

Invasive plant found in California threatens to spread across Southwest

April 17 2019, by Phil Diehl



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A new invasive weed that can grow into a dense mat, choking off most other plants, has gained its first North American foothold in Carlsbad and is threatening to spread across the Southwest with seeds that can travel on clothes, boots and tires.

Ward's [weed](#), a native of the Mediterranean region and Western Asia, has already conquered Australia. It arrived on the small continent in

1915 and now can be found in every Australian state, with the most extensive concentrations on the country's arid southern coast.

The invader was first found in Carlsbad, near San Diego, about 2008 by a botanist working in a habitat preserve along Alicante Road in the La Costa area. Despite several years of efforts to control it there, the plant recently jumped to Bressi Ranch, where it's been found in the protected habitat along El Fuerte Street and Poinsettia Lane.

"It spreads like crazy," said Rosanne Humphrey, a senior manager in the city's habitat program.

Besides choking out much-loved natives such as the golden poppy, which is the state flower, Ward's weed is a wildfire hazard. Each year it dies off and turns into a brown mass of thin, dry brush, like a tiny tumbleweed, that can go up in flames with a spark.

No one is certain exactly when the plant arrived in Carlsbad or how it got there, Humphrey said. Smaller patches of it have recently been found elsewhere in San Diego County at Crest Canyon in Del Mar and in Otay Mesa near the Mexican border. It's also been found near one of the military housing areas at the center of Camp Pendleton.

None of those locations have had Ward's weed as long or seen it spread as widely as in Carlsbad.

However, there's still time to stop the plant, Humphrey said.

"It's still containable, we hope," she said. "We have rare opportunities to catch new infestations early enough that we can eradicate them."

Isolated [plants](#) can be pulled out by hand, but that's not practical when the weed covers large areas. Often it occurs in steep terrain, where it's

hard to reach, mixed in with native shrubs such as sage and coyote brush.

"It's not possible to remove all the plants manually," said Jason Giessow, principal ecologist at the Encinitas land management company Dendra Inc. "It sprouts and sets too quickly."

Also, sensitive habitat is damaged when large numbers of workers walk through, often crushing the native plants and shrubs they are trying to protect. Chemical herbicides are the only practical solution for widespread treatments, he said, even though some people oppose the use of chemicals.

"If herbicides weren't used, you are basically permanently writing off these areas," Giessow said.

Part of the battle is education, teaching people to recognize the small, compact plant, not allow it to spread, and to remove it themselves or notify experts.

Money is another factor in the fight. An all-out effort to eradicate Ward's weed could cost hundreds of thousands of dollars and take 10 to 15 years, Humphrey said.

Ownership issues also complicate the situation. Carlsbad owns only about 10 percent of the more than 6,200 acres in its habitat preserves. The rest of the property belongs to the state and individual homeowners associations.

Carlsbad killed off a botanical invader once before.

In the late 1990s the invasive algae *Caulerpa taxifolia* was discovered in Carlsbad's Agua Hedionda Lagoon. The plant was once used to decorate people's aquariums, and a few pieces probably were dumped into a storm

drain that flowed into the waterway. The algae threatened to cover the bottom of the lagoon with dense, palmlike fronds, and kill off the native marine life.

Carlsbad launched a six-year, \$7 million effort to save the lagoon. Divers sealed off underwater sections of the lagoon with plastic and treated the lagoon floor with chlorine. The project was controversial, but it worked and the algae was eliminated.

Still, California is filled with immigrant plants. Many have been around so long they have become naturalized.

The bright yellow flowers covering hillsides across San Diego County and much of the Southwest this spring are black mustard, a naturalized plant that arrived from Eurasia centuries ago.

"Mustard has been here since the missionaries," said Kris Preston, an ecologist in the San Diego office of the U.S. Geological Survey. "It's one of our early invaders. There's not a lot you can do about that."

With many invasive plants, the management strategy is simply to keep them to a minimum. Removal efforts are focused on places where they cause problems or threaten a valuable concentration of native species, Preston said.

Ward's weed falls into a different category. It's a newcomer, so there's still a chance to eliminate it.

"It is one of our target species to try to eradicate from the county ... the worst weeds that we have a chance of getting rid of," Preston said.

Several local invasive plants, mostly grasses, thistles and flowers, fall into the target species category, she said. But Ward's weed is unusual

because for now it's still new and it's only been found in San Diego County.

The weed can be identified in the spring by its small yellow flowers with four petals and most of the year by its unique "beaked" seed pods that look like a bird's beak. The plants can produce up to 30,000 seeds per square meter, some of which dry up and remain on the plant, while others fall into the soil and stay there.

City officials encourage anyone who thinks they may have spotted the plant in a new area to post a photo using the iNaturalist app on their cellphone. A local biologist will confirm and record the observation.

Mowing or weed-whipping the plants are not recommended because that spreads the seed.

Any hand-pulled weeds should be covered in clear plastic and left on the site for as long as a year to be killed by the sun. Hauling them away to a landfill or recycling facility is not recommended because it could encourage their spread.

Anyone walking in areas where Ward's weed has been found should wear fabrics that the seeds and dirt won't cling to, such as canvas, nylon or leather, and not brushed cotton, netting, knits or fleece. They should check and clean their clothing before leaving the area.

Organic herbicides can be used, but the organic treatments must be repeated every few weeks because they only kill the above-ground parts of the plants.

The pre-emergent chemical herbicide Gallery has been the most effective tool so far, ecologists said, but the product is expensive and often requires follow-up with a broad-spectrum herbicide such as Telar

or spot treatment with glyphosate such as the brand Roundup.

"We definitely have our work cut out for us," said Giessow. "We are really struggling with this plant."

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Citation: Invasive plant found in California threatens to spread across Southwest (2019, April 17)
retrieved 16 August 2024 from <https://phys.org/news/2019-04-invasive-california-threatens-southwest.html>

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