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*The Bio Dude – December 2020*

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Reptiles are incredibly attuned to and dependent on the conditions of their natural habitat: temperatures, humidity, landscape, etc. So, one of the goals of keeping reptiles is replicating that habitat as closely as possible.

Here's the thing, though: nature isn't static — it's dynamic. Nature is constantly in flux, from changes in the weather to changes in the landscape itself. But it also has some predictable cycles. For example, over the course of one year, a certain area will experience a dry season and a wet season, rise and fall in temperature, and increase and decrease in day length.

One of the ways you can replicate these natural cycles is by paying attention to and fine-tuning your reptile's photoperiod.

### **What is photoperiod?**

Photoperiod is the amount of light received per day, usually from sunrise to sunset — in other words, it's the length of a day

### **How photoperiod affects reptiles**

In nature, heat, UVA, UVB, and visible light all come from one source: the sun. For reptiles, the appearance of the sun means warmth and UVB. Diurnal and nocturnal reptiles alike structure their entire lives around the presence or absence of the sun respective to their ecological niches.

These daily and yearly fluctuations in light are so reliable that they provide a calendar for reptiles to set their internal clocks to. This "internal clock" is actually hormones. Hormones regulate most bodily processes, including determining when it's time to mate and when it's time to sleep. Because hormone levels are so closely tied to environmental factors like photoperiod, something as simple as how long you leave the lights on can determine success or failure in a breeding project.

Mader's *Reptile Medicine & Surgery* (2006) warns that, "in general, day length and temperature should be decreased during the winter months. Failure to do so often results in reproductive failures or disease in many reptiles. Present hypothesis shows that inappropriate photoperiod and temperature fluctuations result in repeated reproductive failure."

Paying attention to photoperiod isn't just for breeders, however. Reproductive rhythms seem to be closely tied to immune function, and furthermore, inappropriate photoperiod is speculated to contribute to obesity.

### **How to determine your reptile's ideal photoperiod**

It's not good enough to simply turn on your reptile's lights when you wake up and turn them off when you go to sleep. Even if you sync your reptile's lights to local sunrise and sunset times, that's better, but still not there. Different parts of the world have different day lengths and annual cycles, and that influenced your reptile's biology over the course of evolution. In other words, the local cycles of its "hometown" are hardwired into your pet's DNA.

To determine your reptile's ideal photoperiod, head to [iNaturalist.org](http://iNaturalist.org) and find a wild observation of a live, healthy member of your reptile's species that is roughly in the middle of its distribution range.

Note the location, then plug that city in to [TimeandDate.com](http://TimeandDate.com) or a similar site to find local sunrise and sunset data for the current date. Note that if you live in the northern hemisphere but your reptile is from the southern hemisphere, you will need find the equivalent date in your current

season to determine how many hours of light your reptile should be getting right now. For example, if it's November 27th, then it's Autumn in the northern hemisphere, but Spring in the southern hemisphere, so you'll need to look at the sunrise and sunset data for June 27th. This is because reptiles tend to react to local barometric pressure, and barometric pressure changes with the seasons.

You will need to update this every so often to actually create a cycle for your reptile to benefit from. You don't have to update the day length every day, but once a week to twice a month should be enough to yield benefits.

Make sure to turn on all daytime lights and heat sources at the same time – they all happen at the same time in nature, so it's best to keep them together in your reptile's enclosure.

### **Meet digital timers, your new best friend**

If you don't want to race to your reptile's enclosure every time you need to turn the lights on or off, then you'll need some help. Digital timers are the perfect way to control your reptile's photoperiod by programming lights to turn on or off at a specified time. You can use a standard digital outlet timer like the GE 7-Day Programmable Power Strip, or you can use a smart plug like the Kasa Smart Plug, which can be programmed via your phone.

Sometimes lamps come with built-in timers, like the Fluval Plant Spectrum Bluetooth LED lighting system. This has an integrated timer and is capable of providing a full 24-hour light cycle and customizable color spectrum for different times of day. However, it doesn't seem to be able to auto-regulate itself based on a given location.

As of yet, we're still waiting on technology that will time lights according to a given set of coordinates. Hopefully that option becomes available in the hobby soon!

### **Conclusion**

Once you have the basics taken care of, turn your attention to the finer points of reptile husbandry, such as photoperiod. A reptile's health is often directly connected to the conditions it lives in, so refining your approach to husbandry will help your pet enjoy better overall wellbeing.

*Image by [Amine Tabia](#) from [Pixabay](#).*

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