

**California Wildlife Habitat Relationships System**  
**California Department of Fish and Wildlife**  
**California Interagency Wildlife Task Group**

---

COASTAL GIANT SALAMANDER

*Dicamptodon tenebrosus*

Family: DICAMPTODONTIDAE  
A048

Order: CAUDATA

Class: AMPHIBIA

Written by: T. Kucera, 1997

Edited by: CWHR Program Staff, 2002

**DISTRIBUTION, ABUNDANCE, AND SEASONALITY**

Coastal giant salamanders are year-round residents of northwestern California, from extreme southern Mendocino and Lake cos. to the Oregon state line and inland to central Siskiyou and Shasta cos. (Stebbins 1972, Nussbaum et al. 1983). They occur up to 2,160 m (6,500 ft) primarily in humid coastal forests, especially in Klamath mixed conifer, Douglas-fir, redwood, red fir, and montane and valley-foothill riparian habitats. They live in or near streams in damp forests and tend to be common where they occur (Stebbins 1985). Aquatic adults and larvae are found in cool, rocky streams and occasionally in lakes and ponds.

**SPECIFIC HABITAT REQUIREMENTS**

**Feeding:** Terrestrial adults search for prey such as snails, slugs, other invertebrates, small mice, shrews, possibly reptiles, and other amphibians under surface objects and in tunnels underground (Nussbaum et al. 1983, Stebbins 1985). Aquatic adults and larvae of *D. tenebrosus* and the closely related *D. ensatus* eat aquatic invertebrates, fish, and other amphibians (Antonelli et al. 1972, Parker 1994).

**Cover:** Aquatic adults and larvae hide within spaces between rocks in streambeds. Terrestrial adults are found under surface litter and in tunnels underground (Nussbaum et al. 1983, Stebbins 1985).

**Reproduction:** Eggs are laid during spring in concealed locations several feet below the surface in cold, slowly flowing water in springs, channels, under streambanks, and beneath rocks and coarse woody debris in stream bottoms (Nussbaum et al. 1983, Stebbins 1985).

**Water:** Water, preferably cold and flowing, is necessary for egg-laying sites and for the aquatic larval and adult forms (Nussbaum et al. 1983, Stebbins 1985).

**Pattern:** Usually found in cool, moist, forest habitat and associated with rocky streams and springs (Hawkins et al. 1983, Stebbins 1985).

**SPECIES LIFE HISTORY**

**Activity Patterns:** Primarily nocturnal, but may also be active during daytime (Nussbaum et al. 1983, Stebbins 1985). The seasonal activity pattern is unknown.

**Seasonal Movements/Migration:** Adults have been observed active on rainy nights moving toward streams.

**Home Range:** No data on home range.

Territory: Not known to be territorial.

Reproduction: Breeds from March to May, with peak in May. Adult *D. ensatus* have been found associated with nests (Nussbaum 1969). Where permanently flowing streams are available, adults may retain gills for an aquatic adult stage (neoteny). In some areas, larvae will transform to terrestrial adult form after 1 to 2 years (Nussbaum et al. 1983).

Niche: The closely related *D. ensatus* is preyed upon by the water shrew (*Sorex palustris*) (Nussbaum and Maser 1969) and the western aquatic garter snake (*Thamnophis couchi*) (Lind and Welsh 1990). Adults cannibalize larvae (Nussbaum and Clothier 1973).

## REFERENCES

- Antonelli, A. L., R. A. Nussbaum, and S. D. Smith. 1972. Comparative food habits of four species of stream-dwelling vertebrates (*Dicamptodon ensatus*, *D. copei*, *Cottus tenuis*, *Salmo gairdneri*). *Northwest Science* 46:277-289.
- Good, D. A. 1989. Hybridization and cryptic species in *Dicamptodon* (Caudata: Dicamptodontidae). *Evolution* 43:728-744.
- Hawkins, C. P., M. L. Murphy, N. H. Anderson, and M. A. Wilzbach. 1983. Density of fish and salamanders in relation to riparian canopy and physical habitat in streams of the northwestern United States. *Canadian Journal of Fisheries and Aquatic Sciences* 40:1173-1185.
- Lind, A. and H. H. Welsh, Jr. 1990. Predation by *Thamnophis couchi* on *Dicamptodon ensatus*. *Journal of Herpetology*. 24:104-106.
- Nussbaum, R. A. 1969. Nest and eggs of the Pacific giant salamander, *Dicamptodon ensatus* (Eschscholtz). *Herpetologica* 25:257-262.
- Nussbaum, R. A., and C. Maser. 1969. Observations of *Sorex palustris* preying on *Dicamptodon ensatus*. *Murrelet* 50:23.
- Nussbaum, R. A., E. D. Brodie, Jr., and R. M. Storm. 1983. *Amphibians and reptiles of the Pacific northwest*. University of Idaho Press, Moscow, ID.
- Nussbaum, R. A., and G. W. Clothier. 1973. Population structure, growth, and size of larval *Dicamptodon ensatus* (Eschscholtz). *Northwest. Science*. 47:218-227.
- Parker, M. S. 1994. Feeding ecology of stream-dwelling Pacific giant salamanders (*Dicamptodon ensatus*). *Copeia* 1994(3):705-718.
- Stebbins, R. C. 1972. *California amphibians and reptiles*. University of California Press, Berkeley. 152 pp.
- Stebbins, R. C. 1985. *A field guide to western reptiles and amphibians*. Houghton Mifflin Co., Boston, MA.

A048

Life history accounts for species in the California Wildlife Habitat Relationships (CWHR) System were originally published in: Zeiner, D.C., W.F.Laudenslayer, Jr., K.E. Mayer, and M. White, eds. 1988-1990. *California's Wildlife*. Vol. I-III. California Department of Fish and Game, Sacramento, California. Updates are noted in accounts that have been added or edited since original publication.