

UC SANTA CRUZ CAMPUS NATURAL RESERVE

CALIFORNIA GIANT SALAMANDER



Sarah Doyle

Scientific Name: *Dicamptodon ensatus*

Common Name: California Giant Salamander

Global Rarity: Vulnerable

State Rarity: Imperiled/Vulnerable;

California Species of Special Concern

UCSC Rarity: Uncommon/Rare



General Description

California Giant Salamander adults are among the largest terrestrial salamanders in the world. Their large head, body, limbs and overall robust size and mottled dorsal color make them unmistakable for any other salamander species in their range. Adults live in the uplands adjacent to cold, clear, slow-moving streams, where their aquatic larvae hunt aquatic macroinvertebrates and possibly amphibian eggs and larvae and fish hatchlings for a couple years before typically maturing into terrestrial adults.



Identification

Size: Adult: 15-30.5 cm (6-12 inches) total length

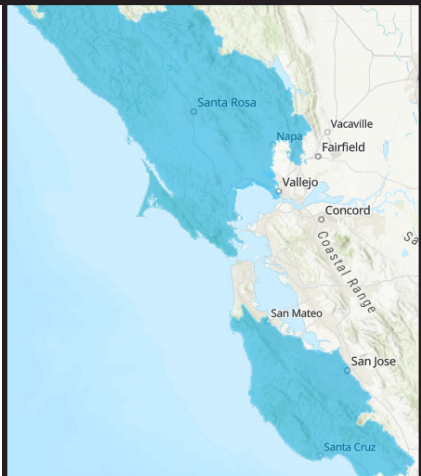
General Color: Color can range from dark brown to tan and dull red. Adults feature dark brown to purple mottling on their limbs and dorsal surface. Underside is whitish or dull yellow.

Juveniles: Vertically-flattened tail that starts just behind back legs; external gills.

Skin: Smooth

Geographic Range

The California Giant Salamander is endemic to California and can be found in two regions: Mendocino County stretching south towards Sonoma and Marin Counties (touching Lake and Glenn Counties to the east), and San Mateo and Santa Cruz Counties. The genus *Dicamptodon* was split into three distinct species; the other two are found to the north.





UCSC Distribution

California Giant Salamander can be found within Cave Gulch watershed and surrounding uplands on the UCSC campus.

Life History

Habitat: The California Giant Salamander can be found in and near the slow-moving, cold water of small streams and rivers and surrounding uplands of usually coastal forests where the climate is mild and humid. Adults can sometime be found under rocks and leaf cover near stream headwaters.

Reproduction: Mate in spring in autumn, but do not reach sexual maturity until around six years of age.

Behavior: Nocturnal. They are sit-and-wait predators, and do not typically search out prey.

Diet: Small invertebrates, snails, slugs, and small mammals

Predators: Water Shrew and Aquatic Gartersnake

Research Highlights

- *Dicamptodon ensatus* is one of the only salamander species with a vocal call
- They take up to two years to leave the larval stage and develop lungs, with some larve metamorphosing in their third year.
- Some juveniles reach sexual maturity as larvae, called paedomorphs, and never lose their external gills or leave the water.
- Late UCSC professor Barry Sinervo discovered a population of paedomorphs in a local cave system, hypothesizing that they may be genetically distinct from those outside of the cave.



Conservation Status

California Species of Special Concern

In addition to this designation, the California Giant Salamander is considered Near Threatened and is Red Listed by the IUCN.



Threats

Statewide

1. Logging and/or forest removal near streams
2. Road building near streams
3. Prolonged drought and long-term climate change effects

UCSC Campus

At UCSC, the California Giant Salamander is threatened by construction, hydrological alternations, and human impact in the uplands surrounding the Cave Gulch watershed.

Ways You Can Help

1. As individuals, we can help this species by becoming more aware of the habitats in which this species is found. This way, we can lessen our impact on the California Giant Salamander as much as possible.
2. We can also advocate to control the impact that logging, road building, and forest removal has on native species.



References

Kucera, T. "California Giant Salamander." California Wildlife Habitat Relationships System, 1997.

Nafis, G. nd. California Giant Salamander- *Dicamptodon ensatus*. Retrieved from www.californiaherps.com/salamanders/pages/d.ensatus on 11 May 2021.

"California Giant Salamander (Amphibians of the Bouverie Preserve of ACR) · iNaturalist." iNaturalist, www.inaturalist.org/guide_taxa/273255.

"Species Profile." ECOS, ecos.fws.gov/ecp/species/9272.

Page 3 Bottom: "California Giant Salamander (*Dicamptodon ensatus*)" by Greg Schechter is licensed with CC BY 2.0. To view a copy of this license, visit <https://creativecommons.org/licenses/by/2.0/>

All other images by Alex Jones, used by permission.