

Reptile mites

Introduction

The reptile mite (*Ophionyssus natricus*) is a common and serious pest of reptile collections. These blood sucking parasites play an important role in a number of snake and lizard diseases.

Diagnosis

Reptile mites are small but visible to the naked eye. Fully engorged mites may be several millimetres long. Nymphs and unengorged adults are very much smaller, and even in very large numbers may be overlooked. Mites are dark or black when engorged with blood, but paler before feeding. They are frequently seen around the eyes, ears, lips, cloaca and other crevices of the host's body. "Mite dust" or faeces is seen as pale or white specks on the host's scales or enclosure. Mites may also be seen in the water following soaking. Reptiles with mites often have dull skin with a pitted appearance to the scales.

Biology

Mites are highly active and able to travel at least several metres. They are strongly attracted to the smell of reptiles. Once a female has fed she seeks out a dark moist place and lays many eggs. At cooler temperatures mites, or their eggs can survive for prolonged period off their host.

Principles of Treatment

1. We must treat both reptile and enclosure – if only treating the herp you will fail to eradicate!
2. Some life stages are very difficult to see, so if in doubt assume mites are present and treat!
3. Dark, moist and rough surfaces with organic debris provide excellent environments for mite survival.
4. Adult mites and nymphs can survive for 45 days off the host, so successful treatment programs require repeated treatments of both host and environment.
5. Very little scientific information is known about the safety of insecticides in reptiles.
6. No one treatment is 100% safe and 100% effective.

The treatment employed currently at both Taronga and Melbourne Zoos (to the best of our knowledge) is Orange medic head lice treatment (Emerald Forest) (2mg/ml or 0.2% Permethrin) diluted 1:1 with warm water. At the initial presentation for an individual snake with no other problems, we currently recommend at 1:4 dilution with warm water. Treatments should be carried out in well-ventilated areas wearing appropriate protective clothing.

Treating the animal

Remove the reptile from its enclosure prior to treatment. Lizards should have a drop of Liquifilm Artificial Tears placed in each eye to protect the cornea – snakes do not require this as they have protective spectacles. Spray the animal's body all over the insecticidal solution. Wipe the head with a cloth soaked in solution or use a light spray. Keep the animal's nose pointing toward the ground with the mouth closed to avoid any liquid running into the mouth or nostrils. Concentrate on the eyelids, corners of the mouth and other crevices such as the axilla (arm pit) and cloaca.

Allow medication to stay on the animal for exactly 2 minutes. Contact longer than 5 minutes can be dangerous. The animals can be placed in a bucket for this time. Ensure that it **cannot** drink the liquid around its mouth. Wash all the solution off thoroughly with plenty of pure warm water and place the animal into a well ventilated mite-free enclosure. Treatments should be repeated no more frequently than 7 days. We recommend 3 once weekly treatments, then 3 fortnightly treatments. Any reptile entering the collection should be isolated in a mite-free enclosure and receive 3 weekly treatments before entering the group. In very debilitated animals veterinary support may be required and insecticidal drugs may be inappropriate.

Treating the enclosure

All reptiles must be removed and the enclosure completely stripped including all plants, substrate, branches and hides. Any enclosure furniture that can be discarded should be! The enclosure is then thoroughly cleaned and scrubbed with hot water, concentrating on cracks and inaccessible places. Spray the solution over the entire enclosure, ensuring excellent wetting of all the aforementioned cracks and inaccessible places. Allow to sit for 30 minutes and then wipe out with copious quantities of water and allow to dry. Leave the enclosure empty for as long as possible. Ideally leave the enclosure empty for 60-80 days and then repeat the treatment before re-establishing inhabitants.

Other drugs and chemicals which have been used to kill mites include Dichlorvos (pestrips) – no longer recommended because they are dangerous to reptiles, Trichlorphon (Neguvon) – which is an oral powder for worming horses but is sometimes difficult or expensive to obtain, Ivermectin – has been reported to be toxic in some reptiles so cannot be recommended. The newer products such as Selamectin, Fiprinol or Imadoclopid used in other animals have yet to prove themselves safe and useful for reptiles. They are not transferred from birds to reptiles.

Disclaimer: most medications have not been formally registered for use in reptiles and dose rates are generally extrapolated using sound scientific principles from our knowledge of other species or are generally accepted as a result of the experience of experts in reptile medicine. While all due care is taken to ensure the appropriate recommendations are made concerning medications, where medications are used "off-label" the client accepts all risk of adverse reactions and there is no liability on the manufacturer, the author or the Inner South Veterinary Centre.

If you have any questions or queries concerning this, or any other matter about the health of your exotic pets, a consultation can be booked with Dr Sandy Hume by ringing the Inner South Veterinary Centre on 6295 0770.