

ROMANCING THE POLLINATORS

Last year in early November with warm weather still with us, I sat in the forest along the Big Tesuque listening to its warbling stream, its edges softened with tussocks of autumned grasses. Above, spires of Douglas Fir punctuate the honey sheen on gray-green trunks of swaying Aspens. Long arches of these fallen and weathered trees frame the bare-branched understory of Tea Leaf Willow, Currant and Rock Spirea. Dangling seedheads of amber-mauve hued grasses, ruby berried Kinnikinnick and icee blue Pussytoes, weave together this forest enclave. In-hand with pen and paper, I notice shadows from the low branches of the evergreen Fir moving gently across the white page. Nearby mica is sparkling off granite stone strewn with fallen leaves, twigs and branches, while a spider slides over tufts of grass and an indigo-orange butterfly floats through the air. A refreshing comfort seeps in, as I reflect on this constellation of visual cohesiveness and how it reveals the deep ecology of a biologically- rich environment, rich in relationship as well as species.

The more we observe and experience a variety of habitats from alpine tundra, forest, stream, steppe, chaparral, desert and coastal plains, the greater our ability to sense this interconnectedness throughout Nature. The more this inspires us, the greater the possibility to emulate and practice the spontaneous feeling of materials in Nature in our own environments.

A garden or habitat rich in mutually beneficial species cultivates a diversity which is the connective tissue linking nectar and pollen producing plants with nectar and pollen collecting animals. This supports a vital ecological process, for through the transfer of pollen a flowering plant is fertilized, allowing reproduction and development of fruit and seed. Co-evolution has allowed for floral adaptation producing shapes, colors, fragrances and nectars designed to attract just the right pollinator. The NAPPC Pollination Primer tells us that “over 200,000 species of animals act as pollinators, many distributing pollen in different ways. Vertebrates, birds or bats carry pollen in their feathers or hair. Invertebrates, bees-wasps, butterflies and moths lack hair, rather have bristles on their legs, head or other body parts. Honeybees have tiny baskets (corbicular) on their hind legs for carrying pollen back to the hive. When butterflies use their long proboscis or hummingbirds use their long beaks and brush-like tongues to sip nectar from tubular flowers, they get peppered with pollen on their heads or nectar gathering appendages.”

Four thousand species of bees are native to North American and pollinate the greatest diversity of plants. Honeybees were introduced around 1600 by European settlers in Jamestown, Virginia. Most rural households and many in towns kept bees as a source of sweetener. With as many as 50,000 leaving the hive at once, they search for nectar stored in the blossoms, its sugar their primary source of energy and gather pollen which provides proteins and fats. It is the nectar enriched with enzymes and ferments which is actively concentrated in the hive – that becomes the honey.

Late last summer, Kate Whealen, facilitator for the Sangre de Cristos Beekeepers, visited my garden in South Capitol. Standing by a small meadow listening to the soft humming, we were surprised by the sheer numbers of honey and native bees enjoying the billowy blossoms. Amazed, Kate proclaimed...”the likes of which I’ve never before seen in Santa Fe.”

I would like to share some of my cultivation techniques, offer a list of plants that attract a wide range of pollinators, tips gathered from design practices and guidelines gathered from both personal experience and from the North American Pollinator Protection Campaign and the Xerces Society for Invertebrate Conservation with suggestions for attracting pollinators.

After a few autumn frosts, pull away mulch from the plants and turn in compost. The autumn is the optimum time for this practice accommodating root growth activity, so we apply Biodynamic compost and amendments into the soil. Colorful leaves from fruit trees, ash, linden, maple are collected and used for mulch (can be used above or below pecan shell, etc.), putting the garden to sleep beautifully. In spring, the remaining leaves can be crumbled and left or removed. I use the Biodynamic sprays 500 and 501 that have been rhythmically stirred and into the summer stir a mixture of milk, honey and water to bring the beneficial insects. These practices offer energies and matter essential to invigorating, nourishing and supporting *balanced* life force for the soil, plants and thus pollinators.

1. Most pesticides are not selective; you can lose beneficial plants and insects along with the pestier ones. Honeybees for example, love dandelions. The plant list indicates host plants for beneficial insects. Experiment and combine with companion planting for orchards and vegetable gardens and with permaculture plant guilds.
2. Include native, adaptable and homeoclimatic (similar soil and climate) plants well suited to local growing conditions. Some homeoclimatic plant suggestions include *Delosperma*, *Salvias jurisicii*, *pachyphylla* and *pitcheri* and *Teucrium aroanium*. Choose plants compatible in moisture and cultural needs. Learn their growth habits and sociability status to avoid one plant overtaking its neighbor.
3. Heirloom varieties of herbs and perennials will provide good foraging. Hybridization has reduced the production of nectar and pollen and sometimes leaves the resulting plant completely sterile - useless to bees and other pollinators.
4. Choose several colors in flowers. Bees have good color vision and are especially attracted to blue, purple, violet, white and yellow. They like petals with nectar guides – colored stripes, spots and markings – that direct them right to the sweet stuff like Morning Glories, Violets and Foxgloves. Butterflies favor orange, yellow, bright pink and blue flowers. They often seek flowers their same color to camouflage themselves from birds. Hummingbirds seek red, orange and yellow flowers. Moths search out white flowers especially fragrant night bloomers.
5. Planting in drifts comprised of one species will attract more pollinators than individual plants scattered throughout a habitat patch. The size of the drift relates to the size of your garden. If space allows, plant drifts of 4’ or larger in diameter.

Aim toward an artful randomness of varying densities reflective of a wild meadow. Leave wild open space nearby your garden/meadow which will benefit from the additional nectar-pollen available from forage plants in the surrounding landscape. As a design element, this transitional link can lift and lead the eye to wider views inviting a sense of reference while lending a gentle naturalness and visual cohesiveness.

6. Provide a wide selection of flower forms and shapes. Butterflies and moths need a place to land and prefer broad petals like Echinacea or cluster of florets like Butterfly Bush, Dill or Fennel. Hummers like long tubular flowers like Hyssop or Trumpet vine. Create a dynamic relationship between structure plants – materials with strong form; the trunk of fruit tree, fiber plants or Currant shrub, spires of grasses or Lavender, globe-like shapes as in Echinops or Artichoke; flat heads as in Yarrow or Echinacea. Contrast these with the supportive fillers – Nepeta, Salvia, Oregano, Thymes, Gaura and Coreopsis.



7. Plant for flower diversity displayed over a long season from the earliest Pasque and Wallflowers and Currants to late season Asters and Chamisa; 80% of all birds like Sunflowers. This way we can support a range of pollinators flying at different times of the season. A large container of mint (which tends to run rampant in the ground) left to seed, will provide a late season nectar source for beneficials and bees.
8. Provide shelter, nesting areas and feeders for birds and other pollinators. Birds in our area that also seek out nectar are Brown Jays, Bullock and Scott Orioles and Western Tanager. Wooden nesting blocks, hummingbird feeders, small water features, a large boulder for butterflies to sun upon, arbors covered with vines. Plant Lindens, Maples, Oaks, Pines, and Spruces to provide gleaming sticky resins, saps, and gums for birds to collect in gluing together nesting materials and for bees for use in the hive as propolis.

As grasslands, fields and forest disappear, so do their pollinators. Let's help balance this loss of habitat by practicing restorative ecology establishing pollinator-friendly gardens, a protective refuge where pollinators may live by their intrinsic nature. We can also celebrate during the third week in June each year, with the North American Pollinator Protection Campaign. They sponsor events to raise awareness of the importance of pollinators in our daily lives.

The bees pollinate the clover and alfalfa which the dairy cows eat producing the milk and cheese we enjoy. In the realm of Nature, no process is closer to the heart of Life than pollinator partnership.

Forgotten Pollinators by Stephen Buchann and Gary P. Nabhan, 1997, Island Press.
Karen Strickler, pollinatorparadise.com
North American Pollinator Protection Campaign, www.pollinator.org & www.nappc.org
The Clover and the Bee, Anne Ophelia Dowden, Thomas Crowell, New York, 1990
Towards Savings the Honeybee by Gunther Hauk, 2002, Biodynamic Association of
North American, www.biodynamics.com
Xerces Society for Invertebrate Conservation, www.xerces.org

See the next page for a list of plants that attract pollinators!

**Plants which
attract a wide
range of
pollinators**

***Host plants
for N.M.
beneficials**

Tree

Chokeberry*
Crab Apples
Fruit Trees
 Cherry
 Peach
 Plum
Hawthorn
Linden
N.M. Privet
Redbud
Serviceberry

Annuals

Coreopsis
Cosmos
Larkspur
Marigolds
Nasturtiums
Sunflowers

Shrubs

Agaves
Beauty Bush
Blue M. Spirea
Butterfly Bush*
Cactus
Chamisa
Currant
Elder*
Fernbush
Leadplant
Lilac
Russian Sage
Nanking Cherry
Desert Willow
Willow
Yucca

Perennials

Asters
B. footed Daisy
Butterfly Weed*
Echinacea
Echinops
Gaura
Goldenrod
Honeysuckle
Liatris
Lupine
Mints*
Nepeta*
Penstemons
Pur. Pr. Clover
Salvias
Sedums
Stachys
Sulfur Buckwt.*
Wallflower
Yarrow*

Vegetable/Herb

Alliums
Artichoke
Broccoli*
Carrots-seeded*
Celery-seeded*
Dill
Fennel*
Hyssop
Kale-seeded*
Lavender
Marjoram
Oregano*
Parsley*
Radish-seeded*
Strawberry
Thyme*