

In February, the SCHS welcomed Chris Cosma, a PhD candidate in Dr. Nicole Rafferty's lab in the Evolution, Ecology, and Organismal Biology Department at UC Riverside to present a program entitled "Prioritizing California Native Plants for Moth and Butterfly Conservation." The talk focused on the effects of climate change on Lepidoptera and their interactions with native plants in California.

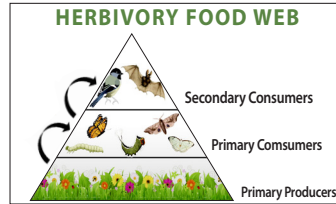
While Cosma's studies focus primarily on moths, he began his program by providing statistics about the monarch butterfly to provide an introduction into his research on conservation. For example: in 2022 monarchs were placed on the endangered list by the International Union for Conservation of Nature (IUCN), that included decreases in population counts of the Western Monarch, which is the species native to California. He described the monarch as a "poster child" for a problem that is facing a much larger group of insect communities. Another study found that in the U.S. over 48% of butterfly species are in decline, due to loss of habitat and other environmental factors including climate change, introduced species, light pollution, and pesticides among others. The highest losses are in the Southwest and Intermountain West, and with California being home to 240 species of butterflies and over 5,000 species of moths, the environmental impact is significant.

Photo courtesy of speaker.



He noted that the conservation of Lepidoptera is critical to supporting food webs as they are the second largest order of insects in North America (after Coleoptera) with over 14,000 species, 95% of which are moths. In their roles as both herbivores and prey in the food web, they transfer more energy from plants to other animals than all other herbivores combined.

Declines in bird and bat populations are directly linked to decreases in Lepidoptera as food sources. Additionally, they are excellent pollinators of wild and agricultural plants, with some being "host plant specialists", making them critical to the existence of certain species - like the Monarch and the Asclepias (milkweed). Specialists are at greater risk because they are easily decoupled from resources compared to generalists who have more food source options. Therefore, making more native plants available for specialists helps support healthier ecosystems.



Cosma explained that of the 2,000 native plant species in California, only 9% are "keystone" species which provide stability to 90% of Lepidoptera and other insect communities. He developed a web app named "The Butterfly Net" ([https://ctcosma.shinyapps.io/the\\_butterfly\\_net/](https://ctcosma.shinyapps.io/the_butterfly_net/)) to assist people in finding the best local native host and nectar plants for butterflies and moths based on geographic data about species interactions throughout California. Some of the most suitable

plants he cited to consider in SoCal included *Achillea millefolium*, *Asclepias fascicularis*, *Eriogonum fasciculatum*, *Heteromeles arbutifolia* and *Salvia mellifera* among others.

In conclusion, Cosma shared 2021 statistics from the Xerxes Society showing a large increase in Western Monarch populations due to conservation efforts - including those by the general public. Raising awareness and spurring action are crucial to protecting important ecosystems in California and beyond - something we can all think about participating in when we're planting in our home gardens.

✂ Sabine Steinmetz

**Link to view entire program:**

<https://www.youtube.com/watch?v=JYAgux1Qf2g>

## IN MEMORIAM Donna Marie Baker



The SCHS is sad to report on the passing of Donna Marie Ernestine Baker (nee Belcher) on January 4, 2023. She was our friend as well as a valued member of the local horticultural community.

She and her late husband Bill Baker ran California Gardens nursery in Tarzana together - specializing in succulents, bromeliads and unusual plants. Donna Marie was passionate and protective of the natural world; she spent much of her adult life growing, caring for, and designing with plants. She was also dedicated to protecting the local insect and bird populations by ensuring no pesticides or herbicides were used on her plants and properties.

Donna Marie fought a short but valiant fight against cholangiocarcinoma (bile duct cancer) and is survived by daughter Laurel, son-in-law Mario and grandchildren Sophia and Matteo. The family suggests that anyone wishing to do so might make a donation to the Cholangiocarcinoma Foundation in her memory.

Her friends at the SCHS will remember Donna Marie for her kindness and generosity in supporting the society numerous times - by providing a beautiful venue for our plant sales, as well as donating plants for our fundraisers. She will be missed. ✂

## SCHS MONTHLY GARDEN SHARE

**Spring will wake up our gardens this month - giving us more to do!**

- Keep up with your weeding after all the recent rains (and then check back later in the month for more!)
- March is an excellent time to put down a heavy layer of mulch for spring - you'll be protecting the newly weeded ground and regulating soil temps as the weather starts warming up.
- Harvest the last of your waning cool season crops to make planting room for warm season veggies and herbs.
- Plant some annuals for seasonal color, and alongside your veggies to attract pollinators and beneficial insects.
- Add summer-blooming bulbs now for serendipitous surprises later!
- Prune your camellias and azaleas after their final blooms are spent and give them a healthy acidic feeding to get their new growth cycles started.
- Enjoy the budding new life outside - and don't forget to pick a bouquet to bring the spring inside as well!

✂ Sabine Steinmetz

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