

Care Cards

Dysecdysis

The condition or quality of a reptile's skin often indicates the animal's overall health. Factors such as nutrition, husbandry, and genetics can have a direct effect on the skin. A complete history including enclosure dynamics such as temperature, humidity, and substrate as well as the reptile's diet are necessary when examining any reptile with a skin or dermatological condition.

Reptile skin, like human skin, consists of two layers, the dermis and the epidermis. The epidermis is covered by keratin which is thicker on the dorsal or upper surface of the reptile's body and thinner on the ventral or bottom surface. Some reptiles also have specific areas of their body where the keratin is more dense resulting in horns or beads.

Keratin cells are constantly being formed by the stratum germinativum, and as they mature they move outward to the stratum corneum. Ecdysis is the process where a reptile sheds the keratinized portion of the epidermis. The process is a continuous cycle that occurs throughout a reptile's life. Young, actively growing reptiles will shed their skin more frequently than older reptiles. Snakes normally shed their skin in one complete piece including the eye caps which are modified scales. Lizards normally shed their skin in several pieces, except geckos who can usually manage to shed as one single piece. Turtles will shed their scutes throughout life and a new growth ring will develop following each shed. Turtles will also shed the skin on their neck and limbs.

Dysecdysis is a term referring to any abnormality in the shedding process. The condition occurs more frequently in snakes than any other reptile species; however, dysecdysis can occur in any reptile. Several factors may contribute to dysecdysis including environmental humidity, and temperature, both internal and external parasites, infection, malnutrition, hypothyroidism,



hyperthyroidism, previous injury, and dehydration. If left untreated the condition can lead to secondary bacterial and fungal infections. Determining the cause of dysecdysis is essential in preventing the condition from recurring with future sheds.

It is always essential the hobbyist learn about the normal geographical region when acquiring any reptile. Tropical species require a higher humidity while desert species require lower levels. Certain substrates such as orchid or coconut bark hold moisture to increase humidity while dry sand and crushed walnut lower the humidity level. Cage furniture such as rocks and branches provide roughened surfaces for the reptile to start and complete their shed. Unfortunately, many reptiles are housed in enclosures far too small for normal activity resulting in difficulty removing the dead layer of skin. Additionally, in nature reptiles have ranges of habitat allowing them to seek out areas of differing humidity levels prior to a shedding cycle. Many desert species will burrow into the soil to deeper layers with higher humidity levels prior to a shed.

A normal shedding cycle will take 7-14 days. At the start the snake will have a dull appearance as the surface scales begin to die off and lose their color. At this time the deeper layer is not fully developed and any attempt to remove the skin could result in damage to the deeper layers. Frequent soaking or misting of the reptile at this time will help promote a healthy shed. Many owners will add a humidity box to the enclosure at this time. These can be easily constructed using a small sweater box or similar container, filled with damp sphagnum moss, with a hole cut out to allow the snake access. Reptiles will rarely eat during a shed and the feeding cycle will need to be adjusted. As the process continues the eyes will develop a bluish tint. The reptile's vision will be impaired and care should be taken when handling the animal to avoid unnecessary

striking. Eventually the reptile will begin rubbing its head on a cage item to help initiate the shed.

Once the shed is completed the reptile should be thoroughly examined to insure the shed was complete. Often snakes and some geckos will have retained spectacles or eye caps, while lizards will retain rings of skin around their limbs, toes, or tail. Care should be taken when removing a retained spectacle to prevent damage to the eye itself, additionally, some species of snakes such as the ball python will normally have wrinkled appearance to their spectacles. Attempting to remove a spectacle in this case would result in permanent damage to the reptile's eye. A cotton-tip applicator or ear swab coated with mineral oil along with mild pressure in a circular pattern will often loosen and remove a retained spectacle. Retained shed around a limb, toe, or tail should be removed quickly to prevent the item from becoming a tourniquet and leading to atrophy or sloughing of the affected area. Warm water soaking for 15-30 minutes followed by using tweezers or forceps will allow the owner to remove any retained skin. This procedure can also be used to remove retained scutes from turtles.

Providing a humidity box within your reptile's enclosure can sometimes prevent shedding issues. To make a humidity box, first obtain a plastic, Tupperware® style container, large enough for the reptile to fit inside comfortably. Next cut a hole out of the top to allow the reptile access. Fill the box with sphagnum moss and dampen with water. The water should be enough to make the moss damp, excess water can be easily removed by tipping the box on it side and allowing the excess water to drain. Place the box on the warm side of the enclosure, either under a heating device like a heating pad or tape, or by a basking light. The higher temperature will allow humidity to form inside the box.

Frequent shedding can be caused by external parasites causing irritation to the reptile's skin. Additionally there have been some reports of hyperthyroidism in snakes resulting in frequent shedding. This will require a veterinarian to help diagnose and treat. Remember, dysecdysis is related to another ongoing problem with the reptile. Thorough history and diagnostics are necessary to identify the problem to prevent additional damage to the reptile in the future.

References:

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- 3.) Mader, Douglas: Dysecdysis: Abnormal Shedding and Retained Eye Caps. In Reptile Medicine and Surgery, W.B. Saunders Company, 1996.

