

Nix Treatment for Snake Mites

by Nathan Curtis

Snake Mites

Mites are ectoparasites that subsist on blood. They are host-specific, which means that they only feed on one type of animal. Snake mites will not affect lizards, nor will they affect humans or other household pets like cats and dogs.

Mites can be identified as tiny black dots, much like a speck of dirt. However, unlike dirt, mites MOVE and will burst with a small red smear when squished against a hard surface (the remnants of their last meal). Mites can often be spotted crawling around a snake's back or head area and on cage walls. For every mite you can see on your snake, there are likely dozens more that aren't visible, that are hidden while feeding under your snake's scales. These resilient parasites are commonly known as the "plague of snake keepers". Really, with sound treatment and quarantine practices, this shouldn't be the case.

Snake mites have been known to transfer disease in snakes, much like mosquitoes can with humans (malaria) and with dogs (heartworm). If unchecked, mites on just one snake in one terrarium can multiply geometrically and establish themselves in an entire collection of several terrariums and dozens of snakes in a matter of a week or two. This is a problem that is unique to snakes in captivity. Wild snakes are able to keep these parasites in check through shedding their skin and leaving most mites behind. On the other hand, captive snakes are forced in close quarters with their shed skin and mites, thereby facilitating reinfestation.

Mites will eventually overrun a snake in captivity to the point that their host becomes irritated, mildly anemic and therefore lethargic. Infested snakes are often found to soak for extended periods in water in a vain effort to drown the mites on its body, only to be reinfested once it emerges. Snakes in this situation will seldom eat, or even refuse to eat altogether, due to stress and discomfort.

Why Nix?

Nix was designed to treat human head lice and their nits (eggs). The one characteristic that separates the Nix method for treating snake mites from other mite remedies is its effectiveness at killing live mites AND mite eggs. All other mite remedies to my knowledge do not destroy mite eggs. As such, I have found the Nix method to be extremely effective at eradicating serious mite infestations. I even know of a pet store manager who sells several commercially produced mite remedies, yet uses the Nix method on imported snakes arriving at his store. Another pro to using Nix is economics. Around \$12 will produce 4 litres of solution – much more than the largest private collection will ever require.

There exists a popular reptile care site on the Internet that discusses the toxicity of Nix, but in the two cases cited, Nix was spread over the infested snakes in **full concentration**. Common sense should dictate that reptiles and amphibians coming in direct contact with any fully concentrated chemical that does not occur in their natural environment would yield deleterious, if not downright fatal, results. The use of Nix discussed below involves a diluted solution (1 part Nix to 68 parts water) that has never produced adverse reactions in any python or boa in my collection over the course of 6 years. In fact, some snakes in my collection are proactively treated every 6 months as they make appearances at semi-annual reptile shows and I am not willing to risk the chance of mites from other exhibitors making their way into my collection. Even routine treatments on these boas and pythons over the course of several years have yet to result in any negative effects.

Materials

- Spray bottle. Preferably one that has never been used, or at the very least, one that has never contained harsh chemicals and has been thoroughly rinsed.
- 56 g (59 ml) bottle of Nix. I have only ever found this one particular size of Nix, which can be sourced at most drug stores and some pharmacy sections of grocery stores for anywhere from \$6-\$12.
- 4L (1 Gallon) jug of distilled water. Distilled water should be used to extend the shelf life of the solution. With distilled water, the solution's effectiveness is expected to last up to 12 months as long as the solution is stored at room temperature and in a covered box (light breaks down the active ingredient found in Nix). Although, with one treatment and sound quarantine practices, the first treatment should be all that is necessary.

Creating the Nix Solution

- Pour the Nix cream into the 4L jug of distilled water. Nix is a fairly thick cream substance, so it may take a couple minutes to transfer as much of the cream into the jug of distilled water as possible.
- Replace the cap on the jug of distilled water and shake until the Nix cream is evenly distributed throughout the water. Again, this may take a few minutes due to the thick consistency of Nix.
- Pour the Nix solution into a spray bottle.

Eradicating Snake Mites

- If snake mites are only found on one snake or only in one snake enclosure, it is wise to conclude that mites have infested ALL snakes and their enclosures that are contained within the same room. Mites may have also transferred to snakes housed in another room by "hitchhiking on your hands or clothes. Therefore, absolutely all snakes and their terrariums should be treated to ensure 100% effectiveness.
- First, remove the snake from the enclosure and place in a Rubbermaid container. Spray the snake liberally with the Nix solution. Do **not** avoid spraying this solution on their head, eyes and heat pits – in fact, this is where mites commonly hide so spraying the head area is essential.
- Remove all substrate from the terrarium and throw away. Do **not** leave the garbage bag containing this old substrate anywhere in the house.
- Spray the entire enclosure, inside and out, including all cage furniture (branches, hide boxes, water bowl, etc.) and glass viewing area. Make sure that all corners and crevices are well covered with Nix solution, as this is where mites and their eggs are often hiding. Even spray the outside back of the cage and a 2-foot perimeter around the cage on the floor. The Nix residue that forms after drying is thought to even be effective at killing mites hiding out elsewhere in the room that may attempt to re-enter the snake cage.
- Replace the substrate with paper, preferably paper towel, as it is easy to spot mites on this. It is essential to use paper until you are absolutely certain that full eradication has been accomplished. I suggest waiting 3 weeks after the last live mite is spotted before using non-paper substrate.
- Remove water bowl from cage and replace, filled with water, 24 hours later. This ensures that the Nix solution is not washed off the snake by soaking in the water bowl before the active ingredient has had a chance to destroy all mites hiding under its scales.
- Return the snake to its enclosure and spray it, the cage, furniture and paper one more time.
- When the snake defecates during treatment, remove the paper and clean the messed area as usual, but be sure to re-spray the cleaned area and new paper with Nix solution.
- Repeat in 5-7 days twice, for a total of 3 treatments. With all likelihood, the last live mite will perish within a few hours of the first treatment, but repeating treatment is good practice in case the outbreak is severe and mites are able to re-enter cages.

Preventative Maintenance

Any snake entering a collection should be quarantined for 2-3 months, ideally in a completely separate room from where other snakes are housed, but at the very least in a separate cage. It should be assumed that any new snake has mites, regardless of how well respected the previous owner or pet store is. I have personally been let down on several occasions by leading breeders in our hobby, and from personal friends. It is my experience that employing the “better safe than sorry” approach is of paramount importance in ensuring mite breakouts never occur.

Given the above assumption new acquisitions, in addition to their cage and cage furniture, should be treated with Nix solution 3 times (one full treatment every 5-7 days). Same should hold true when a snake enters your colony for a breeding loan, even if it is your own specimen that was lent out and is returning. As previously mentioned, it is also wise to treat snakes that attend shows, where other exhibitors and spectators may have mite infestations. With the large number of people that handle your animals, or even just touch the enclosure in which your snakes are housed, the chance that a mite is hitchhiking on at least one of these snake enthusiasts at the show is good. Don't become complacent and cut corners in this area, or you may find yourself right back where you started.

Cage furniture and substrate purchased at pet stores can also serve as mite vectors and should be treated with caution. Mite-free substrate can be purchased from pet stores that do not carry reptiles, from a livestock feed stores, or from landscape centres. Newly purchased cage furniture should be sprayed liberally with Nix solution. Highly porous cage furniture (wood hide boxes, branches, etc.) should be soaked in a 10% bleach solution for a day, then rinsed thoroughly, sprayed with Nix solution, and allowed to dry for a week.

Thanks...

I would like to give thanks to Giovanni and Paula Fagioli at the Bean Farm, a reptile dry goods mail order business in Washington State, for enlightening me to the Nix snake mite treatment. When I frantically contacted them several years ago, Giovanni suggested that I **not** purchase any of the commercially produced mite remedies that they stock, but to go out and buy a bottle of Nix and jug of distilled water locally. They had used this method with outstanding results for a number of years back then and even mentioned that Roger J. Klingenberg -- D.V.M. and author of *Understanding Reptile Parasites* (1993. Advanced Vivarium Systems, California.) -- was compiling clinical results of the Nix treatment for mention in a follow up to his invaluable publication.

Helping someone out while sacrificing one's profits, as did the Bean Farm, says a lot about one's business practices.

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