

Giant Garter Snake
(*Thamnophis gigas*)



Photo: Glen Wylie (USGS)

Updated: October 2002



Department of Pesticide Regulation
Endangered Species Project

California Department of Fish & Game

2002

Giant Garter Snake

- Considered the largest of the garter snakes. Some adults reaching a length of more than 5 feet. Most individuals are smaller, thus size might not be the best means of identification.
- Usually dark brown to olive or tan. Northern snakes are darker-colored and have bolder stripes than San Joaquin Valley ones.
- It has three stripes that can be pale, yellow, or even orange.
- Along its side it has rows of black dots that may appear as a checkered or dotted pattern.



Photo: John Brode, CDFG

Giant Garter Snake



Giant Garter snake (both photos)

Comparisons with Common Garter snake and Western Terrestrial Garter snake.



Giant Garter Snake

Habitat



Photo: George E. Hansen. Life on the Edge. 10 Speed Press

- GGS requires habitat that offers permanent or summer water with vegetative cover, dense populations of food organisms, and higher elevation uplands not subject to flooding.
- It inhabits natural and artificial wetlands.
- It lives in rice fields, irrigation supply and drainage canals, freshwater marshes, sloughs, ponds, and other aquatic habitats.
- The snake uses grasses, weeds, cattails, tules, and other vegetation for basking, foraging and cover.
- It may also be seen on roads or in drains, check dams, culverts, rocks, fallen logs, debris piles, and others

Giant Garter Snake Habitat



Photos: Glen Wylie, USGS

Giant Garter Snake

Distribution

- Giant garter snakes can occur in suitable habitat, as described, throughout the Sacramento and San Joaquin Valleys, including the following Counties: Butte, Colusa, Contra Costa, Fresno, Glenn, Madera, Merced, Sacramento, San Joaquin, Solano, Sutter and Yolo.
- Today the garter snake can be found in the following:
- Rice production zones of Sacramento, Sutter, Butte, Colusa, Glenn, Fresno, and Merced counties.
- Along the western border of the Yolo Bypass in Yolo County, and west of the Yolo Bypass in Solano County.
- Along the eastern fringes of the Sacramento-San Joaquin River Delta, from Elk Grove to Stockton, and
- In the San Joaquin Valley, in Fresno and Merced counties.

Giant Garter Snake

Behavior

- Active Period (March 1 to October 31): Snakes normally emerge from denning burrows in March, as the temperature warms. At first, the snake basks in the sun near the burrow, often returning to it at night. Breeding occurs from March to June; young are born from July to September.
- The GGS usually moves to aquatic habitat by May. Wary and shy, it will dart away or dive for cover at the least alarm, often before you are aware of its presence. The snake hunts during the day, but can be active at night during warm weather (>90 F).
- During September, snakes begin moving back to denning areas. As water sources dry up, their prey concentrates in small pools and the snakes may be found nearby in riprap, debris, drains, or other structures.

Giant Garter Snake

Denning



During its dormant period (October 31 to March 1), GGS requires areas that remain above floodwaters. Snakes spend most of their dormant period in small mammal burrows located on elevated roads or in fields, railroad trestles, and riprapped ditch banks

Giant Garter Snake

Food



Photo: John Brode, CDFG

- Giant garter snakes feed on tadpoles, frogs, small fish, and other small vertebrates, and may be drawn to receding wet areas where prey is concentrated.

Rodent Control and Protection of Burrowing Non-target Species

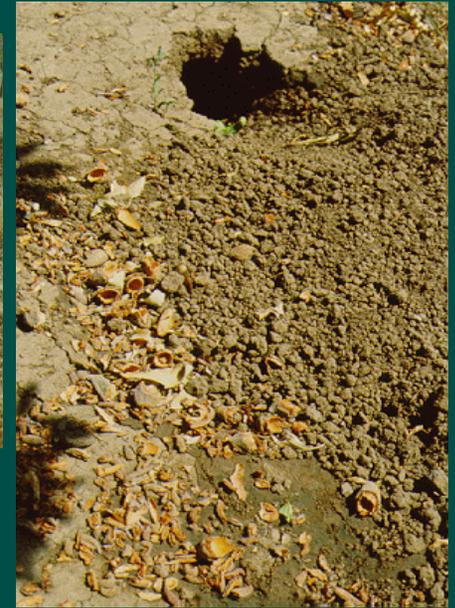
- When possible, try baiting first.
- If baiting doesn't work, then try burrow fumigation.
- Before fumigating burrows, make sure you are targeting active Ground Squirrel burrows.

How do we know it is an active Ground Squirrel burrow?

- Often active Ground Squirrel burrows have large deposits of dirt accumulated around their entrance. However, not all burrows show such deposits at the entrance and have to be monitored more closely.

- Look also for debris such as nutshells, fruit rinds, and scat dispersed near the entrance.

- Inactive burrows typically have cobwebs at the entrance.



Photos: Paul Gorenzel, UC Davis

How do we know it is an active Ground Squirrel burrow?

- Look for tracks (see pictures).
- If the substrate is hard, try softening up the area around the entrance by wetting it down, thus forming a “mud plate”. Track plates made by smoking aluminum or tin sheets can also be used. Chalk can also be spread around the entrance, this creates a “more durable” soft surface where tracks can be observed.



Photo: Paul Gorenzel, UC Davis

Burrow Fumigant Use Limitations

(per Interim Measures County Bulletins)

- Use Limitation Code 5: “Use shall be supervised by a person (wildlife biologist, county agricultural commissioner, university extension advisor, state or federal official or others) who is trained to distinguish dens and burrows of target species from those of non-target species. Use shall occur only in the active burrows of target species. The person responsible for supervision shall be aware of the conditions at the site of application and be available to direct and control the manner in which applications are made (per Section 6406 of Title 3, California Code of Regulations). Contact your county agricultural commissioner for information on training.”