

QUESTIONS & ANSWERS



DO YOU NEED A HELPING HAND OR ADVICE?

Email your queries to prk.ed@kelsey.co.uk or write to the address on page 66. A selection of submitted questions will appear here every month, and a prize of Vetark products will be awarded to the writer of the Star Question. Regrettably, replies can only be given through this column, and if you are worried about the health of your animal, seek veterinary advice without delay.



Bosc's monitor is also called the savanna monitor, reflecting the fact it occurs in relatively open country, where it is exposed to high intensity sunlight

Monitor lighting



into the body.

I read a report very recently that suggests that many human bone conditions, autoimmune diseases and even autism can be linked in western cultures to a critical lack of D₃ in the blood. It is also worth pointing out that associated health problems linked with a Vitamin D₃ deficiency simply do not occur in reptiles in the wild, unlike those kept in vivarium surroundings.

Exposure to UVB for the production and utilisation of D₃ is extremely important, but it is only one of hundreds of other changes in the body associated with exposure to the sun. We are only still just learning how important the relationship is, between sunlight and reptiles of all species. The sun not only warms these exothermic wonders but also enables them to thrive rather than just survive in the wild.

Seeing the world differently

There is another reason though, as to why a UV source should be provided in your lizard's quarters. UVA, the other beneficial part of the UV spectrum present in reptile lighting, is also essential for reptiles. We know beyond all doubt that reptiles, amphibians and birds are tetrachromats, based on a study of the structure of their eyes. Without exposure to UVA, the animal simply cannot see as nature intended.

Humans can recognise around one million colours, whereas tetrachromats, with the addition of the fourth cone cell, can detect 100 million colours!! They can actually see UV, which in turn enables them to decide how and where to bask in the wild. Even if its diet is imbalanced, a monitor in the wild will be able to determine gradients of UV and make up any shortfall through natural regulation, by sunbathing.

Inadequate lighting can therefore still be a potential cause of non-feeding in reptiles, particularly in the case of wild-collected or captive-farmed individuals. Without an adequate UV light source, the fact is that they cannot recognise their food source properly. For example, we know that green iguanas see light yellow flowers as bright luminous pink and red!! This is nature's way of helping an animal to find food, as well as mates.

So, yes, you should use UV lighting for your monitor in my view, based on the data that we have collated here at Arcadia. A final thought - it is easily possible to detect a 15% drop in calcium levels in the body of a reptile or amphibian, as reflected by a decrease in bone mass that can be picked up by an x-ray, without any clinical signs of illness being evident. Yet this shortfall is likely to be having hidden, adverse impacts on its general health and reproductive capability.

John Courteney-Smith



Please give me your thoughts about whether I should provide ultra violet (UV) lighting for my Bosc's monitor. The advice that I've received to date has differed dramatically!

It's true that Bosc's monitors (*Varanus exanthematicus*) have not been kept under high strength UVB lighting in the past. The thinking behind this approach was that these omnivorous lizards would obtain all the Vitamin D₃ they needed from their food and the use of supplements.

A wild diet of invertebrates, including hard-shelled species, small mammals caught mainly by raiding nests, plus birds, birds' eggs, carrion and some vegetation offers plentiful variety. But this is not reflected in most diets for captive animals, where the focus is based on just one or two commercially-bred species. The corresponding lack of nutritional variety can cause a serious shortfall, in terms of the monitor's vitamin and mineral intake, leading to the need for supplementation.

When deciding if a captive reptile would benefit from a UV lighting system, start by

analysing its wild habitat and the UV index within its range. These monitors occur over a wide area, extending from southern Africa, northwards and westwards to Ghana, with a high collective UV index throughout their range.

In addition, this is a diurnal and sometimes arboreal animal, active during the day and used to spending long periods in areas of full sun and partial shade. Bosc's monitors have even developed a thick skin, which protects them from the risk of damage caused by exposure to the sun's rays. Everything about their lifestyle and physical appearance indicates that exposure to high levels of sunlight is routine.

The statement that we at Arcadia live by is if there is any way whatsoever, no matter how small, that a wild reptile could or would have exposure to natural sunlight in the wild, then this can only be of benefit if supplied in the correct way in captivity.

So let's consider UV in more detail, because it is now clear that its beneficial impacts extend far beyond what used to be thought. Reptiles, birds and humans all require exposure to natural sunlight to produce vitamin D₃ through the D₃ cycle. UVB is the starting point for vitamin D₃ production, which regulates calcium absorption



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