



In the case of albinos, breeders have reported both overheating and eye burns as the result of exposure to high-intensity lighting. Other effects may be apparent from their behaviour. If you have kept



Q Please put my mind at rest. Is it safe to use UV lighting with albino reptiles, and those which have red eyes?

A The first thing to say is that reptiles, like birds, see different wavelengths of light to ourselves, with their vision being described as tetrachromatic. The two UV components of significance are UVA, which acts as a true "light" for reptiles, and UVB, which has significant metabolic effects.

The effects of UVB on albino animals

All reptiles are sensitive to UVB, with those which become active at dusk tending to have thinner skins. There have been studies to show that even the house gecko (*Hemidactylus frenatus*) which is practically nocturnal can produce massive amounts of vitamin D₃ in a very short time under low light conditions. This is because of its thinner and more translucent skin. The lack of melanin pigment has a similar effect in the case of albino reptiles.

Lighting can potentially be a problem for them. It is commonly accepted that their skin is much more sensitive to UVB than their normally-coloured counterparts.

you know they tend to be snappier than the normal form. This may be a defensive mechanism because they are not seeing as well in brightly-lit surroundings. If I was keeping any albino or pale-coloured morph of any species of reptile, I would be very careful with regard to both temperature and lighting.

I would select a UVB percentage that is one phase lower than for normally-coloured individuals, or the minimum UVB output lamp. In the case of Arcadia lamps, this would be 2 per cent UVB. I think that this should be fine for all pale morphs of snakes and crepuscular lizards. If the animal appears uncomfortable, provide more decorations in the enclosure or increase the distance between the lamp and the animal. Remember that it actually impossible to provide too much UVB from a commercially-available UV lamp with stable quality wavelengths, as the animal has a dumping system, which protects it.

UVB is necessary for the production of essential hormones and thus impacts on patterns of behaviour and readiness for breeding among other things. It is possible to cause harm to reptiles by overdosing with synthetic vitamins though, and you need to be particularly careful when using high powered UV lighting, if you are also supplementing their diet with Vitamin D₃ as well.

of this study will be very interesting and relevant to the care of these reptiles.

Albinos (amelanistic animals) have no protective melanin pigment in the iris of the eye, just as they have no melanin in the skin, and none in the retinal layers of the eye either. The red colour of their eyes is simply caused by the presence of circulating blood here. Without the protection of melanin, their eyes are very sensitive to bright light. This helps to explain why colour morphs of this type may have trouble finding food when kept in brightly-lit surroundings, especially when they are young and are adjusting to the light. It may also be a reason as to why young amelanistic corn snakes (*Pantherophis guttatus*) may be seemingly reluctant to feed at first. Nevertheless, I still believe that all reptiles will benefit from UV lighting in the right quantity. I would rather have a 2 per cent UVB lamp, whose output is diffused behind decoration, thereby providing reflected and transferred UV, than none at all.

Use low-level lighting to increase the chances of feeding and breeding. If the animal in question could be unhappy with the lighting, reduce the intensity by using more plants and providing extra hides. In very rare cases, the animal may be better off with very limited exposure. Use a timer on the lighting to minimize the exposure to bright light. There should not be a problem with regards to Vitamin D₃ synthesis as it seems the skin of albino reptiles is particularly sensitive to UVB and will produce all the components needed for D₃ production in a shorter time scale. Finally, always watch your animals' behaviour. If they are acting strangely, do not immediately assume it is the lighting, as they may simply be feeling insecure in their quarters.

John Courtney-Smith



UVA and its impact on the eyes of albino reptiles

This is an incredibly complex area but basically, the eyes of albino reptiles are twice as sensitive to UVA as those of normally-coloured individuals. There is a research project at present where scientists are studying the eyes of as many species of lizard as possible, to determine exactly how each species sees, and how different light parameters affect their vision. The results

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