



If you read information on chameleon care and maintenance, you will see varying methods of approach to many subjects such as housing, lighting, feeding, supplementation and breeding. The chameleon care information we provide for our customers comes from our individual experience with the animals we love and care for.

Your past and future experiences with chameleons may vary to one degree or another. What we have to offer in the way of advice or suggestions is by no means the "ONLY WAY" or approach. Our hope is that the chameleon care instructions and warnings that we have learned along the way may be beneficial to those who are interested. Any specific care questions or subject matters we have not covered, we would be happy to address with you, one on one, via e-mail or a phone call.

Chameleon care is like a fine art that is continually undergoing refinement. As we personally press forward and learn more about these magnificent creatures, we will update our care information as well.

Best wishes to each one of you as you continue to gain knowledge and experience with our common

interest, CHAMELEONS

Enclosure -

We have cage + accessory kits available! Check them out here - https://chameleonsonly.com/collections/cage-packages Visit www.dragonstrand.com for some other AMAZING caging options!

Checklist

Other Commonly Used Cage Dimensions -Baby Size: 16" x 16" x 30" Juvenile or Adult Female Size: 18" x 18" x 36" Adult Size (male or female): 24" x 24" x 48"

Lighting -

UVB:

(1) Zoo Med ReptiSun T-8 Terrarium Hood

(1) Zoo Med ReptiSun 5.0 Fluorescent Bulb

NOTE: The strength of your UVB bulb will need to depend on cage size. Zoo Med's T8 Reptisun 5.0 has served us well for many years, even in larger cage sizes as long as the appropriate basking site is provided. However, for large/taller (48" and above) cage sizes, the newer and stronger Zoo Med T5 Reptisun (high output) 5.0 may be an option worth considering since it is stronger and gives off more light.

Heat:

(1) Fluker's Repta Clamp Lamp with Switch

(1) <u>Zoo Med Repti Basking Spot Lamp</u> - Wattage will depend on cage size and ambient room temperature.

Thermometer & Humidity Gauge -

(1) Fluker's Digital Thermo-Hygrometer

Cage Interior (plants, branches, vines) -

Plants (live, artificial, or a combination of both) - Foliage is a critical component to a chameleon's environment as plants and leaves provide natural coverage and security for your chameleon. For artificial options, we prefer plastic over silk. Something like <u>Zoo Med's Natural Bush Plants (Lrg)</u> work great. If you go with live, **MAKE SURE** they are non-toxic and **properly SANITIZED** before including, as not to accidentally poison your chameleon. We like pothos, ficus, umbrella trees, and money trees **Branches** - We are BIG on branches here at Kammerflage. In reality, chameleon "live on the branches, surrounded by foliage." Branches serve as perches, pathways, and basking sites. It is important not to skimp on them, and we usually include 6 + in each of our enclosures. If you do not wish to collect and sanitize your own or would like to get an idea of what works best, here is a link to our <u>Kammerflage Chameleon Branches</u>. **Vines** - We like <u>Zoo Med's Flexible Hanging Vines</u> and <u>Exo Terra Jungle Vines</u>. Use vines to connect branches, making little highways for your chameleon to travel around on all throughout his or her cage.

Hydration/Humidity -

Automated Misting System (*preferred*): We recommend <u>Mist King</u> or <u>Exo-Terra's Monsoon</u> Providing Water Manually: (1) Spray Bottle & (1) Dripper (i.e. <u>Zoo Med's Little Dripper</u>)

Supplements/Cricket Gutload -

(1) Repashy Calcium Plus 3.5 oz. (all in one supplement!) (1) Repashy Bug Burger - 17.6 oz. (Gutload)

General Care Information

Caging

Click Here Check out our caging and accessory packages!

Other common cage sizes -Baby Size: 16" x 16" x 30" Juvenile/Adult Female Size: 18" x 18" x 36" Adult Size (male or female): 24" x 24" x 48"

Visit www.dragonstrand.com for some other amazing caging options!

We keep the bottom of our cages clean and free of any substrate. Standing water or waste should be cleaned out on a regular basis in order to avoid potential bacterial growth. If you go with a cage from Dragon Strand, be sure to purchase a drainage tray to make cleanup a breeze!



Lighting - Heat and UVB

(Click here to view the lighting section of our online store)

When housing our chameleons indoors, lighting plays a crucial role in their health and well-being. Two forms of lighting are required, UVB and heat -

Materials Needed -

- (1) UV Florescent Light Fixture
- (1) Zoo Med Reptisun 5.0 florescent bulb or comparable UV bulb
- (1) Clamp Lamp Fixture
- (1) Incandescent light bulb for heat

UVB: This bulb simulates natural sunlight. UV rays are important not only for the provision of vitamin D3 (necessary for absorption of calcium), but also for proper health and psychological well-being. UV exposure helps to elevate a chameleon's mood, activity level and appetite. We recommend something like Zoo Med's Reptisun 5.0. There are two styles of this particular bulb, either the standard T8 Reptisun 5.0, or the newer T5 Reptisun 5.0 HO (high output). The strength of the UVB bulb being used is going to dictate where you want to place your basking perch. Here is a quick rundown of what we have found to be safe and optimal branch placement - For Zoo Med's T8 Reptisun 5.0 HO - anchor a horizontal basking perch about 10 inches below the bulb

Heat: In addition to the UVB bulb, an incandescent bulb is necessary to provide proper heating. When it comes to setting up the appropriate temperature gradient, keep in mind that panthers do best in an ambient room temperature that remains in the low - mid 70's. Wattage of your heat bulb will depend on a couple things such as cage size, and ambient room temperature, so have a thermometer handy so that you can make sure that your temperatures are suitable. Panthers should be provided with a basking site that reaches 88 – 93F. A branch can be placed horizontally underneath the basking area where the chameleon can relax and enjoy the warmth. The branch should be no closer than 6 inches below the screen top so as to avoid accidental burns to your chameleon. The incandescent bulb, which fits in a clamp lamp fixture, should be located in one corner (avoid the middle) on the screen top of the cage, that way, the hot spot is a very localized area with plenty of areas to escape the heat when it's time to cool down. When your chameleon wants to warm up under the heat light, he/she will go over to bask, and if not, there should be plenty of other cooler areas in the enclosure to go to.

Set both lights on a 12 hour daylight cycle with a light timer. Both forms of lighting should be off at night. Just as chameleons in the wild have a cooling down period during the night, we need to provide this in captivity as well. Unless the temperatures inside your home fall below 65 degrees F in the wintertime, no additional heat source at night (such as a ceramic heat lamp) will be necessary.

Plants

(Click here to view the foliage section of our online store)

Live VS Artificial?? What are our thoughts on the age-old topic? We recommend *both* artificial and living plants to include in your chameleon's enclosure. There are perks to each method. Either/or works . . . or how about a combination of both?? Have fun with it. Setting up your chameleon's home should be an enjoyable task. Think, "Creating your own beautiful little slice of rainforest."

Artificial: When going with artificial, stick with something that is going to hold water droplets so that your chameleon has lots of surfaces to drink off of. This is why we typically go with plastic over cloth or silk plants, since this type of material will usually just soak up the water droplets. If you wish to include some cloth plants, just make sure that they do not bleed dye into the enclosure when wet and that there are plenty of other suitable leafy surfaces for your chameleon to drink from.

Live: When going with something live, choose a healthy plant that fits the cage nicely, both in fullness and height. Some popular live plants include:

Pothos (*Epipremnum aureum*) Umbrella Tree (*Schefflera arboricola*) Money Tree (*Pachira aquatica*) Weeping fig (*Ficus benjamina*)

Due to pesticide and fertilizer use in most plant nurseries, **whenever** you introduce a new plant to your animal's enclosure, there are some preparation steps to take beforehand. Many nurseries and garden centers use pesticides to protect the plants, but these same pesticides can be harmful (and even fatal) to your chameleon if ingested.

Here are some simple steps to follow before introducing a new live plant to your chameleon's home -

Step 1: Take a clean bucket and fill it with a squirt of antibacterial soap and water. Create a soapy solution. Invert the plant "head down" into the water and swish around. Let the plant sit for 3-5 minutes.

Step 2: Rinse the plant thoroughly so that any soap solution is removed. Repeat steps 1 and 2 a second or even a third time.

Step 3: The potting soil the plant originally comes in may contain fertilizers and soil additives that could be detrimental to your animal. Crickets often go into the potting soil of the plant and if your chameleon shoots for the cricket, you don't want him/her to draw back nitrate fertilizers along with their prey. A simple way to remedy this is to purchase a small bag of "Super Soil" (without conditioners) and replace the top 3-4" of soil in the plant container.

Once your plant is properly cleaned and the topsoil is replaced, you can rest easy that it's now ready for a new home with your chameleon.

Branches and Vines

View our branch selection here For vines, click here

Branches and vines are an oh-so-important yet oftentimes overlooked aspect of good chameleon husbandry. We tell our customers to consider the branches as your chameleon's perching areas and basking sites. Consider the vines as your chameleon's personal highway, strategically placed so that he or she can travel to each perch, with ease.

Branches-

Branch Selection: There are several things to keep in mind when selecting the best branches for our chameleons. We use natural branches, collected locally, and then sanitized before being introduced to our cages. We like to use hardwoods such as oak and birch, as they are non-toxic and hold up to water nicely. Always avoid pine, eucalyptus, or anything with a strong fragrance or heavy sap, as things of this nature can be toxic to our chameleons. Also, avoid things like bulky grapevine, uniform dowel rods, or store bought bamboo. Variety is key! You want to select branches with all sorts of different diameters and textures so that your chameleon's unique, grippy little feet have a variety of options to grasp onto. To sanitize branches in the solution, and rinse thoroughly so that not a trace of bleach remains before introducing them to our cages. Another popular method of disinfecting chameleon branches is to bake them in the oven.

Branch Placement: Your chameleon is going to spend the majority of his or her time perching on branches inside of the cage, so think like a chameleon when you set up the habitat. Keep in mind too that you will want to dedicate two branches as the "basking sites", one underneath the heat bulb, and one underneath the UVB bulb. As talked about in the lighting segment, for heat, run a sturdy, horizontal branch underneath the heat bulb, right where you get a reading of 88 – 93F degrees. For UVB, if using Zoo Med's T8 Reptisun 5.0, run a sturdy, horizontal branch about 7 inches below the bulb. If using Zoo Med's T5 (High Output) Reptisun 5.0, secure that branch about 10 inches below the bulb. Aside from creating the appropriate "basking sites", you will also want to anchor horizontal branches throughout the remainder of the enclosure so that your chameleon has plenty of comfortable perches to hang out and travel around on. The thought is to give them different levels underneath the highest basking points, that way, they can pick and choose exactly how much UVB or heat they would like to take in at that time.

Vines:

So, since your branches are going to make good perching areas, your chameleon is going to need a little highway to get from perch to perch. This is where vines come in handy. We are big fans of Zoo Med's <u>"Flexible Hanging Vine</u>", as it has tons of little vines that branch off from the big vine, allowing you to attach it to all sorts of different branches throughout the cage. When you are setting up this "highway" for your chameleon, the point is to set it up in such a way where the animal will not feel the need to use the screen to get from point A to point B. There will be times where they choose the screen anyway; however, you don't want the screen to be the only means of getting around their enclosure.

Watering and Drainage Solutions

Hydration can be offered by hand, or with an automated misting system. Misting is crucial when it comes to providing hydration, humidity spikes, and a means of hygiene.

Automated Misting System - our preferred method:

If you know that you will be away during the majority of each day, or prefer the ease of not having to worry about hand misting, a *good* automated misting system is one of the best investments in chameleon husbandry that you can make. I recommend going with something that is going to last and has all of the functions that your chameleon is going to benefit from.

Mist King (www.mistking.com) is a good one! You can set your misting duration for as long as you would like which is awesome, considering how much panther chameleons benefit from at least one long daily shower. Out of the commercially available misting systems, **Exo Terra's Monsoon** is the one that we like best. Its internal settings do not allow for a misting duration over 120 seconds, however, this is not much of a problem since it can easily be overridden by simply hitting the on button.

Misting Schedule - When it comes to creating the appropriate misting schedule, making sure that there is at least one long daily rain shower in the mix is incredibly beneficial. Not only does this give them a good opportunity to drink, *long showers also serve as a means of hygiene*. We catch our chameleons sitting right under the mist in order to assist with a shed, or to clean out their eyes. This is why we prefer providing water with a good automated misting system. An ideal schedule would be providing one 10 minute shower (preferably about an hour after lights pop on), along with a couple shorter 2 - 5 minute showers spread out throughout the day. NOTE - Just make sure that the cage has time to dry out between misting sessions. You do not want your cage remaining damp 100% of the day.

Hand Misting/Dripping - You will need a spray bottle for misting, and a "dripper":

When misting by hand, you will want to thoroughly spray your chameleon's enclosure, making sure all of the plants are completely saturated, at least 2 - 3 times daily. In addition, you will want to run a dripper about one hour after the lights come on, for at least 10 - 15 minutes.

<u>Hand misting alone won't totally cut it</u>. The addition of a dripper is critical as it attracts their attention and allows for a longer drinking opportunity. Something like Zoo Med's "<u>Little Dripper</u>" will get the job done. After your morning hand misting session, you can fill the chameleon's drip reservoir with fresh water and place it on the screen top so that it drips over the interior plant(s). Setting the nozzle to one drip per second usually catches their eye. If you do not have a drainage tray, you may use a shallow catch plate/bowl underneath the plant to hold any excess water.

Our favorite drainage solution:

We know from experience that a long daily shower or drip session will cause flooding at the bottom of the cage if you do not have some sort of drainage solution. For many years, our customers have had to get super creative with designing their own DIY drainage trays in order to avoid that dreaded flood situation. But now, our favorite caging company does the hard work for us!! Dragon Strand designs drainage trays to fit each of their caging styles as well as some of the more commercially available cages out there. These trays are designed to sit under the cage (NOT inside) in order to catch all of that excess water. Definitely one of the best chameleon husbandry related products, of all time. You can learn more about them (and even purchase one) here - https://dragonstrand.com/ alternative-cage-manufaturers/

Just be sure to find the one that fits your exact cage dimensions!

Feeding Guidelines

Click here for Supplements and Gutload!

Babies: Young panthers grow rapidly! Our babies are on a 6 day a week feeding schedule, and will often eat 10 - 15 appropriately sized crickets a day (quantities vary depending on individual appetites). For little ones in the age range of 2 - 4.5 months old, we recommend crickets that are 7-14 days old (small 1/8 - 1/4" size). In addition to crickets, we feed our youngsters domestic houseflies. If you cannot get ahold of domestic houseflies, crickets as a staple diet will work fine. Just be sure to feed your crickets a healthy diet (learn more in "Cricket Care" section below).

Juveniles: When your chameleon reaches the 4-1/2 - 12 month old age range, he/she will graduate to 3 week old crickets (1/2'' - 3/4'') size) for the remainder of his/her life. During these critical months of development, they will continue to consume an average of 10 - 15 crickets, often slowing down their intake once they are over a year old.

Adults: As growth and development starts slowing down, you may notice a change in your chameleon's appetite. At this point, it may be time to alter their feeding schedule.

Adult females (especially active breeders) tend to be the exception to this rule. With so much energy going into egg production, we typically maintain a 5 - 6 day a week feeding schedule for our girls.

Prey Items: Chameleons love and benefit greatly when a variety of pretty items are offered. Crickets are a staple feeder for all of our animals (babies and adults alike). Adults are also fed Madagascar Hissing Cockroaches as somewhat of a staple feeder. As more of a "treat", our adults will occasionally get super worms, horn worms, and silk worms.

Gutloading: The "you are what you eat" rule TOTALLY applies to chameleons! What you feed your insects is going to benefit your chameleon's health & nutritional intake. That's why a good cricket gutload is SO important! We highly recommend fresh fruits and veggies, as well as <u>Repashy's "Bug Burger"</u> which is an excellent insect diet. Learn more about gutloading in the "**Cricket Care**" segment of this care sheet.

Supplements

Click here to listen to Ed's interview on the Chameleon Breeder Podcast where him and Bill Strand discuss our supplement routine!

Kammerflage Kreations announces its endorsement of Repashy Superfoods, Calcium Plus!

We have been impressed with Allen's science from the beginning, and feel his company is on the cutting edge of herp nutrition. HOWEVER, with so much at stake, we needed to "**SEE**" the results ourselves before we would consider recommending Calcium Plus to **our own customers.** Well, based on the results we had witnessed during a three year trial, we became quick believers! We have now been on the Calcium Plus routine for close to 8 years and couldn't be happier with the results.

What is Calcium Plus? - Calcium Plus, from Repashy Superfoods, is an "All in One" insect dusting product, providing essential vitamins, calcium, minerals and trace elements. Simply coat your insects lightly before each and every feeding. Easy and effective, if you are keeping your panther indoors and are using similar lighting to what is described in our lighting section, you too should have great results when using Calcium Plus as directed! Basically... thanks to Calcium Plus, life just got easier!

Cricket Care

Housing Tips:

1. House crickets in a 10-15 gallon glass aquarium with a full screen top.

2. No substrate on the tank bottom. Simply keep it clean and dry.

3. On one end of the tank, stack clean egg carton pieces. Placement should allow for gaps in between so that the crickets have room to hide.

4. Be sure to position a spot light directly above the egg cartons so that the temperatures beneath are 95-100F. Crickets are cold blooded and need to "warm up" so they desire to eat and metabolize their food properly. If not kept warm, die offs will occur quickly. Lights should be on, 24/7.

5. On the opposite end of the tank, place a clean paper plate with cricket food. Since crickets will eat "around the clock" be sure to have food available at all times.

6. CLEAN the tank bottom at least every other day (daily if you have many crickets you are housing). Crickets eat and produce waste nonstop. Regular cleaning deters the opportunity for bacteria and disease.

Cleaning Tips:

1. Remove the paper plate and egg carton pieces (tapping the pieces against the tank glass to loosen any debris). Now you should just have crickets and waste on the aquarium bottom.

2. Use a wide "paint scrapper tool" to scrape everything to one end of the tank. As you are doing this, if there are any live crickets, they will run back over to the cleaned end. Use the flat edge of the scrapper (as you would a spatula) to lift out the waste and/or dead crickets that have accumulated.

3. Once the tank bottom is clean, add back clean egg carton pieces and cricket food.

4. Once every 2-4 weeks when you've fed out all your crickets, wash the tank thoroughly with antibacterial soap and water. Rinse well.

We can't stress enough, the importance of keeping clean, well-fed crickets. Crickets that are neglected can become bacteria and disease vehicles to your chameleons!

Cricket Food Recommendation: We recommend "Repashy Bug Burger" as an excellent cricket (roach) diet.. This premium diet feeds AND hydrates insects, eliminating the need for dry feed and standing water. Its nutrient rich formula is fortified with Calcium, Magnesium, Vitamins, and Carotenoids in order to maximize the nutritional value of Insects as feeders.

Handling/Human Interaction

Often we are asked, "Is it ok to handle my chameleon?" Each panther chameleon will have his or her own personal feelings about human interaction. Some don't seem to mind it much, while others will do anything in their power to let you know just how little they enjoy being handled. With a little patience, most panther chameleons come to tolerate at least a small amount of interaction. Certain individuals even seem to enjoy time spent outside of their cage.

Please give your chameleon a couple of weeks to settle in when he/she first arrives. Once they've had a chance to adjust to their new surroundings, you may begin handling them for brief periods of time (5 minutes at first) when you have the opportunity. Be aware of the signs of stress such as gaping of the mouth, the "chameleon salute" (as described by Bill Strand in the <u>Chameleon Breeder Podcast</u>), angry colors, flattening of the body, sunken or closed eyes, etc. These are all stress indicators that our chameleons give us when they have had enough. Keeping the "hang out sessions" short at first will eliminate as much unnecessary stress as possible, while you work on building trust with your new chameleon. Carefully remove them from their enclosure and sit quietly on a chair or couch and allow them to crawl on you and explore new territory.

Be aware that when they are little, they see you as a GIANT predator that will more than likely snap them up at any given moment and eat them for a snack! They are programmed with a "flight or fight" response and may even fling themselves off of you to avoid being "eaten"! Be prepared for that possibility and avoid letting them fall to the ground risking serious injury. Over time and as they mature, they learn that you mean them no harm. They aren't the snack . . . you actually bring them tasty snacks and take wonderful care of them. Trust is patiently built over time and before long, you will hopefully have a sweet chameleon on your hands. Each one has a different personality (like people . . . outgoing, standoffish, shy, and inquisitive) and over time you'll get to know more about your individual pet.

There is an EXCELLENT episode of the Chameleon Breeder Podcast on chameleons and stress that you can listen to for free. <u>Click here to check it out</u>!



Female Panther Care

Female panther chameleons are so special. They can be incredibly gorgeous and typically have larger than life personalities. Some of our favorite chameleons have been girls, and once you own one, you will totally understand how irresistible they tend to be. In almost every case, female panther chameleon care can 100% mimic the care given to her male counterpart. One major difference however that needs to be considered is the fact that females CAN develop eggs, even if never introduced to a male. They would be infertile of course, but it's still critical to know the signs so that an appropriate laying site can be provided right away. Some do it, some don't, but anyone who has one should plan on it...just in case. Female panther chameleons come into sexual maturity and can develop eggs sometimes as early as 5 months, but more typically around the 7 - 8 month old mark. As long as a suitable laying site is provided, most get through the task of egg laying with no complications.

Here are some things to look out for as well as a simple laying site solution that we have had success with over the years - - -

Is my female carrying eggs?? Here are some signs to look out for:

- Weight Gain: She may visibly appear heavier. (You might even notice the outlines of marble shaped eggs showing through her tummy.)

- Pacing: This is a big one! She will probably go to the bottom of her enclosures in search for a suitable spot to lay her eggs. - Lack of appetite: When it's time, she may go off of food as her primary focus is now finding a safe place to deposit her eggs.

DIY egg laying solution:

My favorite solution is to go out and purchase a large bin that will closely fit the dimensions of her cage. You want it to be a snug fit so that there is not enough space for your female to dig herself out. It also should be pretty deep, deep enough to fill up with at least 12 inches of soil. It's not uncommon for them to dig several test holes before picking the right spot, and sometimes they will go all the way to the bottom. Fill the bin with organic potting soil, and after removing your cage's slide-out PVC bottom, place the cage directly on top of the soil. Always make sure that there is a branch or vine is running down into the soil for easy access.

Egg laying can be a taxing process for a female panther chameleon, so making it as easy on them as we can is ideal. There are other methods out there that may work as well, but we love the ease and familiarity that this provides. Rather than taking the female out of her familiar environment and putting her into something totally foreign, this option provides a suitable laying environment right in the comfort of her own home!

Post egg laying care:

After your female finishes laying her eggs, she should get back to her normal routine fairly quick. As long as there are no health concerns, nothing about her normal routine will need to be changed up on her. Just be sure that she has access to plenty of water, and note that she will probably be extra enthusiastic about eating after putting so much energy into laying those eggs.

IF you felt concerned that she was having a hard time bouncing back, having her seen by a qualified vet with herp experience would be the next step. However- by knowing the signs that she may be ready to lay eggs, and by then providing her with the appropriate laying space, we greatly reduce the chances of health issues.



Examples of Suitable Enclosures

"Creating your very own slice of rainforest"









Learn how to create a successful chameleon habitat with Bill Strand! Whether you are a brand new keeper or have years and years of experience, I encourage ALL to take a listen to this episode of the <u>Chameleon Breeder Podcast</u>.

It is my homework to you!

How to listen?!

CLICK HERE for direct link

Or, listen directly on iTunes, the iHeart Radio App, or the Chameleon Breeder Podcast App (available for Apple users).

Thank you so much for reading!