

# A BRIEF INTRODUCTION TO CALIFORNIA NEWTS



Oct 10, 2019

## A Guide to the Amphibians and Reptiles of California

Pictures and Information About  
Herps in California

[Snakes](#)
[Lizards](#)
[Turtles](#)
[Frogs](#)
[Salamanders](#)
[Identifying  
California Herps](#)


Herps Found in Specific  
Areas of California:

[San Francisco  
Bay Area Herps](#)
[Coastal Southern  
California Herps](#)
[Herps Found on  
California Islands](#)

Herps From Outside of California

[Beyond California](#)

This website documents the amphibians and reptiles (herps) found in the state of California with information including:

- [Taxonomic Lists](#), [Photo Indexes](#), [Range Maps](#), and [Species Accounts](#) of all native and non-native amphibians and reptiles established in California
- [Sound Recordings](#), including the [Calls of California's Frogs and Toads](#)
- [Short Videos](#) of most species
- Lists of [Species that Might Occur](#) in California and of [Established Non-native Species](#) in California
- Tips on [Identifying](#) Amphibians and Reptiles found in the wild in California
- California Collecting [Regulations](#),
- Conservation Status information



Report Your Herp  
Observations



AmphibiaWeb provides information on amphibian declines, natural history, conservation, and taxonomy.

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### Species of the Week

*Rhinella marina* | Cane Toad



Andrés Acosta

Photo © Andrés Acosta

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 Number of Records to Display Per Page: 

 Sort Results By: 

 Include Synonyms in Search:  [Works with **Scientific Name** field only.]

 Show Photos: 



Scientific Name	<input type="text" value="contains"/>	<input type="text" value="Taricha torosa"/>	Example: Anaxyrus canorus
Genus	<input type="text" value="equals"/>	<input type="text"/>	Example: Anaxyrus
Specific Epithet	<input type="text" value="equals"/>	<input type="text"/>	Example: canorus
Vernacular name	<input type="text"/>		Example: Yosemite toad
Clade/Subgenus	<input type="text"/>		Example: Brygoomantis
Subfamily	<input type="text"/>		Example: Hylinae
Family	<input type="text" value="any"/>		
Order	<input type="text" value="any"/>		
Countries	<input type="text" value="occurs in"/>	<input type="text"/> <ul style="list-style-type: none"> <li>Afghanistan</li> <li>Albania</li> <li>Algeria</li> <li>American Samoa</li> </ul>	(Use the CTRL key to select multiple countries.)
Account Text	<input type="text"/>		
Reasons for Decline	<input type="text"/>	<input type="text"/> <ul style="list-style-type: none"> <li>General habitat alteration and loss</li> <li>Habitat modification from deforestation, or logging related activities</li> <li>Intensified agriculture or grazing</li> <li>Urbanization</li> </ul>	(Use the CTRL key to select multiple declines reasons.)
IUCN category	<input type="text"/>		
CITES listing	<input type="text"/>		
Account author	<input type="text"/>		Example: Kuzmin

## Taricha torosa

California Newt, Coast Range Newt  
Subgenus: Taricha

family: Salamandridae  
subfamily: Pleurodelinae



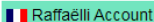
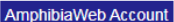
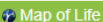
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### Conservation Status (definitions)

IUCN (Red List) Status	<b>Least Concern (LC)</b>
NatureServe Status	Use NatureServe Explorer to see status.
CITES	No CITES Listing
Other International Status	None
National Status	None
Regional Status	<i>Taricha torosa</i> is a species of special concern in southern California, specifically those populations south of the Salinas River in Monterey Co. to San Diego Co. (Jennings and Hayes 1994).



View distribution map using  
BerkeleyMapper.

Lannoo Account  Raffaelli Account  AmphibiaWeb Account  Map of Life



The following account is modified from *Amphibian Declines: The Conservation Status of United States Species*, edited by Michael Lannoo (©2005 by the Regents of the University of California), used with permission of University of California Press. The book is available from UC Press.

*Taricha torosa* (Rathke, 1833)  
California Newt

Shawn R. Kuchta<sup>1</sup>

1. Historical versus Current Distribution. Riemer (1958) conducted the first comprehensive investigation of the distribution and systematics of the genus *Taricha* and recognized 2 allopatric subspecies of *T. torosa* (California newts; Riemer, 1958): *T. t. torosa* (Coast Range newts) and *T. t. sierrae* (Sierra newts). Coast Range newts are distributed from central Mendocino County in northwestern California south through the Coast Ranges to Boulder Creek on the western slope of the peninsular ranges in San Diego County (Stebbins, 1985). Coast Range newts are found from sea level to at least 1,280 m on Mt. Hamilton, Santa Clara County, California (Stebbins, 1959). The southernmost localities in San Diego County compose a geographic isolate (Stebbins, 1985; Jennings and Hayes, 1994a), and were once recognized as a distinct subspecies (*T. t. klauberi*: Wolterstorff, 1935; Stejneger and Barbour, 1943) or species (*T. klauberi*: Bishop, 1943; Smith and Taylor, 1948). They are genetically distinct (Tan, 1993; Tan and Wake, 1995; Kuchta, 2002) and distinguishable based on morphometric (Riemer, 1958) and osteological (Herre, 1939; Tan, 1993) grounds. However, the initial description was based on pathological animals, and *T. klauberi* was synonymized with *T. torosa* (Myers, 1942b; Twitty, 1942; Stebbins, 1951; Brattstrom and Warren, 1953; see "Parasites" below). Specimens have been reported from northwestern Baja California (Slevin, 1928; Smith and Taylor, 1948), but these records require verification.

Sierra newts occur at elevations below about 2,000 m and range along the western slopes of the Sierra Nevada from Shasta County (Gorman, 1951) south to Kern County (Stebbins, 1985). Many sources report a gap in the distribution between southern Shasta and northern Butte counties, but this may not exist, as Tan (1993) collected specimens in this area (also D.B. Wake, personal communication). Some sources consider Sierra newts to be deserving of specific status (Twitty, 1942; Collins, 1991; Tan, 1993; Kuchta, 2002), but others disagree (Stebbins, 1951; Riemer, 1958; Frost et al., 1992; Montanucci, 1992; Van Devender et al., 1992).

Tan and Wake (1995) outlined the historical biogeography of California newts. Based primarily on mitochondrial DNA evidence, they propose that Coast Range newts and Sierra newts differentiated about 8 million yr ago (mya), when Sierra newts existed in the uplifting central Sierra Nevada, and Coast Range newts inhabited the present day San Diego area. Roughly 5 mya, Coast Range newts expanded their distribution north to Monterey, while Sierra newts spread north and south in the Sierra Nevada. Coastal populations of Coast Range newts invaded the southern Sierra Nevada and differentiated morphologically roughly 2 mya; Tan (1993) and Kuchta (2002) suggest these populations are sufficiently divergent to warrant species status. Only relatively recently, after the central California inland sea subsided, did Coast Range newts expand north of Monterey to their current distribution. Early workers have suggested, based on differences in larval pigmentation (Twitty, 1942) and preliminary genetic data (Coates, 1967; Hedgecock and Ayala, 1974; Hedgecock, 1976), that Coast Range newts are further divisible into northern and southern "races" located on either side of the Salinas Valley in Monterey County. While a genetic break exists, it is not large relative to other genetic disjunctions in the species (Tan, 1993; Kuchta, 2002).

2. Historical versus Current Abundance. Historically, California newts were abundant throughout much of their range, except in the Santa Ynez Mountains of Santa Barbara County, where populations may have always been small (S. Sweet, personal communication, reported in Jennings and Hayes, 1994a). In southern California, suitable habitat is patchy (Jennings and Hayes, 1994a); however, at appropriate sites California newts were historically "common" on the Pacific slope (Klauber, 1928, 1930; Bogert, 1930; Pequegnat, 1945; Dixon, 1967; Brattstrom, 1988).

3. Life History Features. Some of the best documentation of California newt life history features is by Ritter (1897) and Storer (1925), both of whom worked in the northern part of the range. Unfortunately, both California newts and rough-skinned newts (*Taricha granulosa*) occur there, and rough-skinned newts were not recognized as a distinct species until the work of Twitty (1935). However, California newts are the more abundant species in this area, and below I cite these authors where I feel the information applies to California newts.

# The Pacific Newts

Genus *Taricha*

California Newt *Taricha torosa*



Rough-skinned Newt *Taricha granulosa*



Red-bellied newt *Taricha rivularis*  
(note all dark eye)

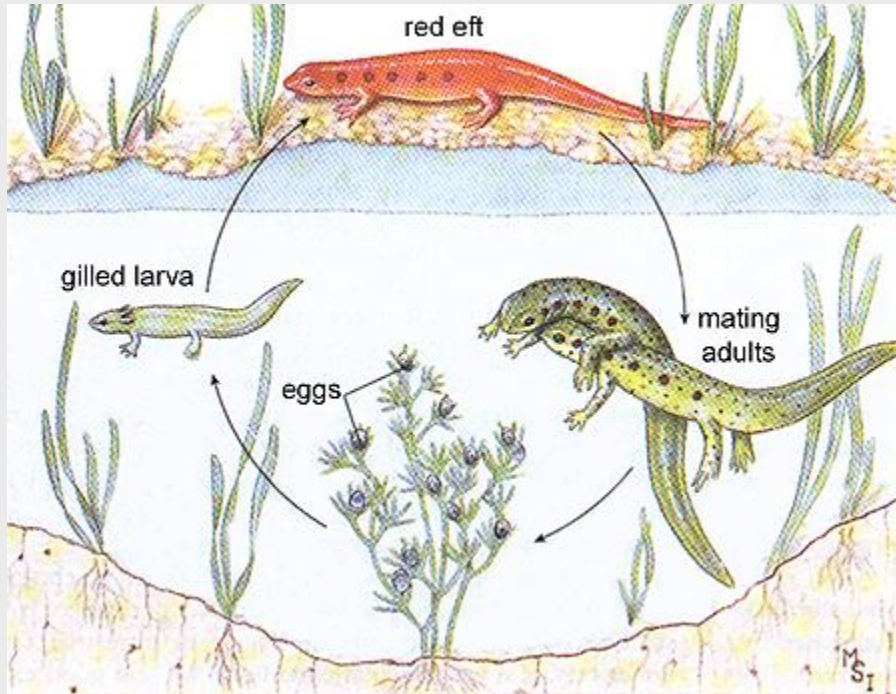


Sierra Newt *Taricha sierrae*

# Newt Life Cycle: What makes a newt a newt?

(Newts are a type of salamander)

“Typical” Newt life cycle:



Pacific Newts are exceptional!

# Newts are **VERY** poisonous

~2,000 mice killed by 1 California Newt

~20,000 mice killed by 1 Rough-skinned Newt





# Rough-skinned Newt

- Eyes don't protrude past head outline
- Dark around eyes



# California Newt

- Eyes protrude past head outline
- Light around eyes



# California Newt Life Cycle



Terrestrial life – not much information on this phase  
May move 3 or more miles from breeding site.

# Breeding Behavior

- Males migrate to bodies of water before females
  - Wait for females
  - Spend extended time in water
- Male physical changes
  - Vent swells
  - Skin becomes smooth
  - Tail becomes laterally flattened
  - Limbs swell
  - Toes become more rough





# Eggs



Rough-skinned Newt egg



California Newt eggs



California Newt laying Eggs



# Rough-skinned vs. California

- More likely in streams in forests
- Eggs laid singly
- Slow development of egg and larvae
- Un-striped larvae



- More likely in ponds in grassland
- Eggs laid in clusters
- Quick development of egg and larvae
- Striped larvae



# Larval Stage

Duration varies greatly  
Only stage without toxic protection



# Metamorphosis and upland migration



© Jeff Ahrens



# So, when are newts on the move?

1. Metamorphs move upland.  
Midsummer – Fall
2. Adults move to breeding sites. Fall – winter (Males may move annually, females every 2 – 3 years)
3. Post breeding adults return to upland habitat. HIGHLY variable

**Pretty much ALWAYS**



**.74 miles**  
**12 culvert crossings**



# Drift fences at “hotspots”?

Tiger salamander crossing, Stony Point Road, Cotati



# California Red-legged Frog

- Federally threatened
- California Species of Special Concern (CSSC)
- Marin
  - More common along coast
- Always in fresh water
- Found in still water
  - Hunt with eyes above water  
(or from water's edge)



# American Bullfrog

- Non-native
  - Native to eastern US
- Highly invasive
  - Detrimental to many aquatic species (will eat virtually anything)
- Huge egg masses
  - Size of cantaloupes
- Very large tadpoles



Red-legged (for comparison)





© Gary Nafis

# Northwestern Pond Turtle



# Western Toad

- Near Threatened
- Marin
  - Mostly in Novato area
- Adults make soft whimpering noise
  - Males sing from burrows





# Toad Eggs and Tadpoles

## Eggs

- Masses are long strands
  - Up to ~ 5,000 eggs per female

## Tadpoles

- Velvet black
- Rounded body shape
- Eyes toward top of head
- Internal gills
  - Newly hatched young particularly vulnerable





The End

