

SANTA BARBARA NEWS-PRESS

Botanical black holes

Santa Barbara Botanic Garden leading project to map invasive and rare plants in fire areas

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'Invasive plants are like badly behaving houseguests who take over your whole house and then leave a mess,' according to Dr. Denise Knapp, Ph.D., director of conservation and research for the Santa Barbara Botanic Garden.

"Unfortunately, they also threaten rare plants, which is why the Botanic Garden has been involved with mapping rare plants and invasive weed species within the boundaries of two recent fires — the 2007 Zaca Fire, which covered 240,000 acres, and the 2009 Jesusita Fire, which covered almost 79,000 acres."

Dr. Knapp, along with Dr. Heather Schneider, Ph.D., rare plant biologist at the Botanic Garden, are leading what is called the Botanical Black Holes Project in cooperation with Los Padres National Forest and with funding from the National Fish and Wildlife Foundation.

"It's been dubbed Botanical Black Holes because both areas are really remote, covered with rugged terrain, and they are a huge area that remains vastly unexplored. There are very few botanical records from these areas, and the records that are available often date back to the early 1900s," Dr. Knapp said.

"In addition to documenting botanical diversity, we are looking for signs of how these areas have responded to fire," added Dr. Schneider, 35. "For example, are there weed invasions that need to be addressed by land managers?"

Helping with the project are the Los Padres Forest Association, Santa Barbara City College, UCSB, the Santa Ynez Band of Chumash Indians, California Native Plant Society and numerous volunteers.

"We estimate that there will be over 2,000 volunteer hours contributed by the end of this project sometime next spring," said Dr. Knapp, 47, who has been on the Botanic Garden staff for six years.



John Parke, along with his horse, Remington, is among the volunteers helping Santa Barbara Botanic Garden staff with the Botanical Black Holes Project to map rare plants and invasive weed species within the boundaries of two recent fires — the 2007 Zaca Fire, which covered 240,000 acres, and the 2009 Jesusita Fire, which covered almost 79,000 acres.

A graduate of Lompoc High School, she earned a bachelor's degree in art and design at Cal Poly San Luis Obispo, her master's degree in geography at UCLA and her doctorate in ecology at UCSB.

Preparation for the project began last fall, and the actual mapping started in February during a combination of day hikes, multi-day backpacking trips, mule trips and horseback trips.

"John Parke, a Botanic Garden trustee, and his award-winning endurance horse, Remington, are helping with the horse trips, and we have hired Los Padres Outfitters for our mule trips," Dr. Knapp told the News-Press the day before she and Dr. Schneider left on another five-day mule trip. "The mules carry the heavy equipment we need for mapping."

Dr. Schneider stressed the importance of the project.

"Biodiversity, or the diversity of living things, is integral to our existence, yet many species are at risk. Roughly one-third of California's flora is rare, for instance. It is our shared responsibility to protect biodiversity, and in order to protect something, you first have to know that it exists."

Among the rare plants that have been mapped so far are Douglas' fiddleneck, pale yellow layia, Carmel Valley cliff aster, Lemmon's wild cabbage, umbrella larkspur, southern honeysuckle, white leaf monardella, Plummer's baccharis, scrub oak, Santa Barbara bedstraw, Ojai fritillary and Catalina mariposa.

"These plants are classified as rare in the state by the California Native Plant Society. One additional plant that we mapped that is not rare statewide but is rare in Santa Barbara County is gypsum spring beauty. We also mapped an interesting oak hybrid, *Quercus x townie*, which is a hybrid between the rare scrub oak and valley oak," said Dr. Schneider.

A native of Bloomingdale, Ill., she earned a Ph.D. in plant ecology at UC Riverside and worked for the United States Geological Survey before signing on at the Botanic Garden two years ago.

In addition to her work with the Black Holes Project, Dr. Schneider will be leading a Rare Plant Treasure Hunt from 8:30 to 11 a.m. July 14 for anyone in the community.



Top photo, the pale yellow layia smells like bananas and is important for pollinators. Bottom photo, Bermuda buttercup, a ground cover, is an example of how invaders can take over, excluding most other plants.



Key people in the Black Holes Project are, from left, Dr. Denise Knapp, Dr. Heather Schneider and Stephanie Calloway, who is doing all of the map work in the lab as well as blog posts and videos, along with field work.

"The Rare Plant Treasure Hunt is a citizen science program with the goal of updating information of our state's rare plants. We will be searching for the late-flowered mariposa lily, a rare perennial bulb that is found in the front country in Santa Barbara as well as along parts of Camino Cielo. This vibrantly colored wildflower is true to its name and blooms in the heat of summer," she said. "We will meet at the Tunnel Road trailhead to search for this plant, and there will be an optional jaunt to Inspiration Point after."

Participants should be in good physical condition for the outing, which is easy to moderate in difficulty. They are to bring plenty of water, snacks, hat, sunscreen, sturdy shoes, pen/pencil, clipboard and camera.

Obviously enthusiastic about their work with the Black Holes Project, Dr. Knapp agreed with Dr. Schneider, who said, "The more we know about the irreplaceable treasures that occur in our own backyard, the easier it will be to protect them."

Added Dr. Knapp, "We want to bring the beauty and diversity of the backcountry to people, even if they never go camping or set foot in the wilderness."

"What we're doing is taking a snapshot in time that people can refer to in the future," said Dr. Schneider.

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FYI

For more information about the Botanical Black Holes Project, visit the Santa Barbara Botanic Garden website at www.sbbg.org.

To RSVP for the Rare Plant Treasure Hunt from 8:30 to 11 a.m. July 14, email Dr. Heather Schneider at hschneider@sbbg.org.

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