

## Snake mites on reptiles (*Ophionyssus natricis*)

A mature snake mite is darkly-red coloured, 1 mm in size and has eight legs. A female can lay 3-7 eggs every day which she will hide in the terrarium in cracks and openings. The larvae will usually hatch after 1-2 days, depending on the temperature. If conditions are unfavourable, the eggs can survive without evolvement for months. The larvae will not hatch before the temperature suits them. Even if you cannot see the larvae – they are there! Before they become fully-grown, the larvae undergo several stages of development in which they change their appearance several times. Snake mites become not older than six months and are able to survive without food for months.

### Way of living

The snake mites live close to the reptiles in terrariums and hide in cracks and openings during the day. They crawl onto the reptiles and nest preferably between the scales round the eyes or close to the anus. They stay there for days until they sucked enough blood to continue their life cycle at another place. After an adult female has sucked enough blood, she'll be inseminated by male mites and will then be looking for a hiding place in the terrarium where she can deposit her eggs. At first, the developing larvae do not take any food. Then, during their first stage of development, they start looking for blood. At this time you can see them crawling around after dark if you use a torch. The nymphs crawl onto the reptiles and nest between the scales. With a special suction device they prick the reptiles and start sucking blood.



### Symptoms

It is important to spot an infestation with snake mites as soon as possible. Please control the terrarium and the reptiles themselves regularly and check the cracks and other small openings carefully.

However, you must also watch the reptiles; they will show you whether everything is all right. If not, you often will find your snakes in the water or you will notice that they lose weight or become lethargic. If you look closely you might even see drowned mites at the bottom of the water basin. Should you detect such symptoms the infestation is serious and you should intervene immediately.

### Way of combat

It is not easy to combat a snake mite infestation. There are some chemical agents on the market, however, most of them are ineffective. The problem is that the eggs and the mites themselves can survive without food for months. In addition, many snake mites are already resistant against formerly effective substances in chemical agents so that at least a part of the mite population will mostly survive every insecticide. In order to solve this problem you should apply **Dutchy's®**. **Dutchy's®** are predatory mites that feed on other kind of mites. Depending on the circumstances, they can survive in terrariums rather long and during that time they'll kill off existing parasitic mites. **Dutchy's®** can also exterminate other species of mites or springtails. Predatory mites will search for their prey and will not let them escape any more. It is important that you apply **Dutchy's®** as soon as you have discovered an infestation with parasitic mites in order to prevent an increase of the parasitic population. As soon as all snake mites and other eventually existing parasitic organisms are exterminated, the predatory mites will kill each other so that nothing will be left in the end. The reptiles themselves are not harmed through the predatory mites. With their specially adapted mouths predatory mites are not even capable of hurting reptiles.

**Dutchy's®** can be applied by using specially adapted containers; the **Mite Booster®**. These containers prevent the applied material from desiccation so that all predatory mites can develop, even the ones still existing as egg or larvae in the material. The containers can be hung up or put down in the terrarium. The advantage is that the reptiles can neither touch nor dislocate the applied material.



**Dosage**

If you apply predatory mites before snake mites are present or when there is only a small number of them, it is enough to apply one or two containers of **Dutchy's®** per square meter terrarium.

However, if the infestation more serious it is better to apply two containers, in case of a very serious infestation even three containers per square meter terrarium. For the calculation of square meters you have to multiply values of length and height of your terrarium. One 'dosage' equals 1 container.

**Prevention is better than cure**

If no parasitic mites are present it may nevertheless make sense to apply a small dosage of predatory mites. It can save you a lot of trouble if you do this before breeding time. With only the smallest dosage of Dutchy's® you may prevent the parasitic mites from establishing a population and thus anticipate an infestation. It makes even sense to reiterate such a treatment every six weeks during breeding time.

**What can happen?**

It can happen that you observe a sudden increase in parasitic mites just a few days after you applied Dutchy's. Suddenly, you see the mites at places where you have not seen them before. That actually does only mean that the predatory mites startled the parasites and drove them out of their hiding places. After some weeks, the parasitic mites should be exterminated. If no sign of an extermination is seen after three weeks, however, you should order and apply another dose of Dutchy's. It may be the case that the infestation was stronger than anticipated. Often, it is not possible to estimate how many parasites there actually are until the predatory mites have driven them from their hiding places. In principle, Dutchy's can always solve the problem - provided enough time is given and enough specimen are applied.

**Chemical agents**

If chemical agents were applied before the application of **Dutchy's®** it is possible that the predatory mites themselves will be affected. In some cases they may even die prematurely. Thus, to be on the safe side, wait at least 5-6 weeks after a treatment with chemical products before applying **Dutchy's®**.

**Control**

To control how many snake mites exist in a terrarium, the habits of the parasites can be exploited. A small PVC tube can serve as a mite trap. Into the tube put a small piece of tightly-rolled corrugated cardboard. Then put the plastic tube at a covert place in the terrarium and control it every week. Many snake mites will crawl in the tube and in the creases of the cardboard. If you take the cardboard out of the tube and uncurl it you will see whether there are mites and how many. Using this method you will discover a mite infestation in time.

Animal stay	Dosage*	Repeat
<b>Reptiles</b>		
Terrarium 100x60 cm	1-2 containers	every 5-6 weeks
Terrarium 200x60 cm	2-4 containers	every 5-6 weeks
Terrariums > 2 m <sup>2</sup>	1-2 container per m <sup>2</sup>	every 5-6 weeks

