

Combating Hunger Strikes in Captive Snakes

Feeding Methods and Their Resulting Success in Common Captive Snake Families

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Introduction

Reptile hobbyists and herpetologists have long hypothesized about various ways to combat snake anorexia behavior, which they call hunger strikes.¹ The world of captive snake husbandry may seem niche, but it is large and widely understood that snakes are “stubborn feeder(s)” (Rheins, 2023). Snake keepers who find themselves in the fight to mediate their snake's anorexia most benefit from information regarding causes of this behavior and possible solutions. There has been extensive research identifying all the possible stressors that captive snakes go through to cause anorexic behavior, even going as far as testing corticosteroid levels in snakes feces, plasma and shed skin (Van Waeyenberge et al., 2018, p.59). As a result, much is known about what causes hunger strikes (or anorexia) but little is known about what can be done about it.

It is critical that keepers be knowledgeable about the most effective methods to overcome reptile anorexia regardless of the cause, in order to address the problem before it endangers the reptile's health. Therefore, the following study will focus on the various methods snake keepers employ in order to combat hunger strikes. This article will first compile data from current snake keepers on the various ways that they successfully stimulated their snake's feeding responses in their attempts to avoid or resolve hunger strikes. Then, it will then analyze these methods to determine the most effective and proven ways of combating hunger strikes in each taxonomic family of captive snakes.

Research Question

What are the most effective ways of combating captive snake hunger strikes?

¹ For purposes of this article, a hunger strike is defined as anytime the snake refuses offered prey for more than one month.

Literature Review

Reasons for Anorexia

Kruzer hypothesizes that “molting is the most common cause of loss of appetite,” and that the “snake may stop eating when it's about to molt or shed its skin” (2021). This process is called ecdysis and presents itself first as “a dulling in coloration and clouding of the eyes” (Dutton & Wissink-Argilaga, 2021). Additionally Kruzer urges keepers to always consider the other common possible stressors that could cause a hunger strike. These include “seasonal changes, hibernation attempts, (or) age factors” (2021).² There is also “reproductive-associated anorexia” which comes in many forms (Dutton & Wissink-Argilaga, 2021). This could be seen in gravid snakes, snakes after parturition and before their eggs hatch, snakes experiencing pre- or post-ovulatory stress or males that are ready for reproduction (Dutton & Wissink-Argilaga, 2021).

If the captive snake is not going through any of the above stressors and still not eating, then husbandry is the next place to look. As Jonathan Rheins urges in his article on LLLReptile, snake keepers need to set up their enclosures with appropriate substrate and lights as well as use the proper prey item, light cycle and level of privacy their snake species prefers.

After ruling out all of the common causes of anorexia mentioned above, the keeper must then look for medical reasons for their snake's anorexia. “(This) will require a detailed husbandry and medical history, a full clinical examination, and often further diagnostic tests such as diagnostic imaging, hematology, biochemistry, endoscopy” (Dutton & Wissink-Argilaga, 2021).

² Snakes may respond to changing seasons with changes in their appetite. Some snakes naturally hibernate/bruminate, and cooler weather may lower the snake's energy levels and appetite. Younger snakes are growing and require more food than older snakes; while younger snakes may eat once a week, adult snakes may eat far less

Common medical reasons for anorexia include “stomatitis, endoparasites, respiratory infection, gastrointestinal impaction, (and) reproductive disease” (Dutton & Wissink-Argilaga, 2021).

It is important for the keeper to stimulate the anorexic snakes' feeding responses while they are searching for the cause. In order to do so, one must look toward the main way snakes hunt, through sight and smell.

Importance of Visual and Olfactory Cues in Feeding

“During foraging, snakes may detect prey chemically, visually, or mechanically. Tongue flicking is a particularly important sensory behavior in snakes that involves the transport of stimuli from the external environment to the vomeronasal organ (also known as the Jacobson’s organ) in the roof of the mouth” (Moon et al.,2019, p.532). These “chemical cues are frequently used by predators as a source of information about prey” (Clark, 2004, p.607). Some herpetologists go as far to claim that “olfaction is the most important sensory cue stimulating a snake to feed” (Kauffeld, 1953, p.130). Previously conducted research showed that “snakes’ highly efficient olfactory systems are a product of natural selection and evolution. For snakes to maintain the ability to locate and identify prey as diets shift over evolutionary time, natural selection should favor individuals that respond strongly to chemical cues from foods eaten in local populations” (Cooper, 2008, p.393). The process of natural selection has resulted in snake populations with “highly specialized lingual-vomeronasal system(s)” (Cooper, 2008, p.393). Therefore, keepers have found it difficult to consistently convince their captive snakes' highly specialized olfactory system to feast on the commonly used prey of frozen/thawed mice. This can be especially true for keepers who have made wild snakes their pets, more so than keepers raising captive bred snakes.

Since snakes olfactory systems might seem too complex to use as a mechanism to entice feeding, many keepers look to appeasing other senses like their sense of sight. Much research has been done analyzing their unique optical system through evolutionary time. “Recent studies on the morphology and evolution of the visual system and inner ear of lizards and snakes suggest that snakes most likely had a terrestrial and fossorial origin. Not only does an analysis of visual opsins suggest that the visual system in stem snakes was reduced, but also the vestibule of the inner ear in the stem snake *Dinilysia* was strikingly similar to that of burrowing lizards, suggesting that *Dinilysia* was specialized for detecting ground-borne vibrations” rather than sensing visual pigments, which led to the loss of many visual pigments and gain of other sensory organs like heat-sensing pits (Moon et al.,2019, p.528). Because snakes' optical system is much simpler than their olfactory system, using sight rather than smell could be a more effective way to elicit a feeding response.

In conclusion, evolution of olfactory and optical sensory systems in snakes can give snake owners information about ways to manipulate prey items so they are best received by the captive snake. If snake keepers knew how to manipulate the way a thawed mouse smells and looks to a captive snake, these keepers would not have to search far and wide for alternative prey options, wasting valuable time and resources, potentially costing the snake's life.

Proposed Methods for Mitigating Hunger Strikes

Most suggested methods of feeding alters and/or amplifies a prey item's scent to elicit a feeding response. Rheins suggests a method called “scenting.” Scenting is “simply scenting (the prey item) with a more appropriate prey item” (Rheins, 2023). The prey item can be an animal their species would naturally eat in the wild like “lizards, frogs and birds” (Rheins, 2023). One

would do this by “washing the rodent with warm water, and maybe a bit of unscented soap. Rinse thoroughly, dry and then place the rodent in a non-porous container with the scenting item. In some cases the scenting item will be a live (or dead) frog/lizard, or perhaps a bird feather. One can gently rub the two together to facilitate scent transfer” (Rheins, 2023). After one would complete these steps, they would then feed the snake as normal. Another method is called “Braining/Splitting” (Rheins, 2023). This is done by taking the “pre-killed pinky, fuzzy, hopper mouse, and splitting its head open, revealing the brain matter” (Rheins, 2023). This process releases enticing scents into the air that attracts the snake.

The last method Rheins suggests to snake keepers is simply switching the prey item to one that is more enticing to the snake. To do so one can change the brand, sex, or species of prey or simply choose between frozen, live and pre-killed options. Then, after the snake begins feeding regularly, the keeper should slowly switch the prey item back to something that is more available.

Other proposed feeding strategies rely on the snake's sight. One method is tong feeding where the keeper “hold(s) a pre-killed prey item with long forceps, and gently tap(s) the snake on the side on the mouth. What one is hoping for is that the snake gets irritated enough to strike and grab the prey item” (Rheins, 2023). But be aware that this can create stress in the snake resulting in it refusing to swallow the prey item or regurgitating it. So, if the keeper can elicit a feeding response by just moving the prey item as if it was alive, that is preferred. Another method is feeding the snake in the dark because “most snakes are nocturnal hunters and may be more inclined to feed in the evening” (Rheins, 2023). Lastly, the snake owner can try to change the color of the prey item. “Laboratory white mice and rats may be intimidating to a snake that is genetically programmed to hunt brown and black wild rats” (Rheins, 2023). Because black and

brown mice are readily available at most pet stores, this method may be an easy and safe way to stimulate feeding in the snake (Rheins, 2023).

The success of any particular method can be dependent on the snake's species. Jonathan Rheins' article on feeding stubborn snakes on LLL Reptiles website claims that Brain Splitting is most effective with baby Colubrids, tease feeding is most effective with naturally aggressive or arboreal species, and switching up the prey is most effective with Ball Pythons and baby Colubrids (Rheins, 2023). To date, the nationwide herpetologic community has yet to compile keepers' experiences into a cohesive and educational database containing the various methods to combat hunger strikes and their resulting success rates.

Methods

In order to evaluate the effectiveness of various methods dealing with hunger strikes across different species of snakes, a survey was prepared and sent to various facebook groups and online forums centered around snake husbandry. The survey consisted of 12 questions to snake owners regarding their snake's taxonomic family, feeding environment, most common prey items, feeding frequency, and feeding methods. It also contained questions about the longest hunger strike the keepers have experienced, details on their attempted feeding methods during a feeding strike, their success with those methods and how difficult they believe it is to manage hunger strikes.

The survey was sent out on May 15th, 2023 and received 404 responses by May 22nd, 2023. These responses were organized into categories based on snake species, methods used to combat hunger strikes, and reported success rate.

Findings and Discussion

Across all snake keepers who responded, 93% reported using frozen/thawed mice and rats as their primary feeder. The remaining 7% reported buying live mice, rats, or hamsters and feeding them live or pre-killed. This statistical data was not unexpected considering that frozen/thawed mice and rats comprise a vast majority of the market of captive snake prey items.

Keepers who chose to change prey items to entice feeding responses from their snake(s) reported using a significant variety of other prey items, such as: eggs, chicks, pheasants, other snakes, pigs, turkeys, rabbits, insects, quails, sparrows, quail, ducklings, fish, pigeons, doves, worms, hamsters, steak, guinea pigs, chickens, frogs, lizards and commercially made diets.

Fortunately, most keepers reported that they never or almost never had meals refused by their snakes, regardless of the species. This was especially true for Colubrid owners, 93% of whom reported they never or almost never experienced a hunger strike. 81% of Python owners and 79% of Boa and Anaconda owners also reported the same.

While the frequency of hunger strikes does not appear to be significant, when it happens, it can last long enough to cause harm to the captive animal. Looking at the longest hunger strike reported by each species keepers, the average was calculated to be 2.56 months for Colubrid owners, 3.51 months for Python owners and 3.73 months for Boa and Anaconda owners. The distribution of reported hunger strikes is shown in Figure 1 which compares the percentage of responses with the months reported between each family of snakes.

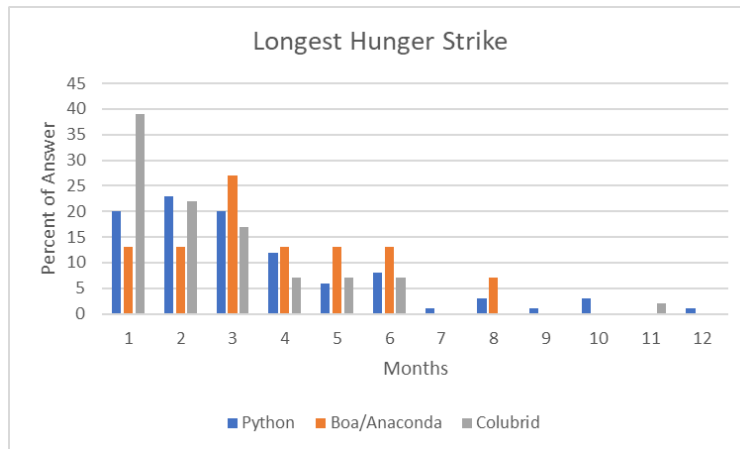


Figure 1: Longest reported hunger strike amongst all species of snakes

Although hunger strikes are not a common occurrence, they can be a lengthy battle that could cost the life of the captive animal. It is vital to the animal's health and happiness to find a feeding method to elicit a feeding response in the snake before the hunger strike poses a threat to its health. Keepers' feeding methods during a hunger strike, between different snake families, seemed to be varied in both the number of keepers who tried each method and the resulting success of each method. No matter the species of snake, tong feeding was the preferred method of combating hunger strikes but only seemed to be the most effective method of doing so in Colubrids (Figure 2). Python's most successful feeding method was the category of "other," with tong feeding in second place (Figure 4). The category of "other" included many methods of heating up the prey item, among other things (Figure 6). Boas and Anacondas' most successful feeding method was feeding in the dark (Figure 5). The least effective method was deemed to be Brain Splitting in Pythons and Colubrids (Figure 2, 4) and Gut Splitting in Boas and Anacondas (Figure 5).

According to collected data, if one owns a Colubrid snake, they should try tong feeding first and Brain Splitting last. If one owns a Python snake, they should try methods centered around the category of “other,” or tong feeding first and Brain Splitting last. While there was a small sample size for keepers of Boas or Anacondas, the survey results suggest that changing prey item color, feeding in the dark, and tong feeding may potentially be successful ways of breaking hunger strikes for Boas and Anacondas.

Because some methods were tried by very few respondents, their resulting success rate might not reflect what one might experience in the real world. This is applicable to Gut Splitting which was reported to be tried by 5.78% of the respondents and the category called “other” which had been tried by 6.97% of respondents. Scenting, Brain Splitting, changing prey color and changing prey type were reportedly used by 9-10% of respondents.

It is also important to note the difference in responses between snake species. Colubrids, with 104 responses, should have more accurate test results, as well as Pythons, which had 97 responses. Since the family of Boas and Anacondas only had 24 respondents, its statistical results will naturally have a higher chance of deviating from what might be experienced in the real world.

Figure 6: Feeding method abbreviation legend

Abbreviation	Method
B	Brain Splitting
C	Changing prey item color
D	Feeding in dark
G	Gut Splitting
P	Changing prey item (species or brand)

S	Scenting
T	Tong feeding
O	Other- making sure it is hot right when given especially the head (using heat gun, hot water, blow dryer), giving the animal time with it/drop feeding, heating it up near the snake, assist feeding, just continue trying or waiting longer until shedding, brumation or breeding season is over

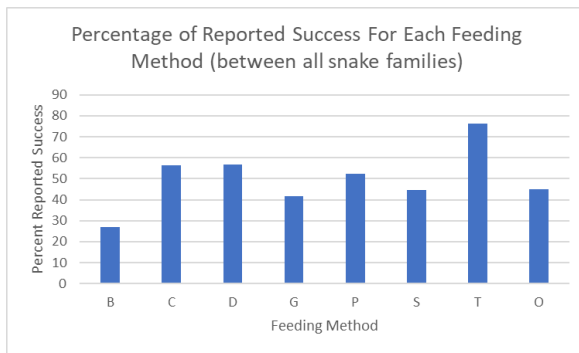


Figure 3: Percentage success for each feeding method across all snake species

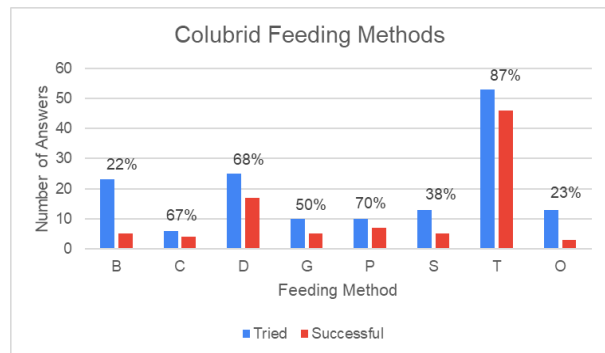


Figure 2: Colubrid Feeding Methods labeled with percentage of success

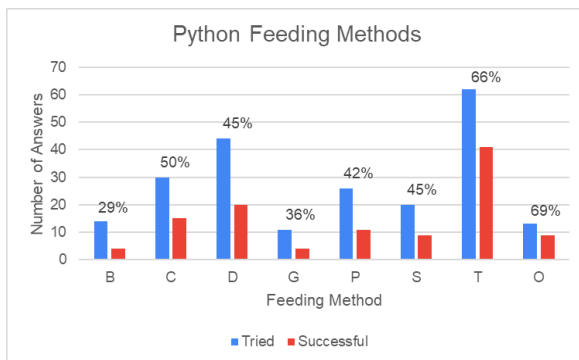


Figure 4: Python Feeding Methods labeled with percentage of success

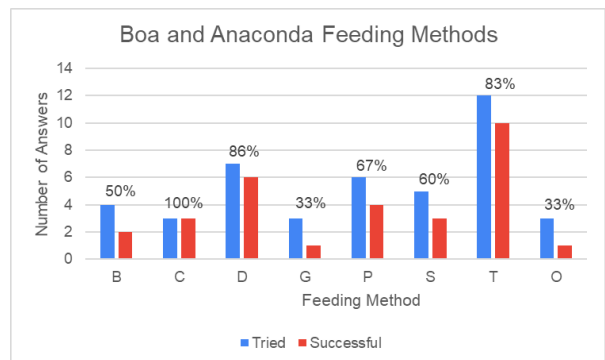


Figure 5: Boa and Anaconda Feeding Methods labeled with percentage of success

To assess whether certain feeding methods were more effective at preventing hunger strikes in the first place, the survey included an open-ended question asking snake owners who have never or almost never encountered a hunger strike in their snake(s) to describe their feeding

routine. In hopes that keepers who are struggling with hunger strikes and/or herpetologists looking for common feeding methods can benefit from this information, all non-repetitive responses are included in Figure 7 which is pasted at the end of the article and sorted by snake species.

Overall, the fact that tong feeding, feeding in the dark and changing prey color was the most successful methods reported by keepers across all species suggests that visual manipulations might be more promising than olfactory manipulations in eliciting a feeding response. Perhaps captive snakes' highly specialized olfactory systems that evolved over evolutionary time are just too difficult to appease.

Conclusion

Even though hunger strikes are not a common occurrence, their longevity when they do occur can be a major threat to the health of the captive snake. Therefore, it is imperative that the keeper tries different feeding methods to get the anorexic snake eating sooner rather than later.

While this research identified effective methods for dealing with captive snake hunger strikes, more information is needed. More attention is necessary from the snake keeper community to increase communication about methods to prevent and combat hunger strikes. More coordination is needed to consolidate the results and experiences of snake keepers so that more can be learned about effective ways to mitigate the risk of hunger strikes. This is especially important for various snake species in the families of Elapids, Vipers and Boas/Anacondas where the survey's respondent numbers were lacking. With more communication and better data sharing within the community, keepers should find more success in combating hunger strikes, thereby improving the health and well-being of their captive snakes.

Figure 7- Reported feeding methods described

Colubrid Owners
<ul style="list-style-type: none"> ○ My snakes are trained to know that a Tupperware lid in their enclosure means food is coming. I thaw rodents overnight and warm them in hot water before offering them with tongs. The only refusals were seasonal/brumation related. ○ Frozen mouse in the fridge for ~8 hrs to thaw, then in the sink warm water for 10-15 min. Grab by the tail with tongs and dangle/dance/drag around the enclosure. ○ I own a Florida Kingsnake (usually known for being great eaters). I thaw his mice in hot water for 15 to 20 minutes and then move him to a separate feeding enclosure. I feed him his thawed mouse with long metal tongs and usually wiggle the mouse around for him to grab! ○ I put a thawed and warmed (off their lamp) mouse in a clear critter carrier. Then I carefully wrestle my corn snake into the container, put the lid on, and cover with a light colored shirt if needed to give them some privacy. I then check on them every 10 minutes until they have eaten, and then wait 20 minutes before placing them gently into their tank. ○ Thaw the mouse (16-19g) in warm water for 10 minutes, then change water to hot water (not boiling hot) for another 10 min. Dry mouse, feed on a big bark piece or a branch so the substrate doesn't stick. ○ Eventually got him to eat again by using light dawn dish soap to eradicate the "mousy" smell, since according to my local specialists, hognoses don't "like" mice (as they eat primarily toads in the wild). Worked like a charm and his appetite is ferocious ever since. ○ Personally I have only ever had snakes refuse feeding for two reasons: In shed, or previous owner only fed live/other prey items. Once they are out of the shed, they eat again. Some of my girls will eat twice or three times a week if I let them. Males do on occasion refuse feeding, but usually related to breeding season. ○ I set him in a small plastic container with a lid then offer him the mouse. Once he strikes I place the lid on the container and leave him alone until he has eaten the mouse. I then take the lid off and set the whole container in his tank so he can leave whenever he likes and I don't have to touch him. ○ I thawed the frozen mice in the fridge. Then leave on the counter to come to room temp for about an hour. Next, I open the enclosure and call my girl. I will dance the mouse through her plants (unless super bloody) for that rustling sound. When she starts coming for it I hold it up higher and wiggle it. After she strikes, I give a little tug before letting go and closing the door to her enclosure. ○ Tried wiggling the f/t mouse fuzzy, snake hissed and hid ○ At feeding, I turn off the heat lamp about 30 minutes before so I can easily take it off the top of the enclosure without burning whatever I am setting it on. I also turn off the light. After the mouse is thawed, I take my snake out of the enclosure because I feed in a separate container and have never had a problem with him becoming stressed, as I handle him often enough that he does not associate hands with food. Then, I take him to the feeding container and present his food item with tongs and he will immediately respond with a strike and coil up around the mouse. As he eats, I watch because I've done that

since he was a baby and it's a habit. (And he doesn't care). After he has swallowed the mouse, I put the lid on his feeding container and use this time as an opportunity to clean his water dish, even if I cleaned it the day before (the enclosure is open, so might as well). Then I spot clean any poop and freshen up the humidity. After the cleaning is done, I carry him back in his feeding container to minimize handling since he just ate. Then I gently pick him up and set him back in his enclosure. I have never had a problem with regurg with feeding this way and he does not seem bothered by it at all.

- Corn snakes are known for being amazing eaters! My normal feeding method is thawing out my frozen mice in the fridge, and then warming them up by using a hair dryer. My snake does amazing food, so I offer it with tongs if I know where he is or I leave it in a dish under his heat lamp so when he notices the smell he will hunt for it. If I leave it in the tank, I check back regularly to make sure he eats it.
- All snakes, at some point, refuse meals. For those that should eat, I place them in small, dark containers with the prey I offer them and leave them one in the dark. I check on the snake to see if it has accepted the meal or not, every 15-20 minutes. If the snake has not taken its meal after an hour, I offer it to another snake and put the one that refused the meal back into its enclosure and try again in a week.
- We thaw the mouse in a plastic bag in warm water (about 1 hr?). We tap on the side of the vivarium 4 times before we open the doors. We scrape the metal tongs (like oversized tweezers) on the fake branch to produce vibrations, and we also rustle the leaves in the tank. Then we use the tongs to wave the mouse around close to her, and sometimes rub it on the leaves or other tank furniture to create a scent trail. We wiggle the mouse to lead our corn snake out to a place where she will strike over a plastic lid (to avoid getting substrate or dirt on the mouse). This is about 30% successful. She always strikes and constricts when she grabs her mouse. Sometimes she lets go, but she will always end up eating the mouse. Once or twice we've covered the tank with a dark cloth if she's being picky, and the mouse is eaten when we return (40-60 min later). We've used this method on aspen and in the new bioactive tank. We have never just put the mouse down in the tank and left it for her to find.
- I've had her for 17 years, she almost always eats weekly. Important to have a set routine, same place, time, and even the color of the mouse is important to some snakes.
- Our colubrids currently eat a varied F/T diet consisting of mice and occasional quail of appropriate but varied sizes. All prey items are thawed overnight in the fridge, and all items are warmed within a plastic bag submerged in lukewarm water (100° for mice, 105° F for birds). We try to keep the prey items inside the bag as dry as possible. If the snake is awake and active, and has noticed the visual cue—the tongs—always the same set of tongs, they are bright green—a “chase” is simulated from one part of the enclosure to another, holding the prey item's tail with the tongs. If a snake is asleep or hiding, I make a few scent trails around the enclosure with the prey item (held in tongs), which usually wakes the snake up within a few minutes. Then a short “chase” proceeds as normal. After eating, the snake investigates the scent trails for an hour or two before basking. If offering two smaller items instead of one larger item, the second item is offered about 20 minutes after the first is swallowed, effectively the time it takes to warm the second item to “living” temperature. (We do not feed between when a snake's eyes have started to cloud and when it has finished shedding, since this is a time when most snakes in the wild would hunker down and avoid hunting.) Observations: Since adopting a more varied diet

with elements of “controlled irregularity” a year ago, hunting behavior and activity levels between meals has increased. From the snakes’ perspective, this diet is highly unpredictable, which might explain the increased drive to search for food and the consistently enthusiastic feeding responses. We consider this “unpredictable” and varied diet as a form of enrichment, both nutritionally and from a psychological standpoint.

Python Owners

- I feed in the enclosure and warm the feeder up with a hair dryer. Then offer
- Defrost at room temp then heat in a cup of hot water, dangle and give movement to mimic natural prey.
- I had a python that wouldn’t touch dark colored mice
- I move the rat from the freezer to the fridge to thaw in the morning. Around 6pm, I’ll transfer it to the sink and 2-3 hours later I warm it under hot water for about 10 minutes. Then I grab it by the tail with tongs and hold it in the enclosure near to where my snake is hiding. Sometimes I wiggle it around, if she’s a little slow to strike.
- Heat rat in warm water sous vide style to over 100 F measured with a laser thermometer, dangle/move it in front of her and wait, or leave it in the enclosure for 10 min. Reheat with blow dryer after 10 min and offer a second time if needed
- Either live or from frozen, if environmental temps are not right she will not eat.
- I will normally take my frozen rat, put it into a baggie, put the baggie into a sink filled with hot water and weigh it down with a pot lid. I’ll check on the temperature of the rat with a infrared heat thermometer until it’s between 90 and 100 all over the rat (sometimes the butt area gets over 100 while I’m trying to get the head and heart temp up). Once satisfied with the temperature, I transfer the closed baggie in a Tupperware container to his cage area. I then open the baggie and remove the thawed rat with the tongs, holding the rat around the midsection/near its front paws. I’ll use the tongs to tickle my snake’s nose with the tail until he strikes.
- I sized down his meals, and sometimes this would help him take the meal the next feeding time.
- I use the same method to thaw rats for both of them, seal in a plastic bag, place in room temp water until thawed, then heat up with near-boiling water for 4-5 min until they are warm if not slightly hot to the touch. I keep the lights off up to an hour before feeding, and offer the rats on tongs.
- I tong feed and tease with the mouse/rat depending on the snake. If, for whatever reason, they are spooked and won’t come out then I will leave it in the cage
- Our typical feeding method is putting our frozen rodent in a cup of boiled water in the morning and feeding during the evening, with a pair of feeding tongs held above a flat plank in the enclosure to prevent accidental substrate ingestion while striking.
- On feeding day, I get a rat from the freezer and thaw it in the fridge. Later in the morning, I take out the clutter in the middle of the enclosure to make room for eating. This seems to get our snake into feeding mode because she immediately starts hunting. Around 6 in the evening, I get the rat out of the fridge to get to room temp, in front of the enclosure. Around 7, I put out hot water in a small container, put the rat in a baggie, and held the rat in the water until it got to 95-100 deg. measured by a heat gun. I also have the main lights out and the room is mostly dark. By this time, our snake is going crazy, because she can

sense the hot water, she can hear the clanging of the tongs, and is ready to strike. By the time I open her enclosure (a plastic tub at the moment, she's only 6 months old), she strikes within a few seconds. Most of the time she eats it, but a few times, she's dropped it and continued hunting. Then, I just rewarmed the rat and offered it again. She's taken it and eaten it each time.

- Consistent and stubborn schedule; They eat when food is offered or do not eat. Do not feed based on their cues, abundance of food will increase likelihood of rejection.
- Temp, humidity and proper tank setup and clutter are huge factors.
- I've only experienced 1 hunger strike. I broke her out of it by feeding her in a separate container so remove distraction

Boa and Anaconda Owners

- Thaw a large rat, then heat in a pot of water. We feed on tongs in his enclosure every third Friday night. He knows the routine and smells the rat warming in the pot, so he comes out of his hide and is waiting at the door by the time it's ready to feed.
- I feed smaller prey (medium rats) on the same day every week between 6-8pm (that eat best this time because they naturally tend to eat crepuscular prey). I do have one snake that won't eat rats unless they have light colored fur, and the albinos do better in dim light with darker rats.
- I always use the exact same tongs to offer the item on every feeding. They associate the tongs with food so they ignore my hand. Usually the f/t rat disappears as soon as it is noticed. If they don't notice right away, I dangle it 6"-8" to the side/above them and wiggle it with the tongs. Sometimes they inspect and sniff first, but they always take it. This is true for 5/6 of my boas. The sixth one has the same routine but refuses about 1/3 of the time. She strikes and coils every time, she just doesn't always eat it. Sometimes covering her cage, making sure the reptile room is dark with no disturbances and upping her humidity to higher than textbook husbandry suggests will get her to eat...but not always
- I use a heat gun to warm up the prey to about 90 degrees!
- Re-warming meal to a slightly warmer temperature. Monitor how engaged the snake becomes when near the tank. Try either live or frozen.

Owners of Multiple Categories of Snake Families

- I thaw my mice and rats in hot water from the sink in a covered bowl 3 times until blood comes from the nose. Then I roll them in paper towels vigorously until dry. I have large medical grade pliers to dangle the food with. (I do not touch my snake with the food) touching them means they are getting picked up!
- I notice she sometimes refuses if I have any other lights on in my apartment or if I have to find her/wake her up prior to feeding. She sometimes strikes but then does not proceed to swallow her prey.
- Get FT rat/mouse out in the morning and allow it to defrost slowly until evening. Feed in the dark with lights off at typical times where my snakes are most active. Use the steam from a boiling kettle to heat the head of the prey, held above the steam til hot. Use feeding tongs to entice, slight movement until strike. Occasionally just leave the enclosure under a

heat lamp overnight if the snake seems uninterested. Always gone in the morning.

Alongside this I ensure that my husbandry is perfect, I.e heating, day and night cycles, humidity and LOTS of enclosure clutter so that the snake feels secure and hidden.

- Sometimes they will refuse if the FT mouse is moved too aggressively.
- Husbandry is the most important aspect of care. When the husbandry is on point most snakes will eat. I offer thawed f/t prey only and use tongs to feed. For my only difficult eater I pierce the skull of the f/t pinkie first.
- I maintain a feeding to feeding and year to year success rate well over 90%. I can't say I have a feeding method per se. I focus mainly on my pets evolutionary ecology and biology and try to respect those ingrained behaviors. I feel successful feedings are much more about how we keep our snakes than it is about what we offer them to feed on. Safe, secure, content, confident snakes eat. Stressed out snakes don't. Doesn't matter what species they are or what prey they are offered. I breed mice, rats, and African Soft Furs. I keep frozen mice, rats, African Soft Furs, hamsters and quail. All 37 of my snakes eat any live prey. All of my snakes eat f/t mice. About 75% of my snakes eat f/t rats and African Soft Furs. About half my snakes eat f/t quail. About 1/3 of my snakes eat f/t hamsters. I hope to start breeding my own quail and guinea pigs in the next year or two as well.
- When I first got my Hog Island boa, she had only been fed live with the breeder, and I needed to transition to f/t. It was difficult at first, but with help from a well regarded breeder, I was able to eventually get her to eat. First by leaving the mouse for her overnight, and then eventually, and currently, tong feeding but holding the mouse by the abdomen and making it "walk". I also typically feed her on a different day, as the activity from feeding everyone else stresses her out to the point that she'll refuse.
- I have about 25 snakes that almost never refuse food. I target train all of my snakes so they know that a blue target equals food and will follow it outside the enclosure slightly. Once they are rewarded with food I put them back in the enclosure as they are wrapped around the food. Young snakes eat weekly and older ones eat every two weeks. I never feed them early, sometimes I'm a day or two late and that's when everyone is always ready and never refuses. I have some snakes that won't eat in shed and some that are breeding will go off food sometimes too, that's about the only time anyone refuses for me. If I feed early they are more likely to refuse as well.
- These are the protocols we follow to ensure regular feeding. First ensure the snake is in good health, not in shed. Secondly, giving one week break as they grow and travel could affect their eating patterns. Thirdly, try feeding in a dark quiet environment 3 hours after lights off if your snake is nocturnal. Then, if the first three did not work then change the snake's enclosure by redecorating or putting them in an entirely different enclosure. Lastly, address what you're feeding: size, live or F/T, color (our 4 year old Ball Python only eats dark coloured rats). This has all prevented a hunger strike and we seldom have snakes that don't eat.
- Refusals were rare for me. If I fed frozen thawed I let it thaw naturally in running water, then heated it up with a blow dryer by its cage. The snake smells everything, gets super hungry. Make sure the rat or mice's temp is 100. You can use a heat gun. Dangle with tongs. For live I kill them by severing the spine from the brain stem, then feed them right away with tongs.
- Neonates prefer to start on lizards and switch to mice as they age.

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