even from an attorney, is generally not an acceptable alternative to a properly prepared takedown notice.

Copyright lawyer Carolyn Wright, who is also a professional photographer (www.photoattorney.com) has written one of the better guides I've found to preparing a takedown notice: www.nppa.org/page/5617.

My good friend Jim Perkins mentioned "timely registration" as a critical element regarding infringements. Jim and many of my medical illustration colleagues have misconstrued the definition of "timely registration", believing that it means statutory protection can be had only if registration occurs "within three months of publication or within three months of the infringement". This is partially incorrect. Timely copyright registration is registration anytime before an infringement occurs. For published works, timely registration is within three months of the date of publication. "Date of publication" is the date copies, in one form or another, are offered without restriction to the public, by sale or otherwise. Although it's best to register a copyright promptly, it's never too late to apply for registration. If your work is registered before an infringement, statutory damages will be available as an option for monetary relief along with the possibility for recovery for attorney's fees. (See Circular 1 Copyright Basics, and sections 410, 411, and 412 of the copyright law at www.copyright.gov.)

I had an unregistered illustration that was infringed numerous times and because it was unregistered at the time of infringement, I couldn't sue for statutory damages. However, I subsequently registered it and when it was infringed again, after the registration, I was able to sue the new infringers for statutory damages. (Note: A certificate of registration is a

prerequisite for U.S. creators seeking to initiate a suit for copyright infringement in federal district court.)

I also want to encourage both Lynette Cook and Chris Gralapp to contact me about their infringements. The reality is, if your work is registered, there is great potential for success in going after the infringers and obtaining significant monetary awards from them. (There is a three-year statute of limitations on copyright infringements that starts from the date you discover the infringement. This makes the need to do time/date screen captures of the infringing use of your work that much more important.)

With regard to foreign infringers, for many of them, there's not much we can do except try to follow the DMCA protocol and hope the work can be blocked. But for US infringers and especially those in business or even professors and bloggers, penalties can often be obtained. As I mentioned earlier, I have had great success – not 100% for sure – in getting paid by the infringers. Again, suing for statutory damages is not a wishful “pie in the sky” dream. You do not have to prove “intent to do harm”. If you own a registered copyright to an illustration and it is infringed, and you make dated screen captures as proof of that infringement, the defendant legally bears the burden to prove that their use of your work was somehow legal or not an infringement. They have broken the law, even if they “just” used your work in a slide presentation, in a Youtube video or on a blog. The penalties (stated above) for such violations are clear and unequivocal. Smart defense attorneys for infringers will try many different defense tactics, such as: a “fair use” claim; “the infringement was innocent” claim; “the statute of limitations expired” claim; and “the copyright owner’s copyright is invalid” claim. There are many others, but these are the more common ones. Non-willful infringement might actually occur if your copyright notice was removed and the infringer claims he/she didn’t realize your work wasn’t in the public domain or was orphaned. Willful infringement would occur if your copyright notice was in plain sight and the infringer used the work anyway.

I have offered to write a future article for the GNSI journal that explains more fully how I’ve personally dealt with different types of infringers. It would also cover what types of defenses they attempted to use and how those were overcome enabling me to receive monetary awards ranging from several thousands of dollars to thirty or more thousands of dollars. And for full disclosure, which cases I failed with and why. There’s a process one can follow when infringed. I believe creators need to know and follow this to stand the best chance of succeeding against an

infringer. We illustrators are not impotent in this fight. Though it may indeed be a sad sign of the times, I have come to view infringements as just another part of my illustration business. But on the brighter side, infringements can offer another potential income stream and a source of great satisfaction when I receive a large check from some now chagrined infringer, who originally swore to me that he’d never give me one red cent.

Best regards,

Bill Westwood, MS, CMI, FAMI



William B. Westwood, MS, CMI, FAMI



is a Medical College of Georgia graduate with over 40 years of experience in Medical Illustration. Bill worked at the Mayo Clinic in Rochester, MN for ten years before starting his own business (Westwood Medical Communications) and eventually relocating in Albany, NY. Bill is a past President of AMI and served two terms on the Board of Governors. His medical artwork has won 40 awards, including the Billings Gold Medal from the American Medical Association and a Silver award from the Society of Illustrators, Los Angeles. In 2010 he was the recipient of the AMI’s Lifetime Achievement Award

and in 2016, the Brodel Award for Excellence in Education. Bill taught a Business Practices class for three years at Sage College in Albany and is a frequent speaker on copyright and other business issues affecting medical illustrators (copyright, contracts, licensing, etc.). He has also been an on-air panelist for over 12 years with a popular call-in radio program, “The Copyright Forum” on WAMC Northeast Public Radio (FM 90.3) addressing a wide range of intellectual property issues.

Working Through a Career Slump:

Santa Cruz discussion panel tackles the slumps, bumps, and dumps

So, who hasn't been there? You are sitting at your drawing table or computer desk and staring at whatever is there. Perhaps there is *nothing* there: no work, no projects, no prospects for projects. Perhaps there is a project there but you don't want to do it (not enough pay, not really your style, not really anything you are interested in creating). Perhaps there is a wonderful project there but you are just burned out and need a change. What now?

We've all been there (or if you haven't yet, you probably will be!). With this topic in mind, we formed a panel discussion at the Santa Cruz Conference in 2016 to brainstorm ideas, solutions, and creative ways to work out of whatever slump you may find

yourself in. I and my fellow panelists, Linda Feltner and Tania Marien, found ourselves addressing an unexpectedly large group, standing room only, with seasoned artists (expected) and newcomers (a surprise!) alike.

We began by telling the group what kind of work we do, and where we are in our respective careers, and started to share strategies for breaking out of slow times. Soon the audience was jumping in with ideas of their own. While a fair share of the insight gained was the comforting fact that "you are not alone, it happens to nearly everybody at some point!", a number of practical points and steps were offered (*NOTE: the GNSI does not endorse any particular group, program or publication; these are participant suggestions only*):

Analyze: Exactly what is not working?

1. You don't have the skills that are in demand.
Take classes or explore new techniques on your own to expand your skills.
2. Are you just tired out? Working too hard? Have too many outside obligations?
Ask yourself where you need to focus your energy;
You aren't Super Human; learn to say "No!";
Take regular breaks when you work;
Allow time to relax, take personal time. Don't work 24/7;
Use a timer; get up and do something physical at regular intervals;
[*Tip: Pomodoro Timer, other online apps that help you keep track of time spent on a project; I use Office Time].
3. Do you need something to get those creative juices flowing?
Take a class;
Take a trip;
Learn a new technique, try a totally new approach to art (if you work tiny & tight, paint something loose and large); try a new medium;
Collaborate with another artist, or network with others;
Take a simple subject and see how many different ways you can depict it;
Explore *The Artist's Way*, by Julia Cameron — a way to approach creativity.

Take control of your business!

Make the downtime productive: rebuild your portfolio (digital or traditional, or both), take a class, practice a skill;

Create or rebuild your website;

[WordPress, Squarespace, Adobe's Behance, Wicks.com, the Grid.10 were all mentioned as reliable web hosts.]

Create new, fresh marketing materials:

Posters to leave with your prospective clients;

Holiday cards: reminders to your clients and potential clients, and showcase your work;

[* Tip: Don't get your message lost in the seasonal shuffle, send out New Year, 4th of July cards!]

Resources:

National Association for Interpreters;

LinkedIn; has a special area for freelancers and a great search engine (ProFinder)

Online freelance calculator;

Deep Work by Cal Newport, with good rules for success;

Josh Linkler, business motivational blogs;

PechaKucha, to hone your presentation skills;

AdBase.com: Mailing list/marketing service for commercial photographers, illustrators and reps in North America;

Freelancer's Union: non-profit provides advocacy and health insurance to its members;

GNSI! Camaraderie, tips on techniques, business ideas!



There will be two business panels at the Asheville Conference this summer, another round of this panel and the second focusing on marketing and social media. *Please join us, or if you can't make the conference but feel you have something to contribute, please contact me: Gail Guth, guth-gnsi@comcast.net*

JOURNAL SUBMISSION INFORMATION

Your Journal team always welcomes article ideas. Please consider writing up your art experiences, either as a How-To article, the Business of Art, books you have illustrated or informative art books you have discovered, travels for art or art projects, or any other science art related topic. We are pretty flexible! **You don't need to be an accomplished author;** we have several skilled article editors who can help you polish up your information and present it in the best possible way.

Please submit an abstract of 150-200 words that summarizes your article. You may include a few images if they will help inform your topic. The

editorial team will review and contact you for the next steps. Please note that we may need to carry over your article to a future issue depending on available space. If you want your article to appear in a particular issue, let us know. It may be better to post your article on the GNSI website where time-dated information is best handled.

SKETCHES: We always welcome images from your sketchbooks! Send us high res images (300 dpi at approximate print size, we'll scale down to fit); tif images are preferred, but other formats are acceptable. Please include captions or a brief description of the event.

ARE YOU A PHOTOSHOP WIZARD?

Or would you like to be one? Consider volunteering to help with GNSI Journal production. We are looking for illustrators interested in making bad pictures look good, and good pictures look great! Try your hand at cleaning up these images and see if you have

what it takes to help the Guild. These images are the property of the artists, but you can take a shot at making them look good by downloading them from here: <https://gnsi.org/blog/are-you-photo-shop-wizard>

Before:

After:



WE'RE LOOKING FOR A GOOD EDITOR (OR TWO!)

The Journal Editorial Team would welcome another Co-Editor (or two) to help out with Journal production and eventually take over when we get old(er) and gray(er).

Editor's duties include gathering articles, working with authors to edit and refine their content, making sure images are properly identified and credited, proofing, layout, and more proofing.

There's a lot of work with any issue of the Journal, but with a team of people it goes much more smoothly: one can take over if the other is busy with Life, day jobs, etc. And of course, it's always best to have several pairs of eyes on any publication to help insure that typos and general boo-boos don't get into print.

Our work schedule is very flexible; even if you may be available for only one or two issues per year, it would be a big help.

We do receive a very small, set stipend per issue, but don't plan on being compensated for the hours you put in!

If you are interested in joining the Journal Team, please contact Gail Guth (guth-gnsi@comcast.net) or Clara Richardson (clara@illustratingforscience.com).

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