



*\*Mike Day*



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## Bullsnakes, Pinesnakes, and Gopher Snakes (*Pituophis* spp.)

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### **Nature's Sometimes Bullish Rodent Control**

Bullsnakes, pine snakes, and gopher snakes are a genus of large, powerful colubrid snakes which are constrictors, and consume many rodents such as mice, rats, and gophers. This makes these snakes immensely beneficial to homeowners, gardeners, and farmers, as they serve as natural pest control. Coloration and pattern can vary depending on the species, subspecies, and locality. However, in general, these snakes are large colubrids with a tan, brown, yellowish, to gray ground color, and brown to reddish brown dorsal and lateral blotches often grading into rings on the tail. These large, primarily terrestrial snakes possess specialized flaps of cartilage within their epiglottas that enable them to produce a very loud, raspy sounding hiss when threatened or disturbed. This behavior, along with their habit of rapidly vibrating their tails in dried grasses or other vegetation, can often lead to these species being mistaken or confused with a rattlesnake, or other dangerously venomous snake and needlessly persecuted. Bullsnakes, pinesnakes, and gopher snakes are harmless to humans however, beyond their intimidating defensive displays. Their heads are relatively small and wedge shaped, and their rostral scales are slightly pointed and upturned for burrowing. Many species are popular as pets, and can become very docile, active, and impressive snakes to maintain, while some other individuals or subspecies can remain somewhat more defensive and irascible than others.

### **Taxonomy**

**Life:** All living, physical, and animate entities

**Domain:** Eukaryota

**Kingdom:** Animalia

**Phylum/Sub Phylum:** Chordata/Vertebrata

**Class:** Reptilia

**Order:** Squamata

**Suborder:** Serpentes

**Infraorder:** Alethinophidia

**Family:** Colubridae

**Subfamily:** Colubrinae

**Genus:** *Pituophis*

**Species:** *Pituophis catenifer*\*, *Pituophis melanoleucus*\*, *\*Pituophis lineaticollis*, *\*Pituophis vertebralis*, and *Pituophis deppei*\*

*\*Taxonomy subject to change and revision.*

### **Lifespan and Longevity**

If provided the proper care, gopher, bull, and pine snakes can attain longevity of 15 to 25 years or more.

### **Species:**

Gopher snake subspecies include the Bullsnae (*P. catenifer sayi*), Sonoran Gopher snake (*P. catenifer affinis*), Great Basin Gopher snake (*P. catenifer deserticola*), San Diego Gopher snake (*P. catenifer annectens*), and Pacific Gopher snake (*P. catenifer catenifer*). Pine snake subspecies include the Northern Pine snake (*P. m. melanoleucus*), Florida/Southern Pine snake (*P. m. mugitus*), and Black Pine snake (*P. m. lodingi*). Mexican pine snake subspecies include the Mexican pine snake (*P. deppei deppei*) and Northern Mexican pine snake (*P. deppei jani*). The Cape Gophersnake (*P. vertebralis*), formerly a subspecies of the other gophersnakes, has now been elevated to full species status. Also the Middle American Gophersnakes (*Pituophis lineaticollis* ssp.) comprising of two current subspecies.

### **Distribution and Habitat**

Gopher snakes range from southern Canada, throughout the western, central and parts of Midwestern United States, and northern Mexico. Pine snakes have patchy distribution in the eastern and southeastern United States. These snakes can be found in a variety of sandy to loamy soiled habitats within their range depending on the species and subspecies, as well as geographic distributions, but these snakes may occupy prairies, open meadows, savannahs, arid to semi-arid deserts and scrublands, and sandy pine-palmetto scrubwoods, flatwoods, pine barrens, to coastal dunes habitats. More specific species and subspecies range information is as follows:

Northern Pinesnake: Occupies a patchy, fragmented distribution in the eastern United States.

Southern, or Florida Pinesnake: Occupies the southeastern to eastern United States, although mainly Florida.

Black Pinesnake: Occupies a very small range in the southeastern U.S. to include namely Mississippi, Alabama, and extreme eastern Louisiana.

Bullsnae: Occupies portions of south-central Canada, through the Great Plains states of central United States, portions of the Midwest U.S., and into extreme northern Mexico.

Sonoran Gophersnake: Occupies a broad range in the southwestern United States, and over much of northern Mexico.

Great Basin Gophersnake: Occupies a wide range over much of western to west-central United States, and into extreme southwestern Canada into British Columbia.

San Diego Gophersnake: Occupies a small range in extreme southwestern United States, from southern California through the northwestern Gulf Coast of Mexico.

Pacific Gophersnake: Occupies the extreme western, coastal United States from central and

northern California, through the coastal Pacific Northwest states.

Mexican Pinesnake: Occupies the rest of the range further south in Mexico and Central America.

Cape Gophersnake: Occupies extreme southern Baja California to Sur, Mexico.

Middle American Gophersnake (*Pituophis lineaticollis ssp.*): Occupies Guatemala and Mexico in the states of Jalisco, Michoacán, Mexico, Morelos, Guerrero, Querétaro, Oaxaca and Chiapas.

### **Origin/History**

The genus *Pituophis*, which consists of the bull, pine, and gopher snakes, was first described by Holbrook in 1842. Specific species, and subspecies within the *Pituophis* species complex have had different authors describing them, as they were described at different points in history. For example, *Pituophis catenifer* (Blainville, 1835), and *Pituophis melanoleucus* (Daudin, 1803).

Bull, pine, and gopher snakes have been relatively well-established in herpetoculture for several decades, since at least the 1950's and 1960's, although the specific timeline or history for when they were first kept or collected is not known. These snakes, along with other North American colubrids were solid components of U.S. herpetoculture through the 1990's, although their popularity was inevitably offset by the popularity of the ball python by the early 2000's. Still, these large colubrids continue to remain relatively available, and are hardy and readily bred in captivity, with an increasing number of various morphs, line-bred traits, and localities of various *Pituophis* species and subspecies. The Bullsake (*P. catenifer sayi*) perhaps the most popular of the subspecies with the greatest number of color and pattern mutations available.

### **Experience Level Required**

Novice/Beginner to Intermediate/Moderate.

### **Size**

Gopher, bull, and pine snakes range from 12 to 18 inches as hatchlings, and about 4 to 7 feet, or 48 to 84 inches for most adults depending on the species, subspecies, and locality.

### **Housing and Enclosure**

**Enclosure System: Primarily Terrestrial to Semi-Fossorial.** Housing must be sealed, secure, and escape proof. Hatchling and juvenile bull, pine, and gopher snakes can be housed in a 20 gallon terrarium or enclosure. Adult bull, pine, and gopher snakes should be housed in a minimum of a 40 to 55 gallon long terrarium or 4 ' x 2' or larger enclosure. These snakes are primarily terrestrial, and floor space is more important than height. Provide a substrate that can enable burrowing or hiding such as fine aspen shavings, cypress mulch, or coconut fibers. Do not use pine or cedar shavings, as these substrates are toxic to snakes. Provide additional basking and hiding opportunities using live or artificial foliage, rocks, logs, driftwood, or other hides. Also be sure to include a sturdy water bowl or dish as well.

### **Temperature, Lighting, and Humidity**

Create a thermal gradient (or a warm side) in the cage/enclosure with an appropriate sized UTH (or tank heating pad), ceramic or radiant heat emitter, or incandescent, UVA/UVB, or other heat producing bulb. Ideal temperatures for gopher, bull, and pine snakes range from 75 to 80 degrees F on the cool side and 80 to 90 degrees F on the warm side. Most species of snakes have fairly simple and undemanding heating and lighting requirements in captivity, and do not require additional UVA/UVB lighting, although providing it can be greatly beneficial for their health, immune system, and overall wellness. Also be sure to spot clean the enclosure for urates, feces, or uneaten food at least once per week. Be sure to periodically replace the substrate, clean, and disinfect the enclosure and its furnishings at minimum every 2 to 3 months. More specific lighting, heating, and humidity product suggestions and recommendations that can best suit one's needs, as well as those of one's animals can be given as well. Bullsakes, pine snakes, and

gopher snakes should be maintained at relatively low to moderate relative humidity levels, which may vary somewhat depending on the species and subspecies, from about 30 to 60%, with additional humid hides or retreats to assist with shedding and overall health.

### **Feeding, Diet, and Nutrition**

***Carnivorous;*** In the wild, gopher, pine, and bullsnares are carnivorous, and will prey upon rodents and other small mammals, small birds, bird eggs, and other smaller vertebrates. Hatchlings and juveniles will also occasionally eat smaller frogs, lizards, or other reptiles. In captivity, these snakes can be given feeder rodents of appropriate size, such as rats or mice. In most circumstances, it is recommended to provide humanely pre-killed rodents acquired from a reputable source, as offering live rodents to any snake can carry risk of serious injury or even death to your snake when the rodent bites to defend itself or otherwise gnaws on your animal. A general rule of thumb when selecting feeder rodent sizes for your snake is to provide prey items that are approximately the same width as the snake's widest point. It should also be noted that many snakes may refuse food for longer periods of time over several weeks or months, especially in the fall and winter months or if several other husbandry conditions are not being met. While this can be alarming to new pet owners, it is oftentimes normal, but their overall health and weight should be monitored during these times to make sure they do not lose weight or otherwise deteriorate. Most snakes typically are fed whole prey items, and do not usually require additional calcium or vitamin D3 supplementation unless otherwise directed. Their feeding frequency will also depend on the age, size, and overall health of your animal. Use care as to not overfeed them, as obesity and other health related issues can become an issue. More specific dietary and supplementary product suggestions and recommendations that can best suit one's needs, as well as those of one's animals can be given as well.

### **Handling**

As with many snakes, hatchling and juvenile gopher and pine snakes may initially be nervous and defensive. They may rattle their tails and hiss, musk or defecate, or bite when alarmed. Handle your gopher/pine snake gently and deliberately, but do not drop or injure the animal. There is variability between temperaments of many individual, subspecies, and localities of these snakes. Many will become quite tame and tolerant of regular handling as they become older, while some others will remain irascible and will hiss, strike, or tail rattle at any provocation. \*\*Also be sure to practice basic cleanliness and hygiene associated with proper husbandry after touching or handling any animals or animal enclosures to prevent the possibility of contracting salmonellosis or any other zoonotic pathogens\*\*

### **Contact**

Authored by Eric Roscoe. For any additional questions, comments, and/or concerns regarding this animal, group of animals, or this care sheet, please email and contact:

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