

REPTILE & AMPHIBIAN CARE

Reptiles and amphibians are collectively known as herptiles. They are ectothermic meaning they cannot regulate their body temperature like mammals do, but require outside sources to heat up and cool down.

What is the difference between reptiles and amphibians?

Although they are very similar in a lot of ways there are a few differences. Reptiles are covered in scales, shields, or plates and have claws on their toes. Amphibians have a moist, glandular skin and lack claws on their toes.

Reptile young look like miniature versions of adults whereas amphibian young often look completely different, for example a tadpole does not look at all like an adult frog or toad!

Amphibians are most commonly found near water sources and need a higher humidity. Reptiles can be found almost everywhere and some species never actually see water in nature.

Why do herptiles make good pets?

- They come in a variety of sizes so it will be easy to find something to fit into a particular lifestyle and space requirements.
- They do not make very much noise, if any.
- They produce very little odor.
- Require very little maintenance compared to other types of pets.

RESEARCH

Before buying any herptile it is very important to research the specific species you are interested in. There are hundreds of different species and will have vastly different requirements and temperaments.

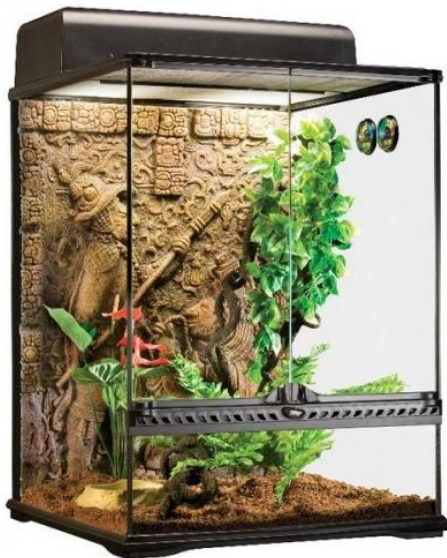
Temperaments fall into 3 main categories: handleable, semi-handleable, and visual. It's important to find one that will fit into your lifestyle and your wants and needs. Handleable herptiles (ex. ball pythons, bearded dragons) are very non-aggressive and are handled quite easily. Visual herptiles do not like to be touched at all (ex. swifts, anoles, some geckos). Some you will be able to handle some of the time (ex. chameleons).

Research is key before any purchase!

BASIC REQUIREMENTS

ENCLOSURE

The size and shape of enclosure will depend on what you want to put in it. For arboreal species (species that like to climb a lot, ex. chameleons) a taller enclosure with lots of branches and things to climb is ideal. For terrestrial species (species that spend most of their time on the ground and like to roam, ex. bearded dragons) an enclosure with a larger surface area for them to rove around in is best.



Sizing the enclosure for the adult size of the herptile is often the easiest because you will not have to get something bigger down the road.

The enclosure must be escape proof (for both lizard and live food), draft proof (but still have fresh air circulation), and the largest size possible.

HEATING & LIGHTING

As mentioned before herptiles cannot regulate their body temperatures on their own, they require outside sources, so a source of heat is absolutely necessary. Depending on the herptiles requirements or the temperature of the home, a combination of heat sources may be necessary. It's also recommended to have a temperature gradient in the enclosure; this means having a warm side and a cool side so that the herptile can heat up or cool off depending on

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what it needs. Having a thermometer on each side of the enclosure will help to ensure there is a proper gradient. There are analog and digital thermometers, the digital ones are more expensive but more accurate and reliable.

For some herptiles the light from a heat lamp is adequate, for others that require natural sunlight a heat lamp is not enough. Heat lamps do provide a full spectrum of visible light, however they do not produce UV light which some herptiles need.

Most diurnal herptiles (species that are active during the day) need UV light. Nocturnal species (active mostly at night) and snakes (and some other predatory species) do not need UV light; nocturnal species do not usually come out during the day so don't get UV light in nature, snakes get their calcium and vitamin D3 from their prey.

For herptiles that require UV:

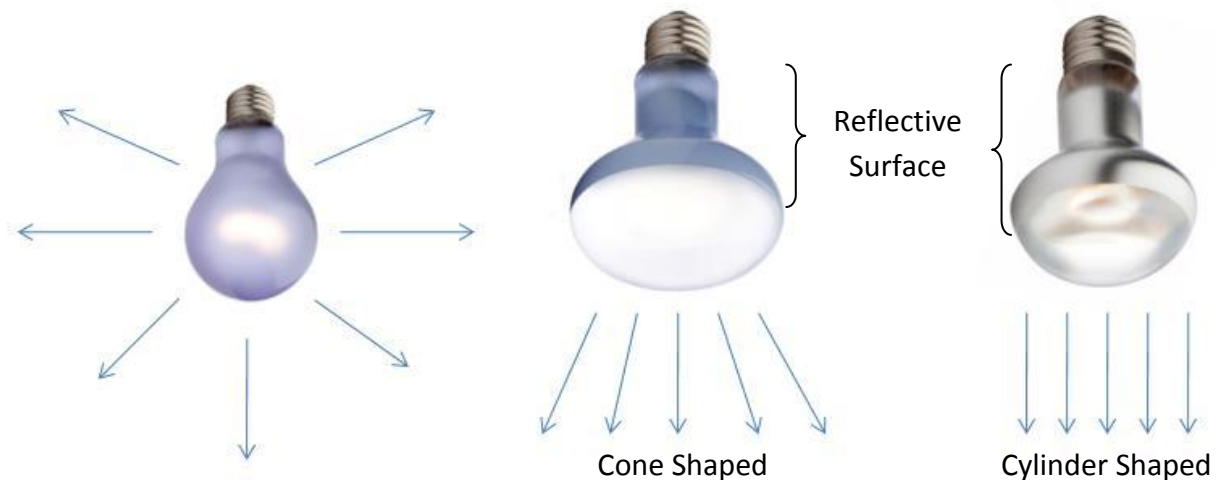
UVB is very important to metabolize calcium & vitamin D3.

UVA promotes natural behavior, appetite, activity, and breeding cycle.

HEAT LAMPS

The most common and well known source of heat. They should be mounted at the top, outside of the cage, you don't want your herptile to be able to touch the lamp and get burnt. They should be left on in general for 12-16 hours a day. Having the lights on longer in the summer and shorter in the winter will help for breeding cycles.

Each type of bulb will produce a different heat shape. The 3 types of shapes are illustrated below. Incandescent lights (on the left) will emit heat and light in all directions, they are mainly just for visible light. The other 2 types of lights have a reflective coating on the inside so they will direct the heat in a specific direction, depending on which bulb is used some will also produce light. The equator of the bulb is the widest part of the bulb. If the reflective surface is up to the equator it will produce a cone shaped heating (middle), if the coating is past the equator it will produce a cylinder shape heating (right).



HEAT LAMP BULBS (INCANDESCENT):

Sun Glo Incandescent: produce a little bit of heat but mostly just visible light. No reflective surface.



Sun Glo Daylight Halogen: Produce a good amount heat with a cone shape heat distribution into the enclosure. They are also the brightest bulbs available.



Sun Glo Neodymium Daylight: Bulb is coated with neodymium so it will emit heat and trace amounts of UVA. This bulb is used more for just visible light. No reflective surface.



Sun Glo Neodymium Basking Spot Light: Same as above but mirrored on the inside so it will focus the heat downwards into the enclosure with a cone shaped heat distribution.



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Sun Glo Tight Beam Basking Spot Light: Focuses the heat in a tube shape which will produce a hot spot in the enclosure. They are also a good source of visible light.

Solar Glow High Intensity UV/Heat: These are a self ballasted mercury vapor lamp which will produce a cone shape heat distribution, visible light, and UVA and UVB.



Night Glo: Produce a small amount of heat and simulate moonlight. They produce a black spectrum light and are mainly used to view nocturnal species that are active at night. They make colors really pop out.



Heat Glo: Produces a cone shape heat distribution with a small amount of light. Good for 24hr heating since the light will not disturb normal behavior.



FLUORESCENT BULBS:

These bulbs come in a compact fluorescent (will fit into a standard socket) and a tube type which will require its own top. Compact fluorescent should be replaced every 6-8 months and the tube fluorescent every 10-12 months. These should be replaced whether they are burnt out or not, over time the amount of UV they produce will go down.

Repti-Glo 5.0: These bulbs produce light and UVA/UVB but no heat. They are ideal for tropical and sub-tropical reptiles.

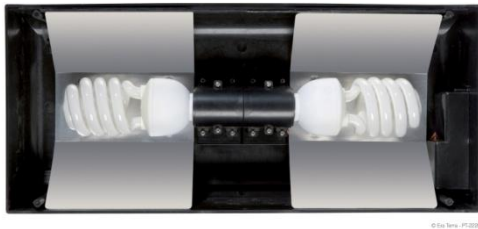
Repti-Glo 10.0: Same as the 5.0 but produce more UVA/UVB for desert reptiles.

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Fluorescent bulbs can go into either an Exo-Terra top or a strip light fixture from an aquarium. The difference between the 2 is the reflector; the fish ones have a white plastic reflector and the Exo-Terra have a metal reflector which will reflect more of the light.

Note: even though incandescent light bulbs will fit in the compact fluorescent top they should not be used because they will melt the top.



CERAMIC HEATING ELEMENTS

Basically the same as a heat lamp but don't produce any light. They do get very hot so must be mounted into a fixture with a ceramic socket.



LIGHTING FIXTURE TYPES

There are 2 types of light fixtures for the 'screw in' type of bulb or ceramic heating element: wire and dome style. Other things to consider for both types are making sure the wattage on the fixture is adequate for the bulb or ceramic element going into it. Another thing is to make sure the bulb or ceramic element is not protruding from the fixture at all; it should be the

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fixture that is supporting the weight not the bulb or ceramic element. Lastly, the heat from the bulb should be over the metal part of the top. Some of the Exo-Terra tops will have plastic cross members that can melt if they are in the direct path of heat.

Any bulb or ceramic element can be used in the wire type fixture.



The dome style fixture can be used for most bulbs, just not the Sun Glo Daylight Halogen, Solar Glow High Intensity, or the ceramic heating element, these will get too hot and burn out quickly and also pose a fire hazard. Some will absorb light during the day and emit a low light during the night which is good for viewing nocturnal herptiles.



UNDERTANK HEATERS & HEATING CABLES

These are a good supplementary source of heat especially for colder homes. Again it's important to size these to be on the warm half of the tank so that there is still a cool side for the herptile. They provide a low constant heat so there is no concern for a herptile of burning itself on either of these.

Under tank heaters are stuck on the outside bottom of the enclosure and provide a steady heat source. They should be on the warm side of the enclosure.



Heat cables go into the tank to provide a constant heat source and should also be put on the warm side of the enclosure.



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HOT ROCKS

In the past these were not recommended since they often got hot spots and burnt herptiles. However there are new hot rocks that have addressed these issues and are very safe. They will not heat the entire enclosure but rather just be a warm spot for herptiles to sit on and warm up their bellies. It should be placed on the warm side of the tank.



HUMIDITY

The amount of humidity required will depend greatly on the specific herptile. Most desert herptiles don't require much humidity at all compared to tropical herptiles from the rainforest. Having a hygrometer (measures the amount of humidity) is important for all herptiles. They come in analog and digital, the digital is more expensive but more accurate and reliable.

For some herptiles the water dish will provide enough humidity, for others they may require misting several times a day. Adding bubblers/foggers and/or waterfall will help increase the humidity if needed.

A fogger will create a cool mist raising the humidity of the enclosure. Many people believe they boil water to create the mist and that it's dangerous, but they actually produce vibrations at the natural frequency of water particles making them turn from liquid to gas so it's actually very safe and no heat is produced. They can be placed in any water dish 5cm or deeper. Use distilled water.



Having a waterfall helps increase humidity because moving water evaporates more easily into the air than still water. Some herptiles, like

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chameleons, will only drink from a moving water source so a waterfall is a good option. All Exo-Terra waterfalls include a pump.

The proper substrate will also help to control the humidity in the enclosure.

SUBSTRATE

DESERT SUBSTRATE

Sand: It will promote their natural behavior and is an excellent heat conductor. Pet store sand is recommended since it has impurities removed and is free from parasites, it is also very fine to prevent digestive issues.



Ground English Walnut Shell: Similar to sand but if swallowed there is less chance of causing impaction (look under feeding).

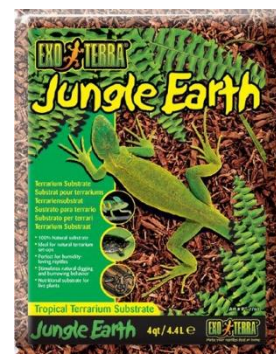
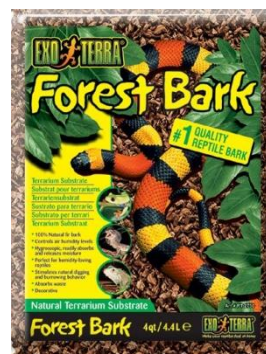


TROPICAL/SUB-TROPICAL SUBSTRATES

Bark: Hygroscopic (absorbs and releases moisture), good for controlling air humidity levels.

Earth: Good at controlling air humidity levels, also nutritional for any live plants.

Plantation Soil: Good for increasing humidity.



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Great for burrowing animals such as frogs and burrowing animals. Also nutritional for live plants.

Forest Moss: Good for increasing humidity. Great for burrowing animals such as frogs and burrowing animals. Excellent egg-laying medium.

Coco Husk: Good for increasing humidity. Great for burrowing animals such as frogs and burrowing animals.



The plantation soil, forest moss, and coco husk come in bricks that must be mixed with water in a bucket before use. Put the substrate brick into a bucket, mix in required water and let sit for 30 minutes, then stir to ensure there are no compressed parts, wring out any excess moisture, then it's good to use!

REPTI-CARPET

This is a carpet specifically made for herptiles but should not be confused with normal carpet found in homes. It is non-abrasive and not chemically treated so it will be safe for animals. It is also not looped like regular carpet so herptiles will not get their toes caught in it. It is easy to remove and clean so a lot of people like it. However it doesn't look natural and does not help to control humidity.



CAGE DÉCOR

Providing the right décor is very important since it will improve their sense of security with shelters and camouflage. Having a hide is essential for most herptiles, it gives them a place to retreat to if they feel threatened. Having several hides is even better. Having natural plants (alive or plastic) from their habitat will also make them feel more at home and reduces stress.

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Food and water dishes should be sturdy so they can't be tipped over. Some herptiles from desert habitats don't require a water dish but get their water from their food. Some herptiles require a moving water source or they will not drink. Drinking water should always be treated with Aquatize, it contains plant extracts to stimulate natural slime coat development in amphibians and fish, essential oils in these extracts promote shedding in reptiles and maintain scales and skin tissue in optimal health. Aquatize also removes residues of chlorine and chloramine as well as traces of toxic metals found in tap water.



FEEDING

Feeding live prey (or frozen) should always be done in a separate container if at all possible. This helps prevent aggressive behavior in the enclosure. It will also help prevent impaction.

Impaction: When a herptile consumes something it cannot digest and cause a blockage in the digestive tract. Symptoms are lethargy and loss of appetite, on some herptiles a seemingly bruised spot will appear on the abdomen. Common treatment is a soaking in luke warm water with a gentle finger massage of the area under impaction. If this does not work an enema must be performed at the vet.

For omnivores having a food dish with greens and other vegetables or fruit in the enclosure is fine. Daily cleaning is important to provide fresh food and prevent impaction from substrate getting into the dish.

Depending on the size and type of herptile feeding can be anywhere from twice a day to once a month. Again research before buying is a good idea, make sure you are comfortable with the feeding schedule and what they need to eat. Some herptiles are purely carnivores and eat cute things like mice and gerbils.

CRICKETS & WORMS

If feeding of crickets and worms is done in the enclosure it is best to feed 1 at a time and as soon as the herptile stops eating remove the last cricket or worm. Crickets and worms should be kept in a separate container, they are very dirty and if left in the enclosure can actually harm the herptile by biting and chewing on it.

There are also several different kinds of canned food available. The food is cooked in the can to maintain its nutritional content; this process also makes the hard exoskeleton softer and easier to digest. Some herptiles may be picky and not eat the canned crickets/worms, use of a vibrator



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dish will help replicate natural movement and since herptiles are attracted by movement they will be more likely to eat the canned food.

Make sure to research what types of worms a herptile can eat. Super worms and meal worms have a very hard outer shell that only some herptiles can digest. Feeding too many of these worms can also cause impaction. Feed small quantities per meal so they get chewed better.

VITAMINS AND SUPPLEMENTS

It is always a good idea to provide additional vitamins and supplements for captive herptiles as they are prone to calcium deficiency and other problems related to vitamin and mineral deficiencies. Exo-Terra multivitamin can be fed to any herptile. Calcium supplement should be given to herptiles who have adequate UV light in their enclosure. Calcium + D3 should be given to herptiles who do not have adequate UV light in their enclosure, D3 helps them absorb calcium. The vitamins and supplements come in liquid which can be mixed into water or powder which can be mixed with fruits and vegetables or coated on insects.

MICE/GERBILS/RATS

For herptiles that eat mice/gerbils/rats/etc. there are 3 options, live, freshly killed, or frozen. It is generally a good idea to keep feeding them what they are used to, so if they are used to frozen stick with frozen. There is a lot of debate on which one is best and we will go through a few of the different arguments.

On the one hand feeding live is more natural and there is less nutrient loss compared to frozen. However there is always a chance that the rodent could bite and injure the herptile and some people believe it makes the herptile more aggressive.

On the other hand when feeding frozen there is no chance of injury from a bite and you can buy enough to last a month and just keep them in the freezer. However the longer they are frozen the less nutritional value they provide and some herptiles can be very picky eaters and will not accept frozen food.

Note: to thaw frozen food place it in a bag in warm water until completely thawed, **never microwave!**

Freshly killed seems like the best option. Since it's already dead it can't bite, and having not been frozen it still contains the maximum amount of nutrients. However some picky herptiles may not eat it, and it will require making visits to the pet store more frequently compared to frozen food.

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HANDLING

Unlike dogs or cats, herptiles are not domesticated and still retain a lot of their “wild” behavior. Herptiles are very primitive creatures that have been around for millions of years and their behaviors are engrained very deeply. This does not mean they cannot be handled, the proper handling techniques and understand how a herptile thinks is very important.

Most young herptiles are prey to larger animals in nature and have a natural flight or fight response. Swooping in quickly and grabbing it will seem similar to a larger predatory animal and put a great deal of stress on the herptile. The best way to approach is slow and calm and in plain view of the herptile so it knows what is coming towards it and not be as stressed. Don't hesitate or make any jerky movements. Handling should be done progressively longer as the herptile gets used to you. Handling it too much can cause stress and lead to other problems. You can tell if the herptile has had enough handling when it returns to the flight or fight response. This means if it begins to make rapid movements trying to get away or opens its mouth and begins to hiss. Place it back in the enclosure and leave it alone for awhile.

LIZARDS

For small to medium size lizards you can use one or both hands, making sure all their feet are supported. If they are still fidgety applying gentle pressure on their back with your thumbs is usually enough to keep them still.

With larger lizards there is greater chance for bites and scratches and they should be treated with respect. Supporting their body with your arm may be required. In general larger lizards don't like being handled but would rather be interacted with by letting them out of their cage for a supervised amount of time or petting them. With very large lizards it's always recommended to have at least 2 people present when handling.

Some lizards have the ability to 'drop' their tail if they feel threatened. It is especially important not to stress out these types of lizards since not all have the ability to regenerate their dropped tails.

SNAKES

Despite their bad reputation snakes are actually some of the easiest reptiles to handle. This goes for most snakes and there are of course some that do not like to be handled and some that shouldn't be handled by novice handlers (venomous snakes).

Snakes should be restrained as little as possible, even nippy and aggressive snakes will be ok as long as they are not restrained. As soon as they are restrained and feel threatened is when they

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will try to strike to free themselves. Good signs during snake handling are calm even movements, when a snake begins to exhibit jerky movements it is time to put it back in its enclosure.

Snakes are incredibly strong for their size, only use your hands and arms to let them wrap around. You would be surprised how hard it is to untangle a snake when it grabs on to something! It's never a good idea to put a snake around your neck, if threatened even a small snake can suffocate a human. All snakes 6 feet or longer should always have 2 people present when handling as they can be very dangerous.

AMPHIBIANS

Amphibians are much more fragile than reptiles and should be handled considerably less. They have a semi-permeable skin which allows them to absorb air and water, but can also absorb soaps and perfumes on your hands which is not healthy.

When handling an amphibian make sure your hands are clean and free of any soap. Keep your hands moist to avoid any skin damage to the amphibian. Be very cautious with them, a drop from even chest height can be very damaging or even kill some amphibians.

COMMON PROBLEMS

TICKS

There are several species of ticks which can latch on to a herptile. It is important to get them off as soon as possible to prevent disease transmission. Ticks can be visually spotted, usually found under the scales, in the nostrils, or near the vent.

To remove use small forceps or tweezers, grab the tick by the head and pull slowly and firmly outward. Do not grab the tick by the body or twist while pulling out. Once removed place the tick in alcohol to kill it, flushing down the toilet will not kill a tick. The area where the tick was can be cleaned with warm water and polysporin applied to prevent any infection.

Do not touch it with your hands as diseases can spread to humans as well. Make sure to wash your hands thoroughly once done.

Watch for signs of respiratory distress which is sometimes a secondary infection.

MITES

Mites are much smaller than ticks, they are usually red or black and look like little dots on the herptile. There will be several mites on a herptile and they tend to stay around the eyes.

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There are a few different options for treatment.

The first is a water bath in luke warm water for 20 minutes, this will generally drown the mites. However you must be careful when taking the herptile out that the mites do not grab back on, a lot of the time the mites on the herptiles head will survive as they aren't under water for a long period of time.

Another option is an oil bath. Spread olive oil over the herptile, it will smother the mites, however it is a little messy.

There are also commercial options such as mite-off which will kill the mites and is not harmful to the herptile or any other animals.

Do not use flea or tick remedies for dogs and cats as they are toxic to herptiles.

SHEDDING

Herptiles will shed their entire lives, more when they are young and growing quickly and less frequently as they get older. Before shedding the herptiles colors will fade and on most reptiles the eyecaps will cloud over and look milky white. During the shedding process the herptile should be left alone as they will be very sensitive during this process and more defensive as they will not be able to see as well. Snakes will generally shed in one piece and most other herptiles will shed in pieces. Some herptiles will eat their shed as it does contain nutritional value.

During shedding the humidity should be monitored very closely, and in general raised to help in the shedding process. Some herptiles may need help shedding, use of a damp cloth and gently rubbing the shed will help remove it. It is very important to check the end of the tail and toes, as well as the eye caps and nostrils as these areas usually have the most problem shedding. It's important to get all the shed off, if it's left on it can constrict blood flow and harm the herptile.

UNDERWEIGHT/OVERWEIGHT

If a herptile is underweight feeding on a more regular basis will help. For instance feed three times a day instead of one or two. Also giving it a bath in warm water will help digestion.

If a herptile is overweight feeding less at meals will help, and cutting back on fatty foods such as worms and mice. In reptiles if you can see skin in between the scales that is a sign it is overweight.