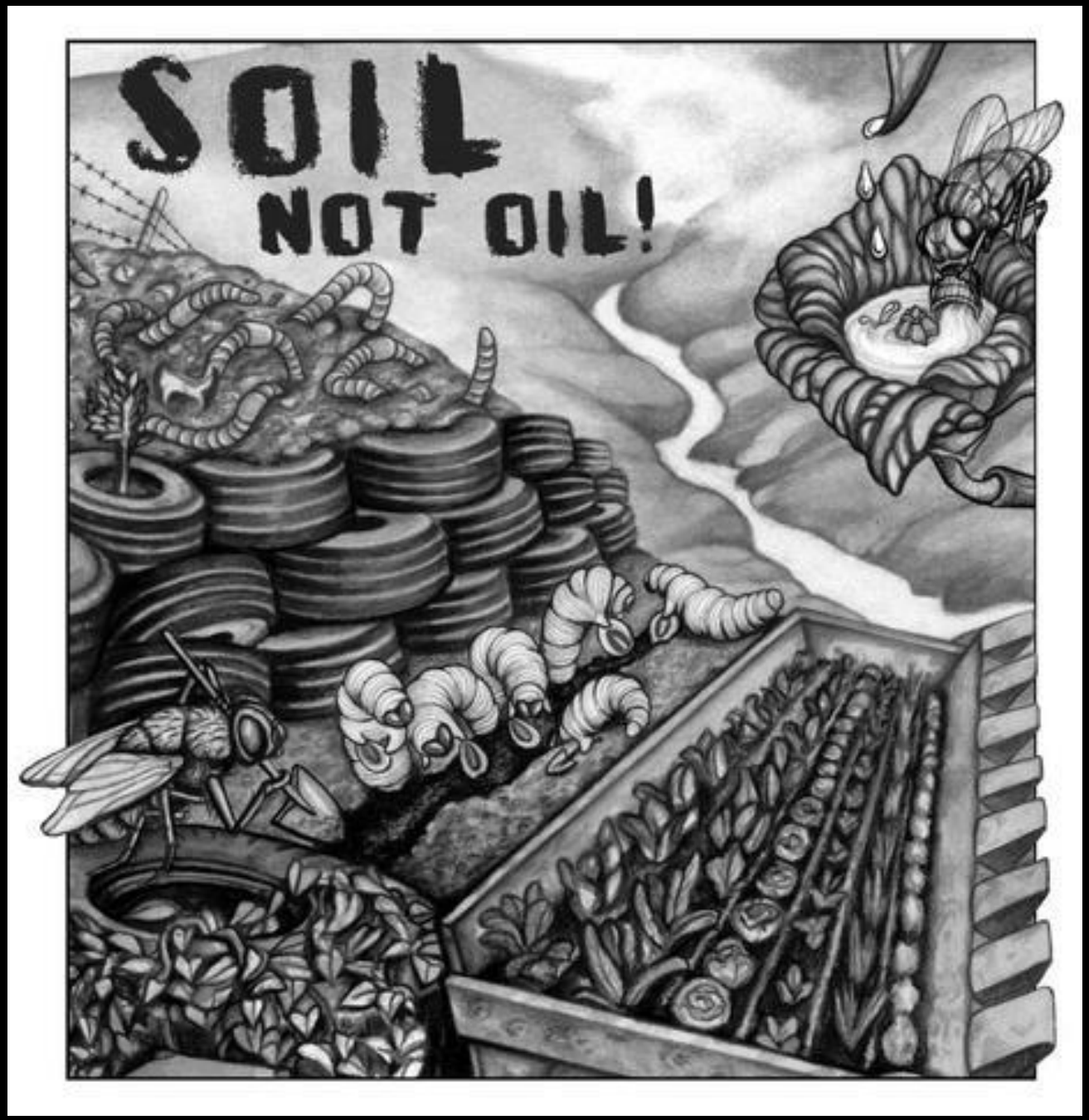
PLANTING SEEDS: THE ART & SCIENCE OF POLLINATION

Artmobile

September 2017 – June 2019

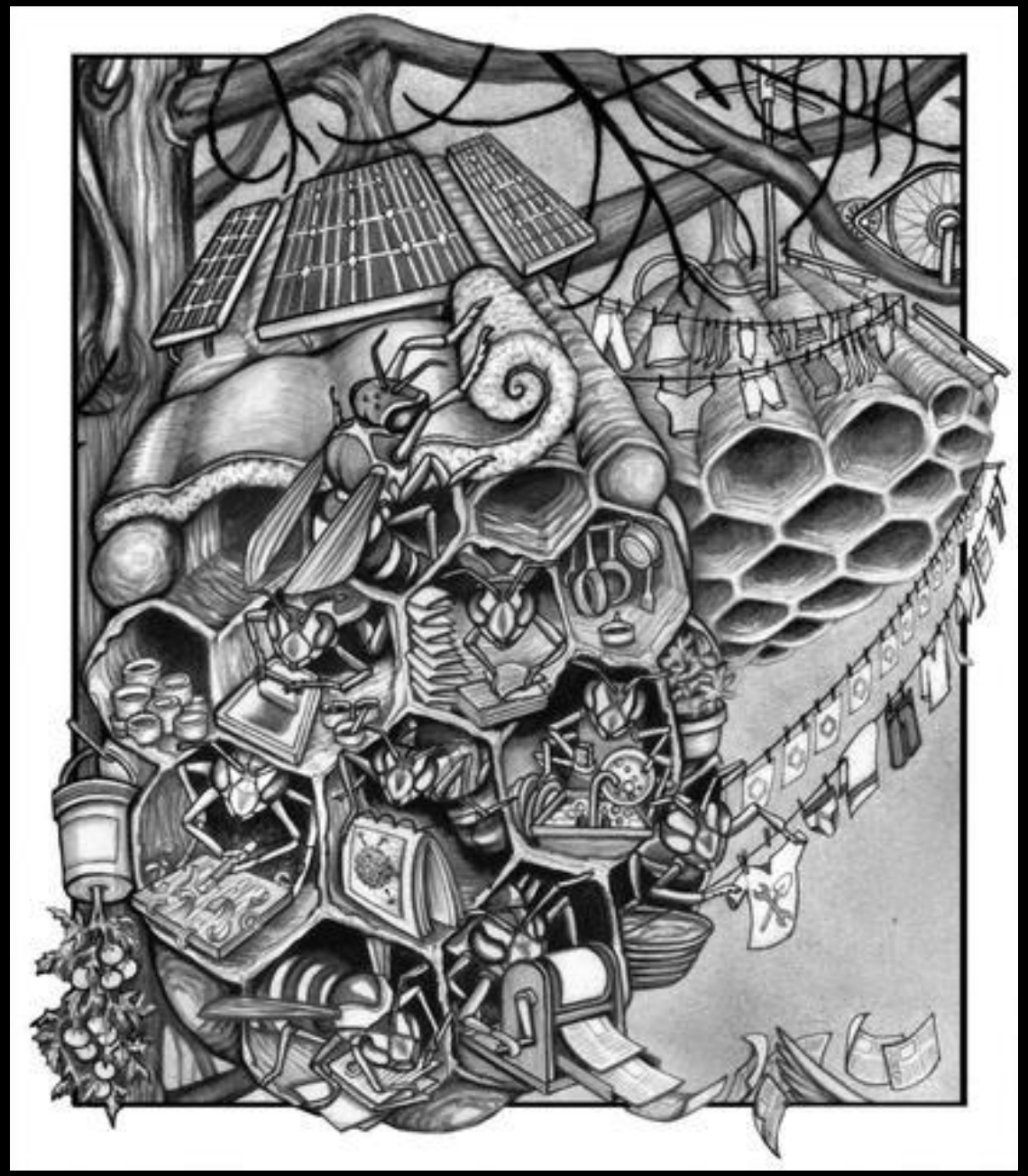
Beehive Collective
Biotechnology is Pollution
B/W print on fabric
6.3” x 10“

“The work of the Beehive Collective is multidisciplinary and multifaceted, but their graphics campaigns are the keystone. They have based their existence around creating and sharing this work, using cartoons and storytelling to break down big issues from the overwhelming world we live in and present them in accessible, engaging formats. All graphics are created collaboratively, meaning there is no one artist or storyteller.”



Beehive Collective
Soil Not Oil
B/W print on fabric
5.6” x 5.8”

Beehive Collective
Pollinator Petitioners
B/W print on fabric
6” x 3.8”



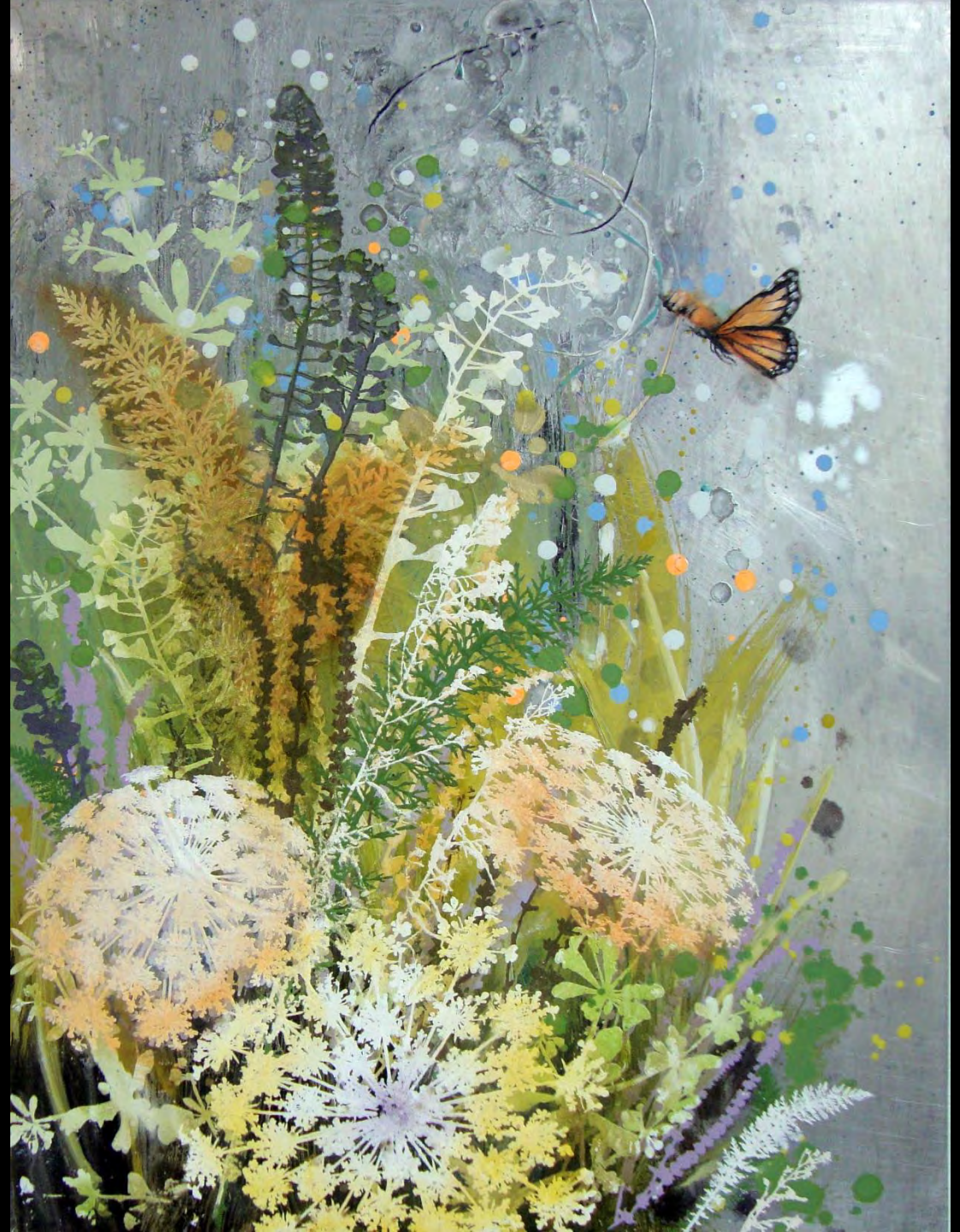
Beehive Collective
Paper Wasp Co-Op
B/W print on fabric
6.9” x 6”

Anda Dubinskis
Blue Ribbon
Silkscreen, gouache on printed paper
22” x 15”

Philadelphia artist **Anda Dubinskis** combines abstract botanical patterns found in historic textiles with realistic depictions of insects. The flat, decorative, and often symmetrical backgrounds, rendered in graphite and gouache, serve as an organic field on which bees, butterflies, caterpillars, and other species land. The naturalistic color and three-dimensionality of the bugs, based on the artist’s observations in nature, are a stark contrast to the flat designs.

Anda Dubinskis
Adelphia Summer
Gouache on paper

Anda Dubinskis
Ghost Spiders
Gouache on paper



Cara Enteles
Nothing to Eat
Oil on aluminum
24” x 18”

“My work is motivated by a fascination with nature and a concern for the environment. I split my time between NYC and rural northeast Pennsylvania, where I keep a large organic garden and have easy access to wilderness. The ability to observe nature over time helps me understand how the natural world works which informs my work.”

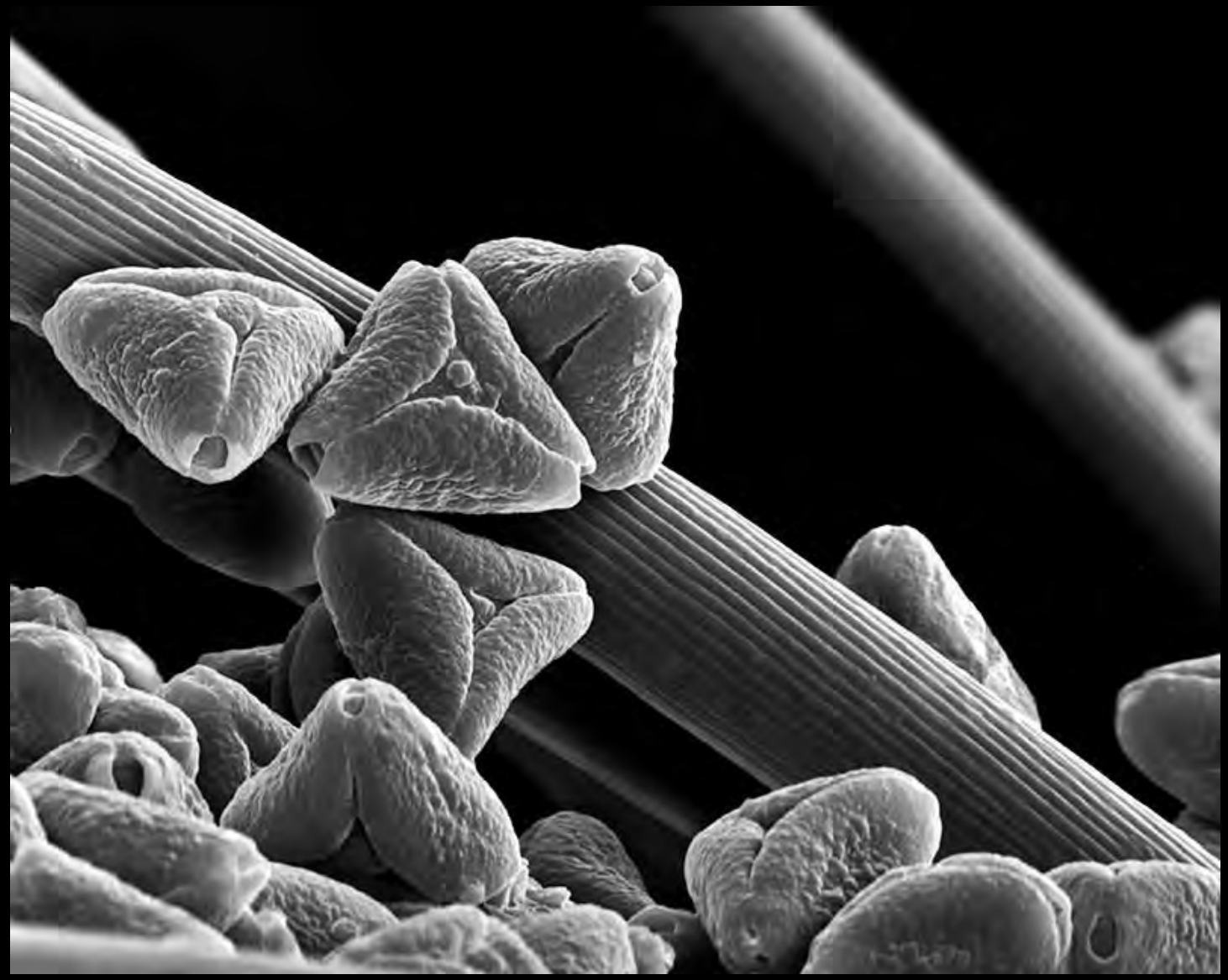
Cara Enteles
Pollinating Pair
Oil on acrylic
24” x 24”

Marissa Farra
Pollination by Seed, 2017
Digital photograph
11” x 14”

As an environmental educator for Bucks County Audubon Society, conservation photographer Marissa Farra teaches visitors about local ecology and what we as citizens can do to protect it. As an artist, she works in several modes, including documentary work that captures fleeting moments in the landscape, and composite images like this one that merge animal species with images of their habitats.

Marissa Farra
Pollination by Slime, 2017
Photography

Marissa Farra
Pollination by Proboscis, 2017
Photography



Rose-Lynn Fisher
Leg Pollen 1100x, 2010
Scanning electron microscope digital photograph
20” x 24” matted

“Using a scanning electron microscope (SEM) at magnifications ranging from 10 to 3,300 times, Fisher presents the bee’s features with unimaginably intricate levels of detail. According to Fisher, the images “offer a way to think about the continuum of life from the micro to the macro happening at the same moment, the world within worlds that comprise our universe.”

Rose-Lynn Fisher
Sabine 15x, 2010
Scanning electron microscope digital photograph
20” x 24” matted

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Linden Gledhill
Swallowtail Wing with Pollen Grain, 2012
Color photograph, 24” x 36”

Biochemist and photographer Linden Gledhill uses a powerful microscope, and special camera equipment that he helped develop, to make pictures of butterfly and insect wings in extreme close-ups. In this image the tiny scales of the butterfly’s wing arranged like rows of flower petals, with a tiny speck of pollen lodged in between.

Linden Gledhill
Tiger Swallowtail with Detached Scale
Color photograph

Dennis Hlynsky, *Flight of Small Northern Cloudy Spot,* digital video, 4:03

Hylnsky creates slow-motion videos that highlight the movements of pollinators. In this work, we learn as much about the possibilities of video as an art medium as we do about the flight pattern of the small butterfly. Color is removed or simplified to put the focus on the action, which is both slowed down and endlessly repeated in what the artist calls “echoes” or “time trails.” These studies of flight patterns, which Hylnsky sees as both data and drawings, have changed the way scientists understand communication between species.

https://dl.dropboxusercontent.com/u/10639197/films/select%20films/Small_Northern_Cloudyspot.mp4

Dennis Hlynsky, *A Little Bumblebee Lands on a Flower,* digital video, 1:11

https://dl.dropboxusercontent.com/u/10639197/films/select%20films/a%20little%20bumble%20bee%20lands%20on%20a%20flower.mp4

Dennis Hlynsky, *Hummingbird Moth 02,* digital video, 2:31

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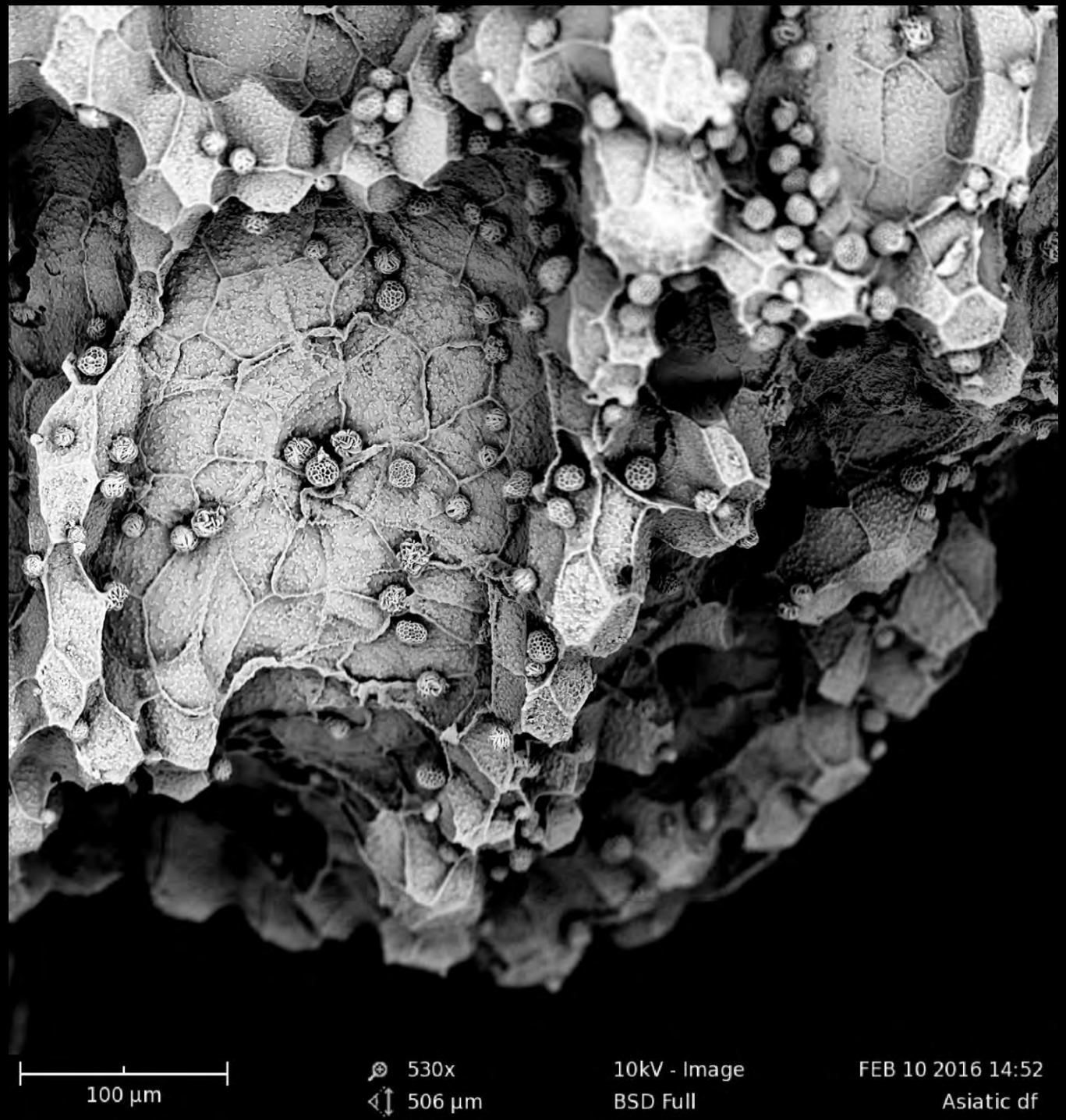
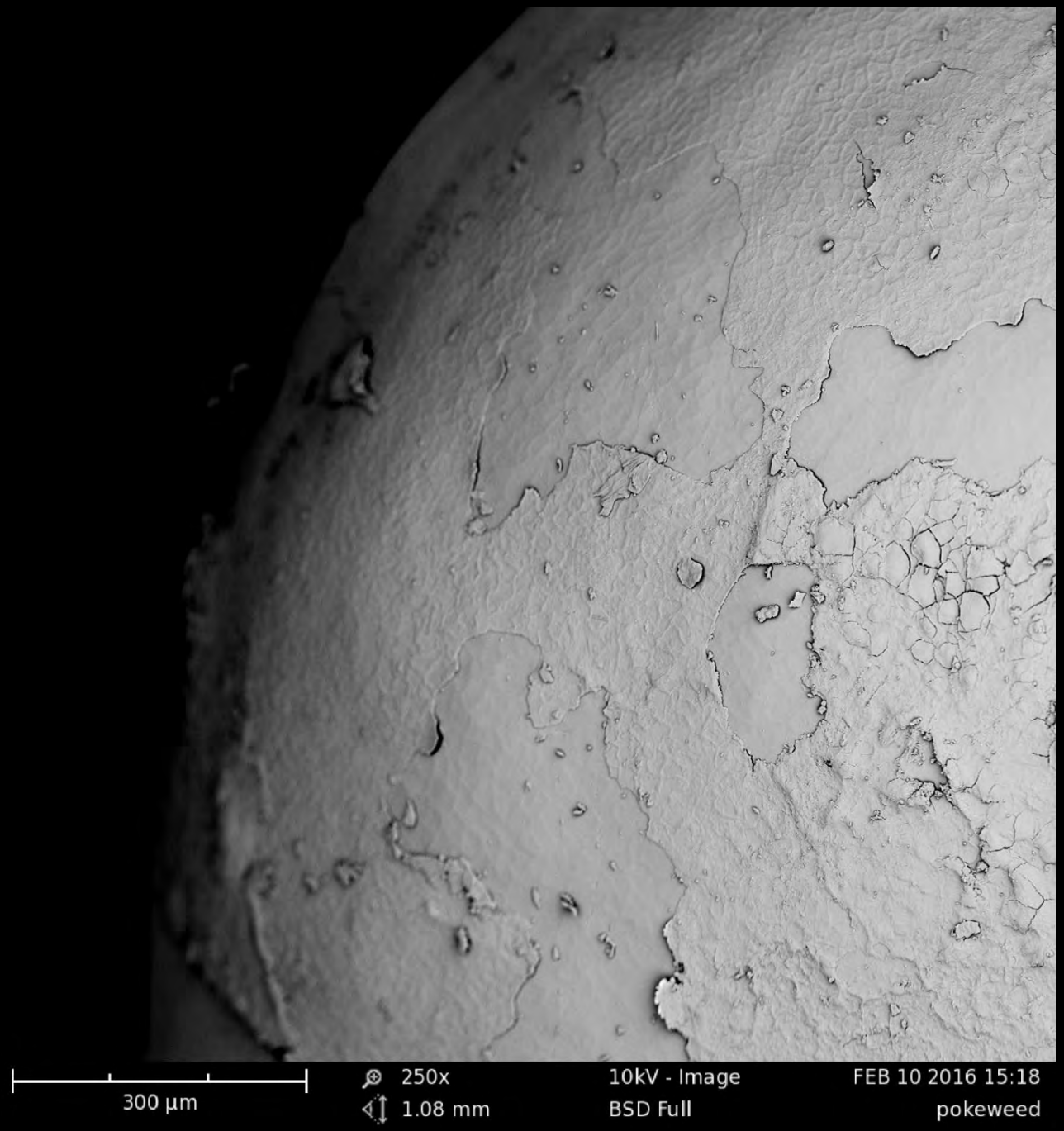


Ellie Irons and Anne Percoco
Next Epoch Seed Library
Macrophotography (*Asiatic Dayflower)*
32” x 30.5”

The *Next Epoch Seed Library* aims to help spread the word about the value of plants often considered weeds, like milkweed and Asiatic dayflower, that are nevertheless helpful to pollinators. Formed by artists Ellie Irons and Anne Percoco, the seed library is both an information resource and an art project that aims to teach others to identify, harvest, and collect seeds from marginalized spaces, such as parking lots, where only the hardiest species survive. As part of this project the artists used a scanning electron microscope to make highly detailed enlargements of the seeds of several plants, to better understand how seed structure aids in dispersal and germination.

Ellie Irons and Anne Percoco
Next Epoch Seed Library
Macrophotography (*Milkweed*)



Ellie Irons and Anne Percoco
Next Epoch Seed Library
Macrophotography (*Pokeweed*)

SEED QUALITY ICONS

NATIVE
Indicates species present in this region prior to European Colonization(c. 1600). Plants moved and migrated (due to humans & other factors) prior to 1600, but the native/non-native dichotomy does not account for this.

INTRODUCED
This label indicates species that arrived in this region post-1600 and are now "naturalized", meaning they live and reproduce on their own without human intervention, and have more or less integrated ecologically.

HIGHLY INVASIVE
If you see this label, it means the species arrived in this region recently and is out of balance with the local ecosystem, spreading rapidly, & competing with established local species for resources. Propagate with care!

TOXIC
Species that bear this label are considered toxic to humans when consumed. Some may also be poisonous to pets. Many are not toxic to wildlife, however, and can provide nutrition for urban dwelling creatures.

MEDICINAL
Species with this label have a record of use as human medicine in one or more cultures. Further research is recommended as some may also be toxic.

EDIBLE
This label indicates species that can be eaten safely by humans. Further research into identification, harvesting and preparation methods is recommended.

SOIL REMEDIATOR
Also known as "hyperaccumulators", species bearing this label are especially good at growing in soils that have been heavily polluted by human activity. They accumulate toxic (to humans) heavy metals in their tissues.

SOIL STABILIZER
This label indicates species that have strong, dense root networks that are good at holding soil in place and preventing erosion due to wind, flooding, or other disturbance.

POLLINATOR/INSECT FRIENDLY
This label indicates species that produce flowers that are particularly beneficial to pollinators and other insects.

PIGMENT PRODUCING
Species that bear this label produce flowers, berries, leaves and/or roots that can be used as dyes or paints.

ORNAMENTAL
This label indicates plant species that, in addition to growing spontaneously, are also purposefully cultivated by humans who enjoy how they look.

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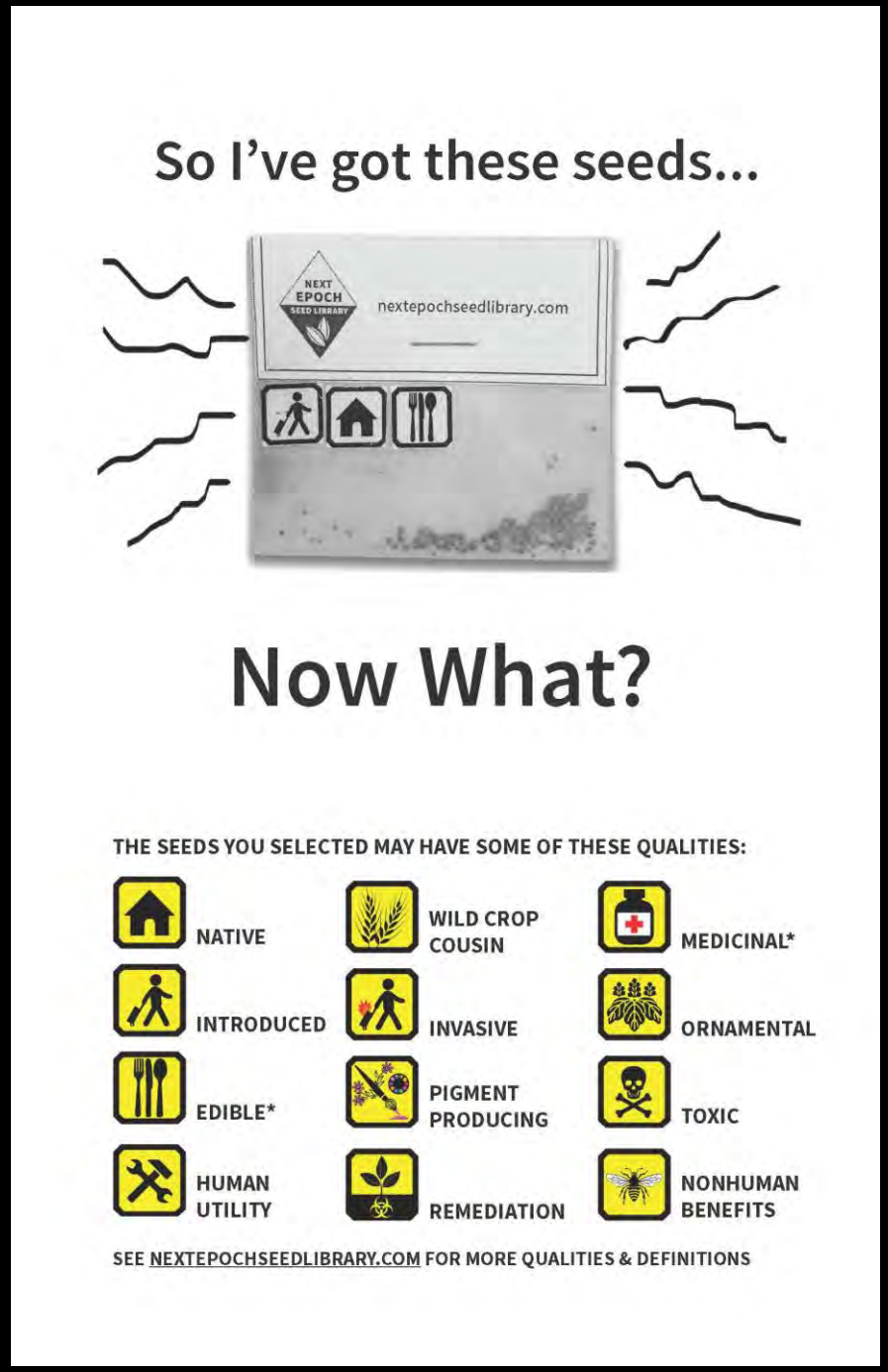
Ellie Irons and Anne Percoco
Next Epoch Seed Library
Icons Poster
19.25" x 13.5"

Irons and Percoco developed brochures and booklets to guide people through the process of collecting and cataloguing seeds; teachers and students might use these tools to contribute to the seed library or to explore school grounds looking for similar plants. This icons and poster chart was designed to aid standardization and categorization of seed collections.



Ellie Irons and Anne Percoco
Next Epoch Seed Library
Bi-fold brochure (*Now What?*)

Contact:

nextepochseedlibrary@gmail.com

Website:

nextepochseedlibrary.com

Mailing Address:

Next Epoch Seed Library
1911 Albemarle Rd, 4K
Brooklyn, NY 11226

Ellie Irons and Anne Percoco, 2015

NEXT EPOCH SEED LIBRARY

Guidelines for Seed Collection and Storage

Thank you for your interest in contributing to the Next Epoch Seed Library! NESL is an artist run project that encourages public participation. We think seed gathering is an enjoyable activity that encourages contact between humans and the plant species that form the basis of our urban ecosystems. Please read the guidelines below and get in touch with any questions. We'd be happy to list you on our website as a contributing member of NESL.

NESL is primarily interested in plant species that live in close association with humans, but that have not been planted or maintained purposefully; in short, weeds! Growing where others can't or won't, the plants held in our seed bank are those best adapted to live in the long shadow we throw on the landscape. They are companion plants for the Anthropocene age.

1. **Where to collect:** We are especially interested in those wild urban plants that have faced substantial challenges or harsh conditions, like plants growing on superfund sites or brown fields, out of the side of buildings or cracks in the sidewalk, or from other former or current sites of human infrastructure or activity. Any vacant lot, abandoned street tree pit, or untended park edge is also a great place to look.

2. **What to collect:** If you're new to plant identification, choose a few plant species to start with that you find particularly interesting or intriguing. If you're not sure where the seed is, just collect the whole seed-producing portion of the plant (the tuft at the top of a grass, the dried base that remains when a flower withers).

3. **Date, location, and photos:** For each species you collect, note the date and location, as well as a description of the site. Whether or not you can identify the plant, take several photos, and send them to us over email or with your submission:
   - Close up of the leaves
   - Flowers or berries
   - Whole plant
   - Section of the plant against a white background if possible

4. **When to collect:** Different species create mature, fully-developed seeds throughout the spring, summer and fall. Look for pods, fruits, flowers that have died back, grasses that have dried and yellowed. In general, a mature seed turns brown or black, and seeds can be shaken off or easily removed. If a seed is difficult to remove, it probably is not ready.

5. **How to store:** Just make sure you store whatever you collect in a breathable container (standard mailing envelopes work great!). If you won't submit it to us right away, it can be a good idea to lay the plant material out flat so it can dry thoroughly, then store it somewhere relatively cool: away from heaters, or ideally in a sheltered area outdoors.

6. **How to submit:** Send us your materials through the mail (address on reverse) or in person by appointment.

Remember:

Look for "spontaneous plants" in urban areas that are not cultivated by people.

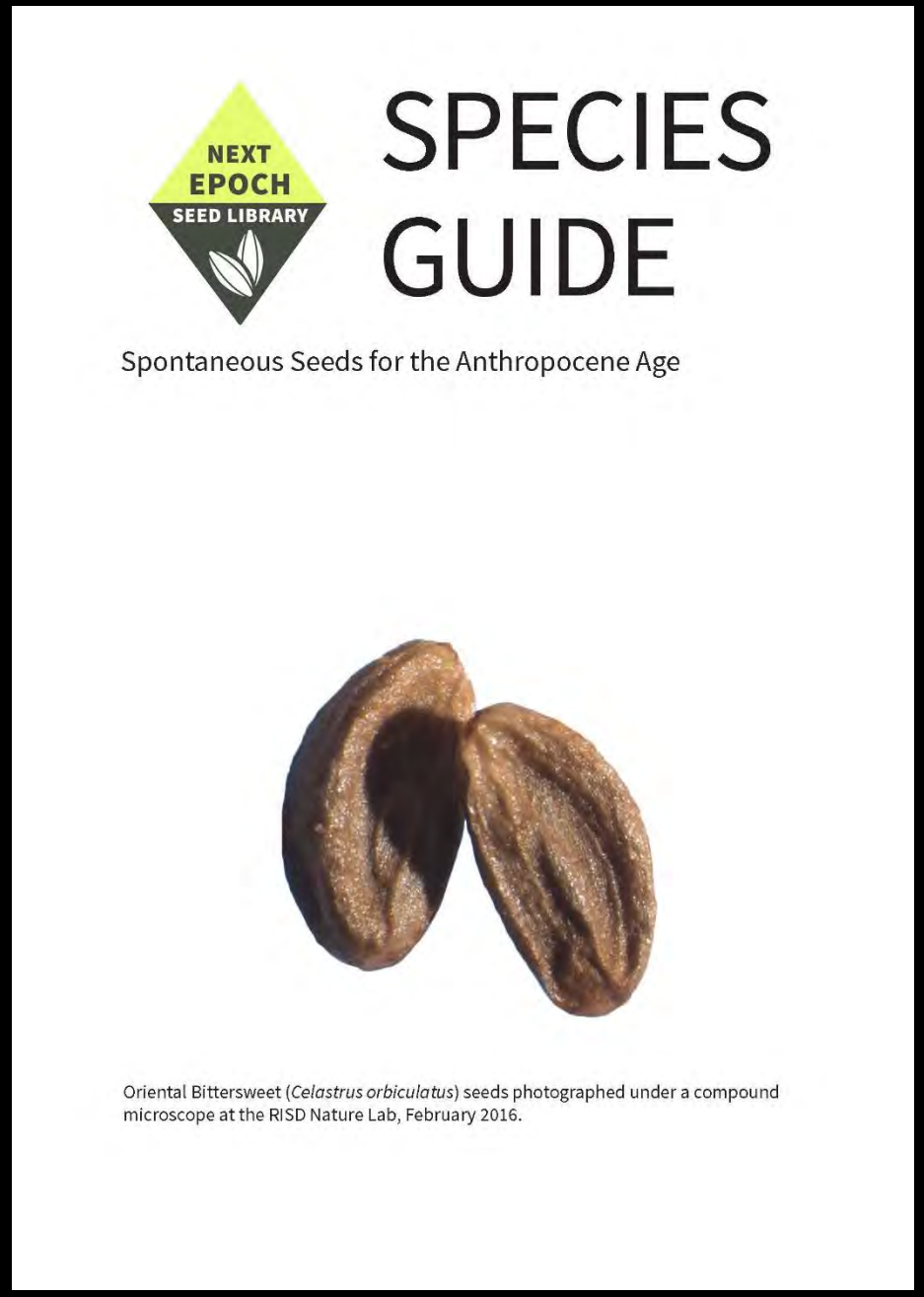
Collect mature seeds (ripe fruit, dried grasses, seeds that have hardened and turned black/brown).

Allow collected seeds/plant material to air dry for a few days, then store in breathable containers like paper envelopes.

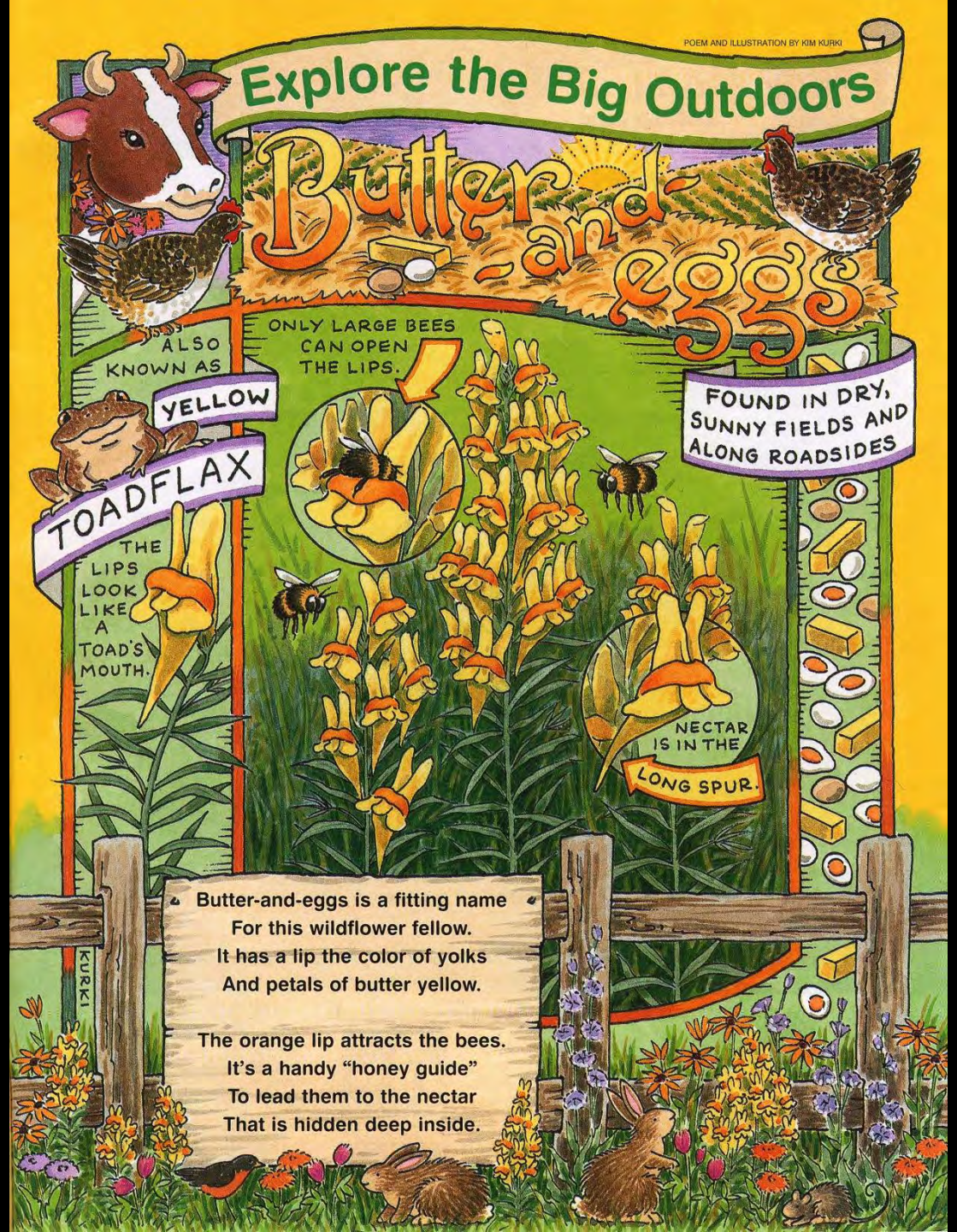
Note the date and location for each specimen.

Photograph habitat and plant from which seeds were gathered, including one photo of a egment of the plant against a white background where possible (a piece of paper is fine).

Ellie Irons and Anne Percoco
Next Epoch Seed Library
Tri-fold brochure
(Guidelines for Seed Collection and Storage)



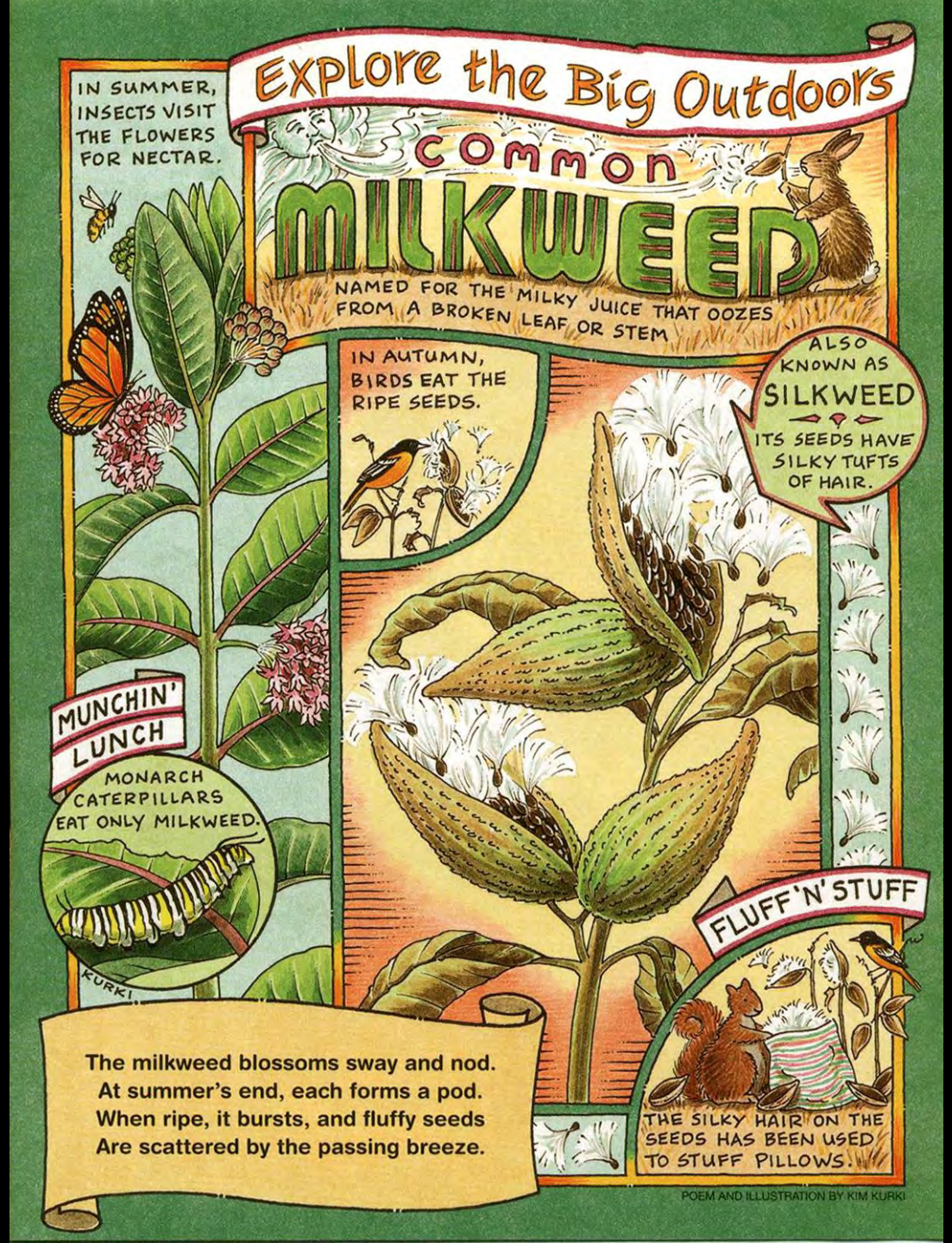
Ellie Irons and Anne Percoco
Next Epoch Seed Library
Booklet (*Species Guide)*



Kim Kurki
Butter and Eggs
Ink & watercolor, digital print
8.5" x 11"

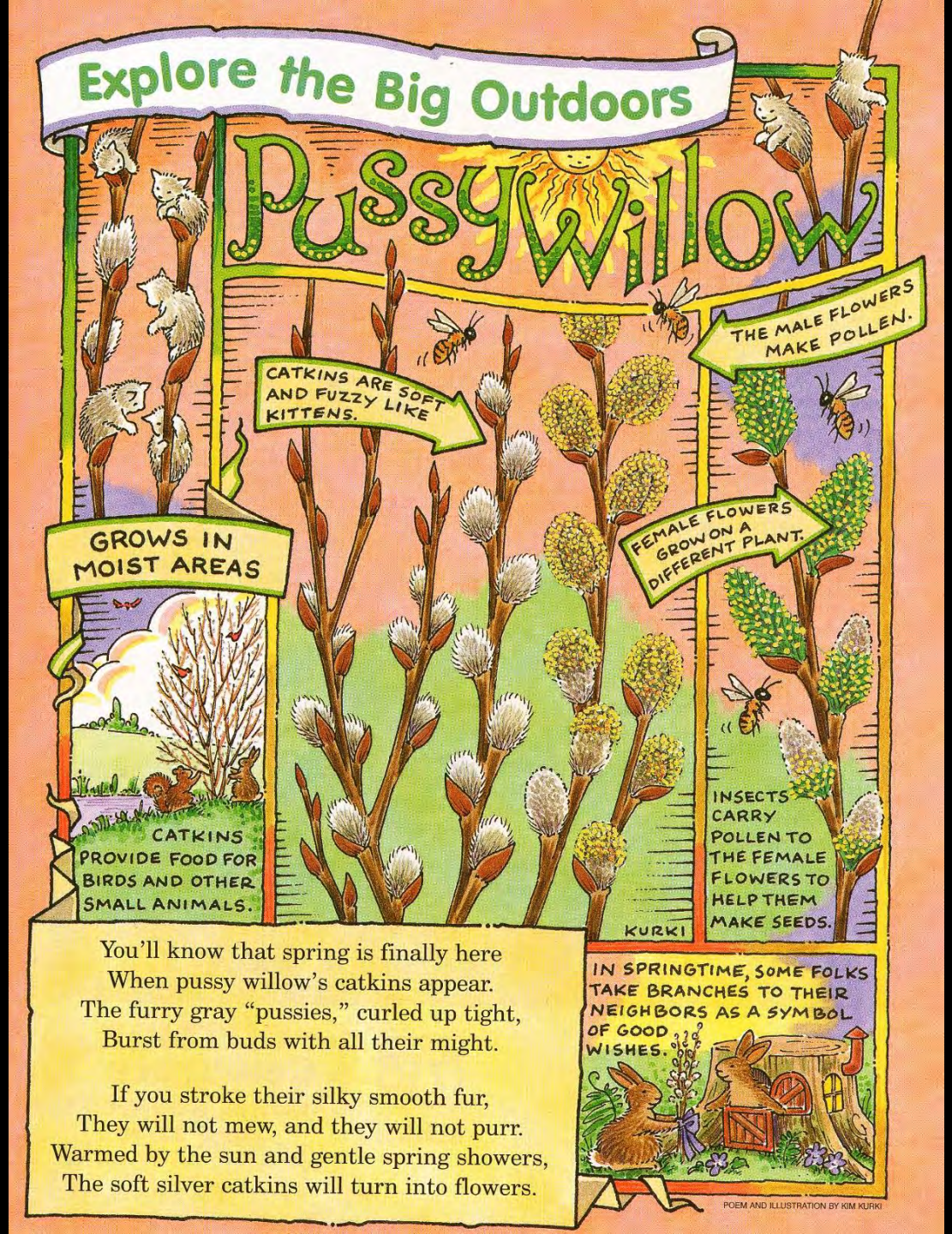
Kim Kurki wrote and illustrated for National Wildlife Federation's *Your Big Backyard* magazine creating a monthly column which features birds, animals and plants that children can find in "their own backyards." Her first book, *National Wildlife Federation's World of Birds: A Beginner's Guide* has evolved from that collection of work.

Kim Kurki
Purple Coneflower
Ink & watercolor, digital print
8.5" x 11"



Kim Kurki
Common Milkweed
Ink & watercolor, digital print
8.5" x 11"

Kim Kurki
Cones
Ink & watercolor, digital print
8.5" x 11"



Kim Kurki
Pussywillow
Ink & watercolor, digital print
8.5" x 11"

Kim Kurki
Skunk Cabbage
Ink & watercolor, digital print
8.5" x 11"

Julia Oldham
Rotation 1
video
1:00

https://vimeo.com/171698085

Using her body as her medium, Julia Oldham attempts to transform into a honeybee by imitating the honeybee's behavior in the hive, pollination of flowers and waggle dance—a figure-eight dance performed by bees to share information with other bees about the distance and location of pollen in relation to the sun. As part of her larger practice, Oldham studies invertebrates and spontaneously imitates their movements in front of a camera without practicing first. She improvises, allowing intuition to take over. She then edits the footage to create humanly impossible movements.

Julia Oldham
Rotation 2
video
1:00

https://vimeo.com/171698088

Julia Oldham
Rotation 3
video
1:00

https://vimeo.com/1716980886

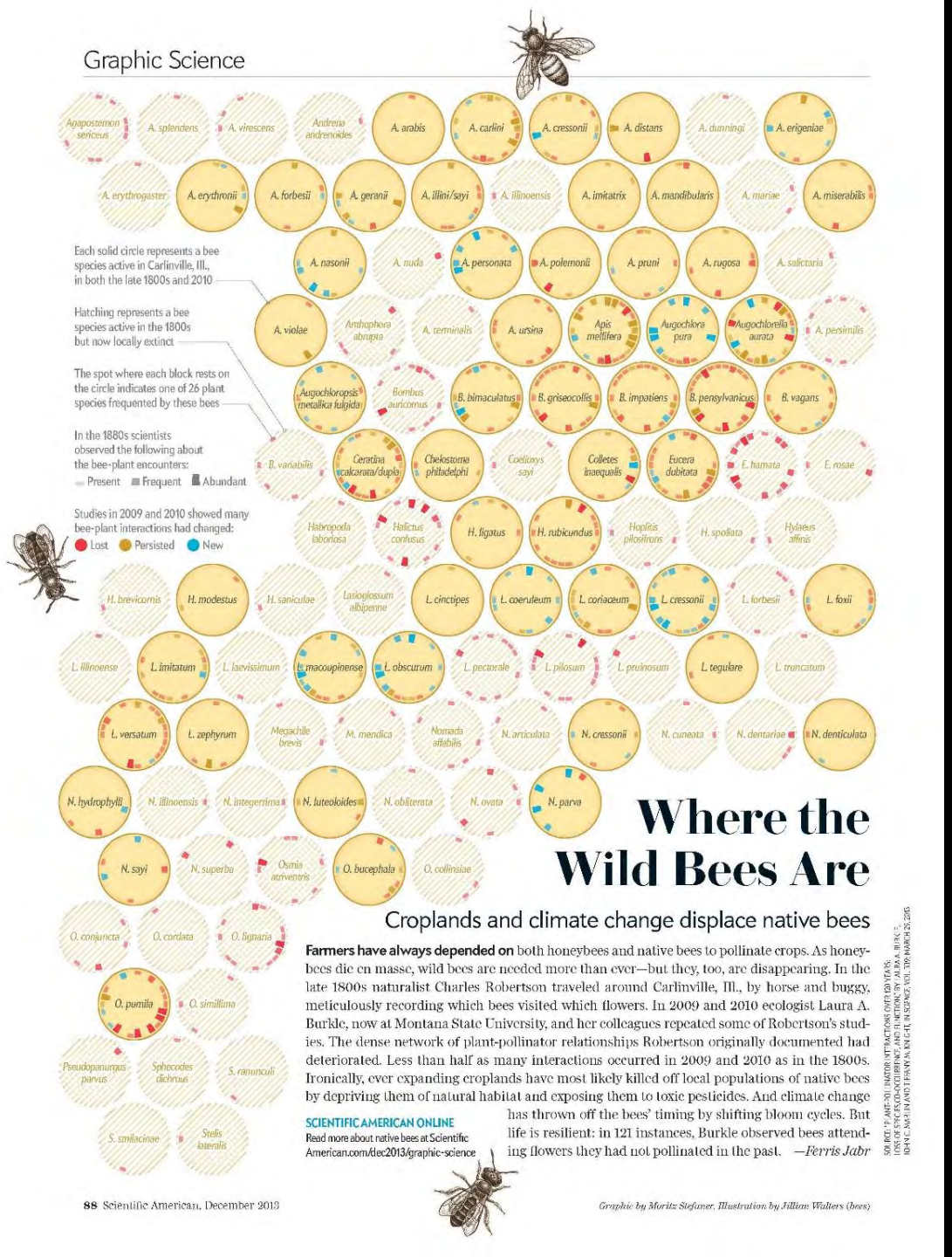
Eric Schultz
Wasp Nest
Mixed metals
21" x 22.75" x 11.5«

Eric Schultz uses found metals to create recycled sculptures that promote environmentalism while creating a sense of playful wonder. The “green” aspect of Schultz’s sculpture is an integral part of his artistic process. His large-scale metal wasps draw visitors through the space while prompting questions about our responsible use of materials.

Judy Simon
Cypripedium Acoule with Bee Entering
Ink and colored pencil
9.5" x 7.5"

Simon's botanical illustrations offer highly detailed views of intricate pollinator behaviors. Here the pink Lady's Slipper is pollinated when the plant "tricks" the bee by attracting it to its bright pink pouch. Once inside, the only way for it to escape is to keep move forward. On its way out, the bee must pass under the orchid's stigma then squeeze under the anthers, where it collects pollen as it exits. The trick is that the bee gets no nectar from the orchid, the pollen is only deposited as the insect leaves.

Judy Simon
Cypripedium Acoule with Bee Leaving
Colored pencil on Duralar



Moritz Stefaner
Where the Wild Bees Are
Scientific American, December 2013
Digital illustration
28.75" x 22"

Data visualizations (sometimes called "infographics") translate a huge amount of research into an illustration that can be more easily understood. In this case, the designer worked with a report on the declining number of plant-pollinator interactions observed over 120 years, in Illinois. He made choices about color, scale, and layout, deciding on a honeycomb-like design that people would immediately associate with bees. In this exhibition, this graphic is an example of the ways in which artists can help scientists communicate their research to the public.