

Welcome to the Species Care Series Presented by the Alaska Herpetological Society

We hope you enjoy this free educational class! Presentations will be held on the first Saturday of each month from October through May. There is a live video of this presentation on the Facebook page, and the slides will be available to view from the website afterwards.



Are you looking to improve care of exotic pets in Alaska? Join Us and support more events!
How to become a member?

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AHS Species Care Series presents- North American Colubrids (*Colubridae*)



There are about 1,760 species of colubrids; which is about two thirds of the world's snake species!



Common Colubrid Species

Corn snake (*Pantherophis guttatus*)

- Native to southern United States, parts of Mexico, and the Cayman Islands
- Found in tropical and subtropical grasslands, savannas, and shrublands
- Semi-arboreal, spends a lot of time on the ground but are also prolific climbers
- Adults average 3'-5' long and can live up to 25 years
- Crepuscular



Black Rat Snake (*Pantherophis obsoletus*)

- Native to central eastern United States
- Found in bayou, prairie, forested areas, and rock outcrops
- Semi-arboreal, widely adaptive to their environment
- Adults average 3.5'-6.5', but can be as large as 8.5' and live 15+ years
- Crepuscular
- Extremely active and inquisitive, they LOVE to explore!



Common Colubrid Species

Kingsnake (*Lampropeltis spp.*)

- All over North America, mostly located in US and Mexico
- Found in tropical and subtropical broadleaf forests to deserts and arid shrublands
- Considered terrestrial, but can climb and swim
- Around 45 recognized subspecies
- Ranging from 2'-6' long and 20+ year life spans with good care
- Known to be active at all times of the day and night



Milk Snake (*Lampropeltis triangulum*)

- Native to the United States and southern Canada
- Found in forests and woodlands, rocky hillsides, swamps, prairies, farmland, and even sand dunes
- Adults range from just over 1' to 6', and can live 20+ years
- Nocturnal



Common Colubrid Species

Western Hognose (*Heterodon nasicus*)

- Western half of the US, into southern Canada and northern Mexico
- Short grass prairie, dry rocklands, coastal islands with sandy soils
- Fossorial; these snakes like to stay underground!
- Adults average up to 35" and have a 10-15 year lifespan
- Diurnal, awake during the day



Eastern Hognose (*Heterodon platirhinos*)

- Eastern half of the US and into southern Canada
- Pine and deciduous forests, prairies, meadows, and pastures with sandy soil
- Fossorial, they burrow!
- Adults average up to 46" and live 10-15 year lifespan
- Diurnal



Hognose like to play dead when they are uncomfortable!

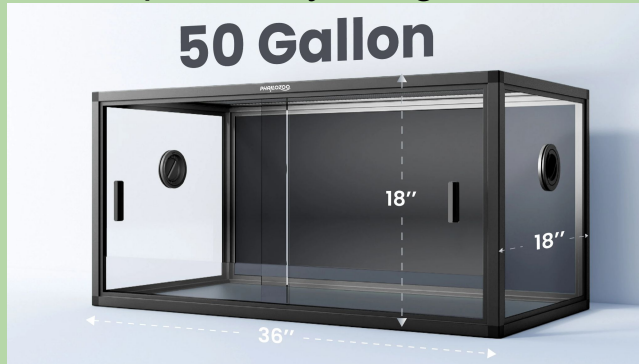


Enclosure Sizes

- For hatchling and juveniles, 20 to 40 gallon enclosures can be used.



- For adults, use an enclosure that is at least as long as the snake is; a 4' enclosure for a 4' long snake.
- Bigger is always better! Colubrids are active and inquisitive and will utilize all of the space they are given.



Enclosure Types

For most colubrid species, air flow is very important. Screen tops or other extra vents are good to have.

- Glass enclosures with screen tops are widely available. These are easy to get and have adequate ventilation but can be difficult to maintain temperatures and sometimes humidity in.
- PVC enclosures maintain heat and humidity very well. There are easy-to-get options that also have screen tops and are front opening for plenty of ventilation and easy access to the entire enclosure and snake!



Temperatures and Heating Elements

Nearly all common colubrid species, especially those native to the Americas, have an overlap in their required temperatures. Be sure to check up on the individual species you are keeping, but this is a safe range for all common species.

Ambient temperature of 72-78°F
Day time basking spot of 90°F

Night time cool downs are natural and encouraged.
The basking spot/warm side should not be on at night;
but the Ambient temperature should remain constant.

- Deep heat projector- very effective at heating large air spaces
- Ceramic heat emitter- effective at heating air spaces
- Radiant heat panel- used for mounting inside the enclosure and creating a centralized hot spot
- Heat mat- creates belly heat/warms the substrate
- Heat tape- creates belly heat/warms the substrate



Controlling the heat is essential to creating a safe environment for your snake to thrive. Thermostats are a necessity, not a option!



Lighting and UVB

Imitating a day and night cycle is important. Circadian rhythm is very important to colubrids. Most species are Crepuscular, some are diurnal, and others have no specific “awake time” and cannot fall into any of those categories. A simple LED light on a 12 hour timer is all that is needed. Size and wattage of the light will be based on if the enclosure has live plants or not.



UVB is beneficial to all, but especially important for diurnal snakes and those that don't fit into the categories. Linear T8 ZooMed ReptiSun 5.0 or T8 Arcadia D3+Forest 6% are good options to use.



Humidity

A humidity range of 40-60% covers nearly all colubrid species. Just like with temperatures, be sure to double-check specific requirements for your species. Corn snakes require a little higher- 65-75% humidity.



Giving a thick layer of substrate and keeping it moist can maintain humidity very well. Use a spray bottle to mist the enclosure to prevent it from drying out.



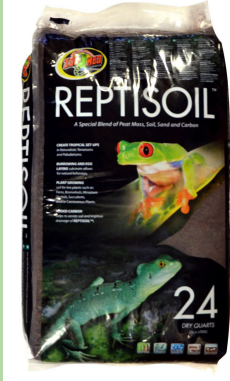
Substrate

Substrate should be made up of moisture-retaining materials. A minimum of 3-4" should be provided, with more for terrestrial or burrowing species.

Some good pre-made mixes are:

- Reptisoil
- Lugarti Natural Reptile Bedding
- Zilla Jungle Mix
- just Coconut fiber

Adding leaf litter would help create a more natural environment and make your snake more comfortable and provide extra enrichment.



A good DIY mix should consist of:

- 40% organic topsoil
- 40% fine coconut fiber
- 20% play sand

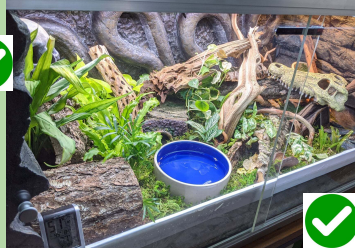


Enclosure Clutter



Some things to look for in determining if the items are safe-

- Holes larger than the snake, they **will** get stuck if their head can fit through but their body can't! Watch for and avoid loops on fake foliage, any closed holes on hides
- Heat safe materials- prolonged exposure to warm temps can cause some plastics or other materials to release fumes. Be sure to use only materials that can withstand the warmth.
- Sharp edges. Check any clutter items to be sure there's no sharp edges that can cut or poke your snake.
- Choose hides that are only a little bigger than your snake. Snug and nearly fully enclosed is good!



Bad/Unsafe Items



Colubrids are fairly easy to find good clutter for. Here are some things to look for to know if items are not safe for your snake:



- Anything with sharp or jagged edges should be avoided. Rocks, broken branches, broken decor should not be used.
- Anything with holes bigger than the snake's head but smaller than the rest of the body should not be used. Snakes will try to go through these holes or loops and get stuck.
- Any decor that needs tape or adhesive to stay in place. Somehow, some way, reptiles will get stuck on anything sticky eventually!
- Avoid non-heat safe materials
- Avoid porous materials that can harbor bacteria. Some natural materials are bacteria resistant, but others provide a bacteria breeding ground.



Bioactive Overview

Bioactive enclosures are contained ecosystems that sustain themselves and require minimal maintenance and no full cleanouts. These enclosures can take a lot of time to establish the plants and clean-up crew(CuC) before being able to add your snake. If preferred, you can choose to use fake plants instead of live plants.



Substrate should be a mix of:

- 40% organic topsoil
- 40% coconut fiber
- 20% play sand
- Small amount of horticultural charcoal
- Top the substrate with leaf litter



Safe plants:

- Pothos
- Aloe
- Tradescantia
- Haworthia
- Nasturtium
- Dandelion
- Basil
- Rosemary
- Spider plant
- Elephant bush
- Day lily
- Mondo grass
- And more!



Clean-up Crew:

- Isopods
- Springtails
- Mealworms
- Dermestid beetles
- Buffalo beetles



Feeding

The general rule of thumb for choosing the size of a pretty item is to feed one that is 10-15% of the snake's body weight. Use a kitchen scale and weigh in grams.

Frequency of feeding is determined by size and age.

Hatchlings 8-20" long — every 5-7 days

Juveniles 20-45" long — every 7-10 days

Subadults 35-50" long — every 10-12 days

Adults >35" long — every 14-21 days

Senior adults >18 years old — every 10-14 days



Mouse



	Age	Weight	Length*	Equivalent
Mouse Pinkies	1-5 days	0.5-3 grams	0.5-1"	
Mouse Fuzzies	6-13 days	3-6 grams	1-1.5"	Rat Pinky
Mouse Hoppers	2-3 weeks	7-12 grams	1.5-2"	Rat Fuzzy
Weaned Mice	3-4 weeks	13-18 grams	2-2.5"	Rat Fuzzy
Large Mice	4-6 weeks	19-25 grams	2.5-3"	Rat Pup
X-Large Mice	6 months +	30 grams +	3" +	Weaned rat

Rats:				
	Age	Weight	Length*	Equivalent
Rat Pinkies	1-4 days	3-8 grams	1-2"	Mouse Fuzzy
Rat Fuzzies	7-13 days	9-20 grams	2-2.5"	Hopper or Weaned Mice
Rat Pups	2-3 weeks	21-30 grams	2.5-3.5"	Large Mouse
Weaned Rats	3-4 weeks	31-45 grams	3.5-4.5"	X-Large Mouse
Small Rats	4-6 weeks	44-79 grams	4.5-6"	
Medium Rats	6-8 weeks	80-149 grams	6-8"	
Large Rats	8-10 weeks	150-265 grams	8-9"	1/2 lb Rabbit
X-Large Rats	Adult Rat	266-340 grams	9-11"	1 lb Rabbit
XX-Large Rats	Adult Rat	Over 341 grams	11" +	1.5 lb Rabbit



Shopping List for an Adult Colubrid

Enclosure	\$100-400 for a new glass enclosure	\$300-500 for new PVC enclosure
Heat & Light	Bulbs start around \$20+ea, domes \$10-20ea LED light \$20+	RHP \$50-120. UVB Fixture and bulb \$100. Solar Meter \$265+
Temp & Humidity Controls	Digital thermo/hygrometer \$5-20+ea Manual IR Temp Gun \$20-40 Basic Thermostat \$20-50	High-end proportional thermostat starts at \$120+
Substrate & Clutter	2-4 packages of substrate needed for a 4x2x2 enclosure- expect \$20-35 per package of premade Hides, logs, branches, rocks, foliage, ect. Expect \$10+ each item and totalling over \$150	
Misc	Water dish, spray bottle, feeding tongs, \$50+ for all	

You can easily spend \$500 and up on the initial enclosure set up!
Get correct and safe items the first time and save yourself from doing it all again later on.



How to Troubleshoot

Common colubrid species are typically easy-keepers. However, here are some things to watch for and what to do in case something is off.

Some tell-tale signs that something is incorrect-

- Not eating consistently
- Roaming the enclosure constantly, not just during the times the species is most active
- Discolored or flaky scales (but not shedding)
- Any noticeable drooling

When in doubt, consult your vet!

What steps to take next-

- Check your temperatures with a thermometer or infrared heat gun. Be sure the cool side and warm side are within correct temperature ranges. If there is not a thermostat to control the heat sources already, be sure to get one.
- Use a digital hygrometer to check humidity. Two is ideal to check humidity on the cool side and warm side of the enclosure.
- Ensure there are multiple hides and plenty of clutter. Most snake species do not want to feel exposed.



Colubrid Temperament and Handling

In general adult colubrids are inquisitive and active while being handled. They are very different from ball pythons or boas in that they are far more active and alert, wanting to explore and this behavior can be misinterpreted as aggressive by those uneducated about this species.

Juveniles can be finicky and nervous. They might musk all over you as a defensive mechanism and it's stinky! Only very afraid snakes will musk and they usually get over this behavior quickly.

Great feeders! Due to their ability to musk their defecations can be significantly smellier than pythons or boas.



Common Illnesses and Issues



Reptiles will be far too hot before their body realizes they are too hot. Thermal burns are a major risk. Using a thermostat on all heat sources will prevent burns. A vet visit is needed to reduce risk of infection in burns.

When in doubt,
consult the vet!

Scale rot is a blanket term for a symptom of a variety of issues-usually a bacterial infection. Scale rot is caused by substrate being too wet and temperatures being too cold. A vet visit and checking/correcting the enclosure husbandry is needed.



Respiratory infections can be spotted by excessive drooling and the snake constantly holding its head up. RI's can be bacterial or viral- a vet visit and mouth swab culture is required to determine how to treat.



Alaska Rescue Stats

Jonathan's Reptiles took in 64 surrenders in 2022.

77% of those 64 surrenders had health concerns.

Of those with health concerns, 53% were surrendered in poor condition, 18% in moderately poor condition, and 29% in extremely poor condition.

30% of the surrenders in extremely poor condition passed within hours or days of being surrendered.

The most significant stat is that 90% of the reptiles surrendered had health concerns directly related to improper husbandry.

Reason for Surrender	#	Health of Surrender	#	Husbandry Related?	
No longer able to care	22	Good	15	Yes	44
Health concerns	15	Fair	9	No	5
Surrendered from AC	10	Poor	26		
Moving/Living situation	7	Extremely Poor	14		
Lost interest	5				
Found	4				
Temperament	1				



Some of the health concerns of surrenders include

- 20 were malnourished or starving.
- 12 had dehydration and/or stuck shed.
- 7 were missing all or part of a limb.
- 6 had mouth rot/stomatitis
- 4 had respiratory infections.



Emergency Preparedness

Loss of power is a factor for Alaska that you **have** to be prepared, and to be able to evacuate your pet in these situations. You cannot just put a reptile in a bin and take them outside when temps fall below safe levels- under 40°F. They need to be put into something with heat and that will hold heat for them.

An emergency kit consists of a few key items:

- Insulated container such as a styrofoam box or even a cooler
- A reptile-safe heat pack
- A digital thermometer with a probe to monitor temps without having to open the container
- Any inner container such as a krittter keeper, small tote, or pillow case

Some other items to consider adding to an emergency kit are:

- Critical Care, formula depending on your animals
- Syringes
- Povidone-Iodine (like Betadine)
- Gauze, swabs, and cotton balls
- Stainless steel tweezers
- Saline Solution
- Vetericyn Plus
- Canned or Vac-sealed bugs for feeding, do not use freeze-dried (if applicable)



If you are able to heat water, you can use a warm water bottle instead of heat packs and conserve your heat packs for a time when they are the only option.



HotHands brand heat packs and other brands meant for people are NOT reptile safe! These get FAR too hot and will overheat and/or burn your reptile.



Questions?

We hope you enjoyed this presentation on helping your pet thrive under your care!



If you have ideas on how we can improve, please let us know! Public feedback is very important.



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