

#1 in reptile lighting



**FREE**

**REPTILE  
LIGHTING  
GUIDE**

**2nd edition**



Reptisun Compact  
Fluorescents



Reptisun 5.0 & 10.0  
& Iguana Light Linear  
Fluorescents



Powersun Mercury  
Vapor Lamp

## INTRODUCTION

The key to healthy and happy reptiles in captivity is approximating the conditions that they would experience in their natural habitat. In the wild, many species are dependent upon natural sunlight for several aspects of their health. Most terrarium animals do not have access to unfiltered sunlight, but fortunately, artificial light sources can be used to provide for the needs of most species. This guide is broken into sections based on animal types and their relationships with the sun in the wild.

## UNDERSTANDING BASIC REPTILE LIGHTING

The following is a basic explanation of some relevant lighting terminology:

**UVB** is an invisible kind of "light," present in natural sunshine, which is important for many animals in captivity. UVB causes a reaction in the skin that produces active vitamin D<sub>3</sub>. The D<sub>3</sub> is necessary for proper calcium metabolism, and without it, animals will suffer from Metabolic Bone Disease (MBD). Providing UVB lighting is the safest way to get D<sub>3</sub> to your animal, since overdose is impossible, unlike with dietary D<sub>3</sub> supplements, drops, etc. that can be harmful. Incandescent heat lamps cannot produce UVB, so a fluorescent or mercury vapor lamp must be used to provide it.

**UVA** is also a group of light wavelengths that are invisible to humans; however, many animals, including some reptiles, can see UVA and use its visual cues to identify food, mates, rivals, and other important things. For this reason, providing UVA to captive reptiles often stimulates feeding, breeding, and generally more natural behavior.

**Metabolic Bone Disease (MBD)** affects reptiles and amphibians, and can be caused by a lack of UVB

---

Copyright ©2005 Zoo Med Laboratories, Inc.

All rights reserved. No part of this book may be reproduced in any form without the permission of Zoo Med Laboratories, Inc.

exposure, vitamin D<sub>3</sub>, and calcium. Symptoms of MBD include noticeable bone deformities, soft jaws, and an inability to walk or move normally. While most snakes and amphibians get all of the vitamin D<sub>3</sub> and calcium that they need for normal life functions from their diet, many reptiles require access to UVB in order to adequately synthesize vitamin D<sub>3</sub> in their skin. Vitamin D<sub>3</sub> plays an important role in calcium metabolism, which is necessary for the growth and maintenance of strong, healthy bones.

**Visible light** is just that: visible. It is the light that, as humans, we are most familiar with since it is what our eyes can see. Visible light is important to terrarium animals because it establishes normal day and night cycles. Lack of a correct photoperiod (light time) can be quite stressful to some reptiles and amphibians.

**Infrared** is essentially heat radiation, and it is invisible to the human eye. Infrared bulbs and Ceramic Heat Emitters give off infrared with little or no visible light in order to provide heat without disturbing nocturnal behavior or sleeping in captive animals.

A **thermal gradient** is a variance in temperature from one place to another. Specifically, in our applications it means that it is warmer at one end of a cage than at the other. With an appropriate thermal gradient, an animal can change its position in the enclosure in order to regulate its body temperature. In order to accomplish this, heaters are usually concentrated in one area of the cage, while another area is left cooler.

**“Full spectrum”** is a term that has come to represent the full visible spectrum, and does not necessarily include any UV wavelengths, though many “full spectrum” bulbs do produce some UVA. It should never be assumed that a lamp produces any UVB unless it specifically states it on the packaging.

**Flood lamps**, as the name implies, flood an area with a wide spread of heat and light. **Spot lamps**, on the other hand, focus their output into a tight beam in order to concentrate it on a particular spot.





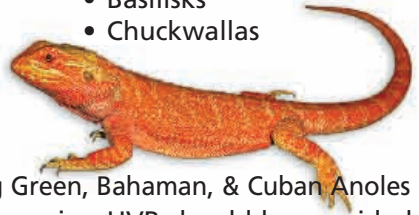


## LIZARDS: DIURNAL (DAYTIME ACTIVE)

This category encompasses a wide variety of lizard species that naturally bask in sunlight, including essentially all vegetarian lizards and many more. These creatures use the heat from the sun to regulate their body temperature, and they utilize UVB radiation from the sun to produce the vitamin D<sub>3</sub> that they need to properly metabolize calcium. Without the invisible UVB wavelengths, these species of lizards will eventually suffer from a calcium deficiency known as Metabolic Bone Disease (MBD); no matter how much calcium they receive in their diet. UVA is also important as it stimulates feeding, breeding, and other normal behavior patterns.

Lizards in this category include the following species:

- All Iguana Species
- Plated Lizards
- Bearded Dragons
- Uromastix
- Water Dragons
- Frilled Dragons
- Day Geckos
- Most Monitors
- All Anoles including Green, Bahaman, & Cuban Anoles
- Horned Lizards
- Tegus
- Basilisks
- Chuckwallas



For most of these species, UVB should be provided using Zoo Med's ReptiSun 5.0 or 10.0, Iguana Light 5.0, or PowerSun UV mercury vapor lamp. The fluorescent bulbs are available in both linear fluorescent and compact fluorescent forms. Some reptiles may need increased UVB radiation including desert species, some tropical species, and reptiles housed in larger terrariums. Zoo Med's ReptiSun 10.0 linear and compact fluorescents provide greater amounts of UVB for these reptiles. Zoo Med's PowerSun UV mercury vapor lamp provides daytime heat in addition to UVB, but the fluorescent bulbs should be used in combination with an independent heat source such as the Repti Basking Spot Lamp, Repti Halogen, Nightlight Red, or Repticare Ceramic Heat Emitters to establish an appropriate thermal gradient.

## LIZARDS: NOCTURNAL (NIGHTTIME ACTIVE)



In this category are all of the lizard species that, in

the wild, would sleep or hide during daylight hours, and consequently would not receive significant sunlight exposure. These creatures have evolved efficient ways to procure and use vitamin D<sub>3</sub> in order to do without the UVB in natural sunlight.

Lizards in this category include the following species:

- Most Geckos including Leopard, Tokay, Fat Tail, House, and Crested Geckos
- Night Lizards
- Some Skinks

While these creatures may not require UVB, they may benefit from the use of a full spectrum lamp like the ReptiSun 2.0 to establish a normal day and night cycle (photoperiod). Heat can be provided in many ways including Under Tank Heaters and Ceramic Heat Emitters. If lamps are to be used, we usually recommend the Nocturnal Infrared Heat Lamp or the Nightlight Red because they are good 24-hour heat sources that will not disturb the nocturnal behavior of these lizards.



## TURTLES & TORTOISES

In nature, most turtles and tortoises require exposure to significant levels of sunlight in order to maintain proper vitamin D and calcium levels. In captivity, turtles and tortoises require exposure to UVB, in addition to the correct thermal gradient in order to avoid developing Metabolic Bone Disease. Tortoises, being primarily vegetarians, do not obtain vitamin D<sub>3</sub> from their diet as plants do not contain preformed vitamin D<sub>3</sub>. For this reason, vegetarian species must “make” their own vitamin D<sub>3</sub> in a process that requires UVB exposure, heat and diet. UVA is also important in stimulating feeding, breeding, and other normal behavior patterns.

UVB is critical for all turtles and tortoises in captivity, including:

- Red Eared Sliders
- Sulcata (Spur Thigh) Tortoises
- Leopard Tortoises
- Russian Tortoises
- Painted Turtles
- Musk Turtles
- Box Turtles





For most of these species, UVB should be provided using Zoo Med's ReptiSun 5.0 or 10.0, or PowerSun UV mercury vapor lamp. The fluorescent bulbs are available in both linear fluorescent and compact fluorescent forms. Some reptiles may need increased UVB radiation including desert species, some tropical species, and reptiles housed in larger terrariums. Zoo Med's ReptiSun 10.0 linear and compact fluorescents provide greater amounts of UVB for these reptiles. Zoo Med's PowerSun UV mercury vapor lamp provides daytime heat in addition to UVB, but the fluorescent bulbs should be used in combination with an independent heat source such as the Repti Basking Spot Lamp, Repti Halogen, Nightlight Red, or Repticare Ceramic Heat Emitters to establish an appropriate thermal gradient.

## SNAKES



- Corn and Rat Snakes
- Boas and Pythons
- Garter and Green Snakes
- Kingsnakes and Milk Snakes
- Gopher Snakes, Pine Snakes, and Bullsnakes
- Racers and Whipsnakes



Due to their unique biology, most snakes do not require significant amounts of UVB in order to maintain correct vitamin D and calcium levels. Heat is the primary concern with snakes, and it can be provided in many ways including Under Tank Heaters and Ceramic Heat Emitters. If lamps are to be used for snake heating, we usually recommend the Nocturnal Infrared Heat Lamp or the Nightlight Red because they are good 24-hour heat sources that will not disturb the nocturnal behavior of snakes. During the day, a ReptiSun 2.0 will provide for excellent viewing and also establish a normal photoperiod.

## AMPHIBIANS

While most amphibians may not require UVB, they may benefit from the use of a full spectrum lamp like the ReptiSun 2.0 to establish a normal photoperiod (day and night cycle). Beneficial UVA wavelengths also play an important role in stimulating feeding, breeding, and other normal behavior patterns of amphibians. In addition, the full spectrum of light cast by the ReptiSun 2.0 will showcase your amphibian's vibrant colors. If lamps are to be used



for heating, we usually recommend the Daylight Blue or the Nightlight Red, because amphibians do not really bask, and a flood lamp may contribute less to drying them out than a spot lamp would.

- Tree Frogs
- Pac Man Frogs
- Newts
- Salamanders

Some frog species, like dart frogs and mantellas, are very active during the day, and may benefit from exposure to UVB from the ReptiSun 5.0.



## BIRDS

Until recently, the needs of birds with respect to lighting were not well understood. We now know that most birds benefit from UVB and UVA lighting. Like some reptiles and amphibians, many birds have specialized retinas that allow them to see UVA. This is important in allowing birds to recognize mates, locate food, and identify different bird species. When these birds are not supplied with UVA lighting, they are not able to see the full spectrum of colors that they experience in nature. This is similar to the condition of color blindness in humans.

In addition, researchers have found that most birds require UVB in order to synthesize vitamin D<sub>3</sub>, which is important in calcium metabolism. Most birds have a special gland that secretes vitamin D precursors, which is spread on their feathers when they preen. When this secretion is exposed to UVB, the vitamin D precursors are then converted to active vitamin D<sub>3</sub>. The active vitamin D<sub>3</sub> is then ingested upon further preening. This amazing process is important in the growth and maintenance of strong bones, in addition to producing eggs with strong shells.







Lamp: **ReptiSun 5.0, ReptiSun 10.0, Iguana Light 5.0**

Type: Fluorescent Tube

Primary Function: UVB for vitamin D<sub>3</sub> synthesis

Added Benefits: Full spectrum light and UVA, no heat emitted

Notes: These lamps provide the necessary UVB wavelengths for Diurnal Lizards, Turtles, Tortoises, and some Birds. Use the ReptiSun 10.0 with desert species of reptiles, with large terrariums, and above screen covers which filter out up to 30% of the emitted UVB.

### ReptiSun 5.0 UVB Linear Fluorescent

15"	Item# FS-15	T8	14W
18"	Item# FS-18	T8	15W
24"	Item# FS-24	T12	20W
36"	Item# FS-36	T12	30W
48"	Item# FS-48	T12	40W

### ReptiSun 10.0 High Output UVB Linear Fluorescent

18"	Item# OS-18	T8	15W
24"	Item# OS-24	T12	20W
36"	Item# OS-36	T12	30W
48"	Item# OS-48	T12	40W

### Iguana Light 5.0 UVB Fluorescent

15"	Item# FI-15	T8	14W
18"	Item# FI-18	T8	15W
24"	Item# FI-24	T12	20W
36"	Item# FI-36	T12	30W
48"	Item# FI-48	T12	40W



Lamp: **ReptiSun 5.0 UVB Tropical/ReptiSun 10.0 UVB Desert**

Type: Self-Ballasted Compact Fluorescent Lamp

Primary Function: UVB for vitamin D<sub>3</sub> synthesis

Added benefits: Provides UVB in a compact form, eliminating need for long hoods and external ballasts. Threaded base screws into standard light socket. Great for terrariums and bird cages with arched tops or reduced surface area making it difficult to mount linear fluorescent fixtures.

### ReptiSun 5.0 UVB Tropical

26 Watt Compact Fluorescent      Item# FS-C5

### ReptiSun 10.0 UVB Desert

26 Watt Compact Fluorescent      Item# FS-C10





Lamp: **ReptiSun 2.0**

Type: Fluorescent Tube

Primary Function: Full spectrum and UVA light

Added Benefits: Can stimulate more natural behavior and create a natural day/night cycle, no heat emitted

Notes: Use this lamp during the day for animals that do not require higher amounts of UVB like most amphibians, snakes, and nocturnal Lizards.

### ReptiSun 2.0 Fluorescent

15"	Item# ES-15	T-8	14w
18"	Item# ES-18	T-8	15w
24"	Item# ES-24	T-8	18w
36"	Item# ES-36	T-8	30w
48"	Item# ES-48	T-8	36w



Lamp: **PowerSun UV**

Type: Mercury Vapor Lamp

Primary Function: High intensity UVB

Added Benefits: Full spectrum light, UVA, and heat

Notes: This lamp is for large enclosures and animals that require large amounts of UVB like Iguanas, large Tortoises, Bearded Dragons, and more. It can be used in place of the ReptiSun 5.0 to provide UVB.

### PowerSun UV

100 Watt Flood	Item# PUV-11
160 Watt Flood	Item# PUV-10

Lamp: **Repti Basking Spot Lamp**

Type: Incandescent Spot

Primary Function: Heat

Notes: This lamp's unique patented double reflector focuses 35% more heat and light into a tight beam. Its focused output is ideal for creating a high temperature basking area for diurnal reptiles.

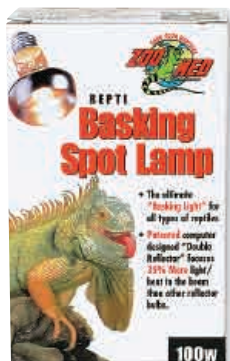


### Repti Basking Spot Lamp

25 Watt	Item# SL-25
50 Watt	Item# SL-50
75 Watt	Item# SL-75
100 Watt	Item# SL-100
150 Watt	Item# SL-150
250 Watt	Item# SL-250

### 2-bulb value packs

50 Watt	Item# SL2-50
75 Watt	Item# SL2-75
100 Watt	Item# SL2-100



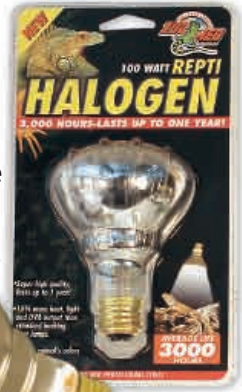
Lamp: **Repti Halogen**

Type: Halogen Incandescent Spot

Primary Function: Heat

Added Benefits: Long life, full spectrum light

Notes: This specially designed halogen lamp produces intense heat and up to 15% more light than comparable reptile basking lamps. The white and more balanced light output makes animals' colors appear richer.



**Repti Halogen**

- 50 Watt           Item# HB-50
- 75 Watt           Item# HB-75
- 100 Watt         Item# HB-100
- 150 Watt         Item# HB-150



Lamp: **Daylight Blue**

Type: Incandescent Flood

Primary Function: Heat

Added Benefits: Full spectrum light, true blue glass (not painted or coated) for better heat transfer

Notes: This flood lamp is great for hoods with horizontally mounted fixtures where spot lamps will not work. Use the Daylight Blue for daytime heating of the ambient air in an enclosure. It is also ideal for all non-basking pets like invertebrates and amphibians.



- 15 Watt           Item# DB-15
- 25 Watt           Item# DB-25
- 40 Watt           Item# DB-40
- 60 Watt           Item# DB-60
- 100 Watt         Item# DB-100
- 150 Watt         Item# DB-150

**Daylight Blue**



Lamp: **Repticare Ceramic Heat Emitter**

Type: Flat-faced porcelain heating device that screws into a standard porcelain incandescent socket

Primary Function: Infrared heat source

Added Benefits: No light emitted, water resistant, long life (lasts up to five years!)

Notes: The ceramic heat emitter provides a 24 hour heat source without



disturbing the animal's normal photoperiod (day-night cycle). Flat-faced design is more efficient than conical designs in that it leaves less heat inside the emitter which will ultimately carbonize the element. Use in conjunction with ReptiSun UVB and Iguana Light UVB fluorescent bulbs to provide the correct thermal gradient. Ideal heat source for lizards, snakes, turtles, tortoises, amphibians, birds, and invertebrates.

Lamp: **Nocturnal Infrared Heat Lamp**

Type: Incandescent Spot

Primary Function: Heat (24 hour heat source)

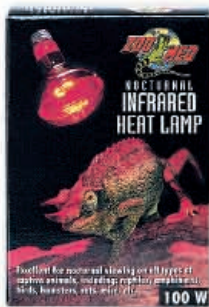
Added Benefits: Low visible light output, true red glass (not painted or coated) for better heat transfer

Notes: This lamp's spot reflector focuses more heat into your enclosure and minimizes nighttime glare. Create a "hot spot" at night without disrupting the natural day and night cycle. This lamp will allow observation of nocturnal behaviors without disturbing them.



**Nocturnal Infrared Heat Lamp**

50 Watt	Item# RS-50
75 Watt	Item# RS-75
100 Watt	Item# RS-100
150 Watt	Item# RS-150
250 Watt	Item# RS-250



Lamp: **Nightlight Red**

Type: Incandescent Flood

Primary Function: Heat

Added Benefits: Low visible light output, true red glass (not painted or coated) for better heat transfer

Notes: This flood lamp is great for hoods with horizontally mounted fixtures where spot lamps will not work. Use the Nightlight Red for 24-hour heating of the ambient air in an enclosure since its low visible light emissions will not disturb nighttime behaviors. Combine the Nightlight red with a daylight type of bulb for viewing and/or added heat during daylight hours.

**Nightlight Red**

15 Watt	Item# NR-15
25 Watt	Item# NR-25
40 Watt	Item# NR-40
60 Watt	Item# NR-60
100 Watt	Item# NR-100





# REPTILE/AMPHIBIAN LIGHTING APPLICATION CHART

## LIGHTING AND HEATING SOURCES

- ▲ = UVB, UVA, visible light
- = UVA, visible light
- ◆ = daytime heat source
- = 24 hour heat source

### Turtle/Tortoises

- Red Ear Sliders, Cooters (*Pseudemys sp.*)
- Painted, or Map Turtles (*Chrysemys sp.*)
- Musk or Mud Turtles (*Kinosternon sp.*)
- Soft Shell Turtles (*Trionyx sp.*)
- Box Turtles (*Terrapene sp.*)
- Tortoises (All species)
- Wood Turtles (*Rhinoclemmys/Geomyda sp.*)

	REPTISUN 5.0 UVB*	REPTISUN 10.0 UVB*	IGUANALIGHT 5.0 UVB	REPTISUN 2.0	POWERSUN UV	REPTI BASKING SPOT LAMP	REPTI HALOGEN	DAYLIGHT BLUE	REPTICARE CERAMIC HEAT EMITTER	NOCTURNAL INFRARED HEAT LAMP	NIGHTLIGHT RED
Red Ear Sliders, Cooters ( <i>Pseudemys sp.</i> )	▲				▲◆	◆	◆		■	■	
Painted, or Map Turtles ( <i>Chrysemys sp.</i> )	▲				▲◆	◆	◆		■	■	
Musk or Mud Turtles ( <i>Kinosternon sp.</i> )	▲					◆	◆		■	■	
Soft Shell Turtles ( <i>Trionyx sp.</i> )	▲					◆	◆		■	■	
Box Turtles ( <i>Terrapene sp.</i> )	▲				▲◆	◆	◆	●◆	■	■	■
Tortoises (All species)	▲				▲◆	◆	◆	●◆	■	■	■
Wood Turtles ( <i>Rhinoclemmys/Geomyda sp.</i> )	▲				▲◆	◆	◆	●◆	■	■	■

### Lizards

- Green Iguana (*Iguana sp.*)
- Desert Iguana (*Dipsosaurus sp.*)
- Bearded Dragon (*Pogona sp.*)
- Old World Chameleons (*Chamaeleo sp.*)
- Anoles (American Chameleon)(*Anolis sp.*)
- Basillisk (*Basiliscus sp.*)
- Water Dragons (*Physignathus sp.*)
- Monitor Lizards (*Varanus sp.*)
- Tegu Lizards (*Tupinambis sp.*)
- Uromastyx Lizards (*Uromastyx sp.*)
- Swift Lizards (*Sceloporus sp.*)
- Agama Lizards (*Agama sp.*)
- Ameiva Lizards (*Ameiva sp.*)
- Leopard Gecko (*Eublepharis sp.*)
- Crested Gecko (*Rhacodactylus sp.*)
- Tokay Gecko (*Gekko sp.*)
- Day Gecko (*Phelsuma sp.*)
- Gold Skink (*Mabuya sp.*)
- Blue Tongue Skink (*Tiliqua sp.*)

	REPTISUN 5.0 UVB*	REPTISUN 10.0 UVB*	IGUANALIGHT 5.0 UVB	REPTISUN 2.0	POWERSUN UV	REPTI BASKING SPOT LAMP	REPTI HALOGEN	DAYLIGHT BLUE	REPTICARE CERAMIC HEAT EMITTER	NOCTURNAL INFRARED HEAT LAMP	NIGHTLIGHT RED
Green Iguana ( <i>Iguana sp.</i> )		▲			▲◆	◆	◆		■	■	
Desert Iguana ( <i>Dipsosaurus sp.</i> )		▲			▲◆	◆	◆		■	■	
Bearded Dragon ( <i>Pogona sp.</i> )	▲				▲◆	◆	◆		■	■	
Old World Chameleons ( <i>Chamaeleo sp.</i> )	▲				▲◆	◆	◆		■	■	
Anoles (American Chameleon)( <i>Anolis sp.</i> )	▲					◆		●◆	■	■	■
Basillisk ( <i>Basiliscus sp.</i> )	▲				▲◆	◆	◆		■	■	
Water Dragons ( <i>Physignathus sp.</i> )	▲				▲◆	◆	◆		■	■	
Monitor Lizards ( <i>Varanus sp.</i> )	▲				▲◆	◆	◆		■	■	
Tegu Lizards ( <i>Tupinambis sp.</i> )	▲				▲◆	◆	◆		■	■	
Uromastyx Lizards ( <i>Uromastyx sp.</i> )	▲				▲◆	◆	◆		■	■	
Swift Lizards ( <i>Sceloporus sp.</i> )	▲				▲◆	◆	◆		■	■	
Agama Lizards ( <i>Agama sp.</i> )	▲				▲◆	◆	◆		■	■	
Ameiva Lizards ( <i>Ameiva sp.</i> )	▲					◆			■	■	
Leopard Gecko ( <i>Eublepharis sp.</i> )		●				◆		●◆	■	■	■
Crested Gecko ( <i>Rhacodactylus sp.</i> )		●				◆		●◆	■	■	■
Tokay Gecko ( <i>Gekko sp.</i> )		●				◆		●◆	■	■	■
Day Gecko ( <i>Phelsuma sp.</i> )	▲					◆		●◆	■	■	■
Gold Skink ( <i>Mabuya sp.</i> )	▲				▲◆	◆			■	■	■
Blue Tongue Skink ( <i>Tiliqua sp.</i> )	▲				▲◆	◆			■	■	

Contact Zoo Med with questions regarding your specific application.

\*Use Reptisun 10.0 with large terrariums, above screen covers, or with desert species.

Call or email Zoo Med at our USA address on the back of this booklet.

# LIGHTING AND HEATING SOURCES

- ▲ = UVB, UVA, visible light
- = UVA, visible light
- ◆ = daytime heat source
- = 24 hour heat source

## Snakes

	REPTISUN 5.0 UVB* REPTISUN 10.0 UVB*	IGUANALIGHT 5.0 UVB	REPTISUN 2.0	POWERSUN UV	REPTI BASKING SPOT LAMP	REPTI HALOGEN	DAYLIGHT BLUE	REPTICARE CERAMIC HEAT EMITTER	NOCTURNAL INFRARED HEAT LAMP	NIGHTLIGHT RED
Boas ( <i>Boa sp.</i> )			●				●◆	■	■	■
Pythons ( <i>Python sp.</i> )			●				●◆	■	■	■
Corn Snake ( <i>Elaphe sp.</i> )			●				●◆	■	■	■
Garter Snake ( <i>Thamnophis sp.</i> )			●				●◆	■	■	■
Green Snake ( <i>Opheodrys aestivus</i> )			●				●◆	■	■	■
Water Snake ( <i>Nerodia sp.</i> )			●		◆		●◆	■	■	■
Gopher Snake ( <i>Pituophis sp.</i> )			●		◆		●◆	■	■	■
Kingsnake ( <i>Lampropeltis sp.</i> )			●				●◆	■	■	■

## Amphibians

African Pixie Frog ( <i>Pyxicephalus adspersus</i> )			●				●◆	■		■
Leopard Frog ( <i>Rana pipiens</i> )			●				●◆	■		■
American Tree Frogs ( <i>Hyla sp.</i> )			●				●◆	■		■
Tropical Tree Frogs ( <i>Rhacophorus sp.</i> )			●				●◆	■		■
Whites Tree Frog ( <i>Litoria caerulea</i> )			●				●◆	■	■	■
Pac Man Frog ( <i>Ceratophrys sp.</i> )			●				●◆	■		■
Chubby Frog ( <i>Kaloula pulchra</i> )			●				●◆	■		■
Mantella ( <i>Mantella sp.</i> )			●				●◆	■		■
Arrow Frogs ( <i>Dendrobates sp.</i> )	▲		●				●◆	■		■
Fire Belly Newts ( <i>Cynops sp.</i> )			●				●◆	■		■
Tiger Salamander ( <i>Ambystoma sp.</i> )			●				●◆	■		■
Fire Salamander ( <i>Salamandra salamandra</i> )			●				●◆	■		■
Fire Belly Toad ( <i>Bombina orientalis</i> )	▲		●				●◆	■		■
American Toad ( <i>Bufo sp.</i> )			●				●◆	■		■
Red Eye Tree Frog ( <i>Agalychnis callidryas</i> )			●					■		■
Monkey Frog ( <i>Phyllomedusa sauvagei</i> )	▲							■	■	■

## Misc. Animals, Archnids, and Terrarium Plants

Tarantulas ( <i>Asst. Species</i> )			●				●◆	■		■
Praying Mantis ( <i>Asst. Species</i> )			●				●◆	■		■
Millipedes ( <i>Asst. Species</i> )			●				●◆	■		■
Hissing Cockroach ( <i>Gromphadorhina sp.</i> )			●				●◆	■		■
Stick Insects			●				●◆	■		■
Hermit Crabs ( <i>Pagurus armatus</i> )			●		◆		●◆	■		■
Live Terrarium Plants			●							

# AQUARIUM LIGHTING

In the aquarium hobby, the goal is usually to recreate an environment that is suitable for aquatic life and is interesting to view. Water quality and temperature are some of the primary concerns, but often lighting is overlooked. There are many different varieties of fish and other aquatic life available in the hobby today; some of them require specialized lighting, and some of them simply display much better under appropriate lighting. Having the right lamp on your tank can increase breeding success, accelerate growth, and enhance coloration in many aquatic organisms.

Zoo Med's aquatic bulbs are all German-made "T-8" fluorescents that provide more light while using less energy than standard fluorescents, and are effective for up to 10,000 hours.



## **UltraSun:** Appearance: *bright white light*

Use this bulb when you need clean white daylight in fresh or saltwater applications. The UltraSun will make the colors of your fish, plants, corals, etc. look very similar to the way that they would look in natural sunlight. The bright white light from this bulb will promote growth in plants and marine algae and allow for very natural and pleasing viewing.



## **TropicSun:** Appearance: *yellowish white light*

This is Zoo Med's most economical lamp. It is a less expensive alternative to the UltraSun, and still provides many of the same benefits to freshwater aquariums. The TropicSun is also available in a 12" size for very small tanks.



## **CoralSun:** Appearance: *very blue light*

If you have a saltwater tank with corals, anemones, macroalgae, or other specimens that rely on photosynthesis then you need an actinic lamp like the CoralSun in addition to a daylight bulb. The strong blue output of the CoralSun will promote photosynthesis as well as give your tank a deeper water look. Use in conjunction with an UltraSun or Ocean Sun.



## **FloraSun:** Appearance: *pinkish white light*

The Flora Sun promotes growth in freshwater live plants by



providing more of the light that they use for photosynthesis. Use this bulb together with the UltraSun or the TropicSun for the best viewing and growth in freshwater tanks.



**ReefSun: Appearance: white light**

A 50/50 combination of the CoralSun and the UltraSun in one lamp, the Reef sun is ideal for small marine tanks. It provides daylight as well as actinic light to boost photosynthesis. If you have saltwater animals that photosynthesize and you can only use one bulb, make it the ReefSun.



**OceanSun: Appearance: bluish bright-white light**

The 10,00K output of the OceanSun simulates deeper water environments and makes saltwater fish and corals appear as they would at reef depth in nature. It is a very “crisp” looking light that is perfect for saltwater fish, or in combination with the CoralSun for reef tanks.

- ▲ = A good choice for that tank type
- = An option, but not as good as ▲
- ◆ = Use these lamps in combination with other for that tank type

**AQUARIUM LIGHT SOURCES**

**Freshwater**

- Community Fish (livebearers, tetras, barbs, etc.)
- Live Plants (all)
- African Cichlids (zebras, peacocks, etc.)
- Very Shy Fish (discus, some dwarf cichlids, etc.)

	TROPICSUN	FLORASUN	ULTRASUN	CORALSUN	OCEANSUN	REEFSUN
Community Fish (livebearers, tetras, barbs, etc.)	●		▲			
Live Plants (all)		◆	◆			
African Cichlids (zebras, peacocks, etc.)		▲			▲	▲
Very Shy Fish (discus, some dwarf cichlids, etc.)	▲	▲				

**Saltwater**

- Community Fish (damsels, wrasses, angelfish, etc.)
- Large Predatory Fish (lionfish, groupers, puffers, etc.)
- Deep Water Fish
- Reef Tanks (live corals, macroalgae, etc.)
- Small Tanks w/single lamp that have some invertebrates

Community Fish (damsels, wrasses, angelfish, etc.)			▲		▲	
Large Predatory Fish (lionfish, groupers, puffers, etc.)			▲		▲	
Deep Water Fish					▲	
Reef Tanks (live corals, macroalgae, etc.)			◆	◆		
Small Tanks w/single lamp that have some invertebrates						▲



For our FREE Catalog of all  
Zoo Med products contact:

Zoo Med Laboratories, Inc.  
3650 Sacramento Drive  
San Luis Obispo, CA 93401  
Tel: (805) 542-9988  
FAX: (805) 542-9295  
email: [zoomed@zoomed.com](mailto:zoomed@zoomed.com)  
[www.zoomed.com](http://www.zoomed.com)

*In Europe, write to:*  
ZOO MED EUROPA  
Klein Hagelkruis 13  
2180 Ekeren Antwerpen Belgium  
Tel: +32 475 763 663  
email: [zoomed-europe@pandora.be](mailto:zoomed-europe@pandora.be)

*In Japan, write to:*  
Zoo Med Japan Co., Ltd.  
6-14-3 Sakae Cho  
Yaizu, Shizuoka 425 JAPAN  
email: [zoomedjpn@aol.com](mailto:zoomedjpn@aol.com)

ISBN 0-9652471-7-1



9 780965 247177

PRINTED IN U.S.A.



0 97612 35007 4

ITEM #ZB-70