

3D model set by Ken Gilliland

Nature's Wonders

Lizards of the World

Volume II

Manual	
Introduction	3
Overview and Use	4
Creating a Lizard	4
Using the Lizard Tail	4
Using Poses	5
Field Guide	
List of Species	0
Gila Monster	6
Southern Alligator Lizard	8
Black-necked Agama	9
Tokay Gecko	11
Resources, Credits and Thanks	13

Introduction

Lizards are a widespread group of reptiles with over 6,000 species. They are found on all continents, with the exception of Antarctica. Lizards differ from snakes in that most have feet and exterior ears. There are four infraorders in the lizard family (*Lacertilia*); Iguanas and Chamelons (*Iguania*), Geckos and Snake Lizards (*Gekkota*), Old World arboreal lizards (*Amphisbaenia*) and Skinks, Anguimorphs, and Venomous Lizards (*Autarchoglossa*).

Vision, including color vision, is particularly well developed in most lizards, and most communicate with body language or bright colors on their bodies, as well as with pheromones. Lizards are the most diverse species among extant non-avian reptiles. They can range from several centimeters in length (chameleons and geckos) to nearly three meters (Komodo dragon).

Many lizard species (including geckos, skinks, and others) are capable of shedding part of their tails through a process called "autotomy". This is an example of the "*pars pro toto*" principle which means sacrificing "a part for the whole". This tactic is employed by lizards to allow them to escape when a predator captures them by the tail. Lizard tails are often a different and dramatically more vivid color than the rest of the body so as to encourage potential predators to strike for the tail first. The detached tail writhes and wiggles, creating a deceptive sense of continued struggle, distracting the predator's attention from the fleeing prey animal.

The lizard will partially regenerate its lost tail over a period of several weeks.

Lizards are predominantly insectivorous, but some eat fruit, or vegetables. The crested gecko can feed entirely on fruit.

Most lizard species are harmless to humans. Only the largest lizard species, the Komodo dragon, has been known to stalk, attack, and, on occasion, kill humans. The venoms of the Gila monster and beaded lizard are not usually deadly, but they can inflict extremely painful bites due to powerful jaws. However the chief impact lizards have on humans is positive, as they are significant predators of pest species and numerous species of lizards are also prominent in the pet trade.

In some cultures lizard symbolism plays an important, though rarely predominant role:

- > In Aboriginal Australia, the Lizard Tarrotarro is considered a cultural hero.
- The Moche people of ancient Peru worshiped animals and often depicted lizards in their art.
- According to a popular legend in Maharashtra, in the Battle of Sinhagad, domesticated Indian monitor lizards, with ropes attached, were used to scale the walls of the Sinhagad fort; with the aide of the ropes, men were then able to climb the fort walls.

Overview and Use

This set uses a common model to recreate digitally the lizard species included in this volume. Each species uses specific morphs from the generic model to single-out it's unique features.

Creating a Lizard

- 1. Choose what you want to load. For this example, we'll create the Gila Monster.
- Load Poser or DAZ Studio. For Poser, select FIGURES and the Nature's Wonders Reptiles folder. DAZ Studio users will select the "Poser Formats"→ Your Runtime Location → "FIGURES" → "Nature's Wonders"→"Reptiles" folder.
- 3. To create a Gila Monster, use the "Nature's Wonders Lizard" base model.
- Go to the **POSES** folder and "Nature's Wonders "→ "Reptiles folder"→"Lizards". For DAZ Studio users, this will be found in the "Poser Formats" file section.
- 5. Select the Gila Monster (or a lizard of your choice) and load/apply it to the Lizard base model by clicking the mouse. This species pose contains both the morph and texture settings to turn the generic model into the selected lizard. It will automatically apply the correct DAZ Studio material settings if you are using DAZ Studio

Using the Lizard Tail

The Lizard Tail model is used to represent a behavior common in many lizard species in which they drop their tails to confuse predators. The tail model should be used in conjunction with the "LostTail" morph for the Lizard Base Model. See instructions below:

- 1. Load the Lizard Base and Lizard Tail Models.
- 2. Go to the **POSES** folder and apply the specific Lizard species you want to use to both the Lizard Base and the Lizard Tail Model.
- 3. Apply the "LostTail1" preset to the Lizard Base Model. This will automatically set the "LostTail" morph to "1" and load the Lost Tail Material.
- 4. Apply the "LostTail2" preset to the Lizard Tail Model to apply the Lost Tail Material.

In cases where you might want to return the Lizard to its original state (before the tail loss), simply reapply the lizard species to the model. **Note:** The Lost

Tail morph is not supported in Poser 9.

Using the Poses

The poses were designed for the default model. Since different individual species may use torso, neck, leg and tail scaling, it may alter the expected ground level of the species model. Some adjusting may be necessary (e.g. the "ytran" dial may need to be used to raise or lower the model).

DAZ Studio Iray Materials

DAZ Studio Iray materials have been included in this set. They are found in the Iray Versions subfolder in the Poses folder. The versions found in the main folder are 3D Delight Materials.



Gila Monster

Heloderma suspectum

This species is the largest extant lizard in the United States, measuring 51-56 cm (20-22 in) in total length. It's weight is typically in the range of 350-700 g (0.77-1.54 lb) with the largest specimens weighing as much as 2,300 g (5.1 lb). It is the only venomous lizard native to the United States and one of only two known species of venomous lizards in North America. The venom is similar to that of a coral snake, but is delivered in a much smaller dose, so it is rarely fatal to healthy adult humans. No reports of fatalities have been confirmed since 1939. The Gila monster can bite quickly (especially by swinging its head sideways) and hold on with a vise-like grip. Symptoms of the bite include excruciating pain, edema, and weakness associated with a rapid drop in blood pressure.



It is found in the Southwestern United States and Mexico, a range including Sonora, Arizona, parts of California, Nevada, Utah, and New Mexico (potentially including Baja California). They inhabit scrub-land, succulent desert, and oak woodland, seeking shelter in burrows, thickets, and under rocks in locations with ready access to moisture. They avoid living in open areas such as flats and farmland. Gila monsters spend 90% of their time underground in burrows or rocky shelters. The Gila monster emerges from hibernation in January or February and mates in May and June. The Gila monster eats small birds, mammals, frogs, lizards, insects, and carrion. It feeds primarily on bird and reptile eggs, and eats infrequently, five to ten times a year in the wild. When it does feed, it may eat up to one-third of its body mass. It uses its extremely acute sense of smell to locate prey, especially eggs.

The saliva of the Gila Monster has produced many medical breakthroughs... a synthetic version of a protein, exendin-4, derived from the Gila monster's saliva is used to control Type 2 Diabetes. Several companies have been researching the abilities of this chemical to help memory loss due to various diseases such as Alzheimer's disease, schizophrenia, and ADHD. Gilatide, derived from exendin-4, has been shown to dramatically heighten memory in a study with mice.

Habitat destruction has adversely affected Gila monster numbers. In 1952, they became the first venomous animal to be given legal protection.

Southern Alligator Lizard Elgaria multicarinata

It is native to the Pacific coast of North America, ranging from Baja California to the state of Washington. It is a large lizard, measuring up to 30 cm (12 inches) long. It lives in a variety of habitats including grasslands, chaparral, forests, and even urban areas. In dry climates, it is likely to be found in moist areas or near streams.

The scales of these lizards are keeled on the back, sides, and legs. They have



14 rows of scales across the back at the middle of the body. A band of smaller granular scales separates the larger scales on the back and stomach, creating a fold along each side of the animal. These folds allow the body to expand to hold food or eggs.

These lizards eat small arthropods, slugs, lizards, small mammals and occasionally young birds (such as wrentits, bushtits, quail) and eggs.

Black-necked Agama

Acanthocercus atricollis

It is a species of tree agama that measures about 20 cm (7.9 inches) in length. It is native to East, Central and southern Africa. Its largest continuous range is in southeastern Africa, and it occurs at high densities in the Kruger National Park. It is found in Eritrea, Somalia, Ethiopia, Sudan, South Sudan, Uganda, D.R.C., Kenya, Tanzania, Zambia, Malawi, Mozambique, Zimbabwe, Angola, Botswana, Namibia, South Africa and Swaziland.



They form structured colonies with a dominant male, several females and juveniles. The males defend territories and engage in combat. Although mostly diurnal, they sometimes exhibit nocturnal activity. It adapts readily to the

vicinity of human habitation. They are classic ambush foragers which spend only 4% of their time moving. This involves an average of less than one movement in two minutes. When stationary, the adults position themselves on lateral branches (42% of the time), on tree trunks (35% of the time), or occasionally on the ground (23% of the time).

They subsist on an insect diet, consisting of orthopterans, beetles and ants. They also eat millipedes, which other lizards tend to avoid. The juvenile's diet is dominated by ants.

Tokay gecko

Gekko gecko

The tokay gecko is a nocturnal arboreal gecko and can reach up to 35 cm (13.8) in length. It is native to Asia and some Pacific Islands; occurring in northeast India, Bhutan, Nepal, and Bangladesh, throughout Southeast Asia, including the Philippines and Indonesia, and to western New Guinea in Melanesia. It is an invasive species in the Florida Keys, however increasing urbanization is reducing its range.

Its native habitat is in rain forests, where it lives on trees and cliffs. It also has been known to adapt to rural human habitations; roaming walls and ceilings at night in search of insect prey. It feeds on insects and small vertebrates.



It is a strong climber with foot pads that can support the entire weight of the body on a vertical surface for a long period of time. Their mating call is a loud croak, variously described as sounding like "token,..gekk-gekk" or "poo-kay". Both the common and scientific name, as well as the family name and the generic term "gecko" come from this.

Tokay geckos are culturally significant in many East Asian countries. Regional folklore has attributed supernatural powers to the gecko. In Southeast Asia they are a symbol of good luck and fertility. They are also believed to be descended from dragons.

This gecko is quickly becoming a threatened species in the Philippines due to indiscriminate hunting. Collecting, transporting and trading in geckos without a license can be punishable by up to twelve years in jail and a sizable fine (1,000,000 Php). Unfortunately, the trade runs unchecked due to the sheer number of illegal traders and reports of lucrative deals. Chinese buyers and other foreign nationals are rumored to pay thousands of dollars for large specimens, because of their alleged medicinal value or as commodities in the illegal wildlife trade.

Special Thanks to...

....my betatesters (FlintHawk)

Species Accuracy and Reference Materials

The author-artist has tried to make these species as accurate to their real life counterparts as possible. Lizards of the same species vary considerably, as do all other animals in nature. These Lizards were created using the correct field markings and the most common similarities.

With the use of one generic model to create dozens of unique lizard species, some give and take is bound to occur. In addition, 3D-models have many technical challenges, which make exact representations difficult, if not impossible. It's best to think of these Lizards represented as resembling the particular species, and they may not, in some cases, be 100% scientifically accurate.

The model and morphs were created using Luxology's Modo. The texture maps were created in Corel's Painter. The model was rigged and materials were created in Smith-Micro's Poser and DAZ's DAZ Studio.

Internet Sources:

- Wikipedia (<u>http://www.wikipedia.com</u>)
- California Herps (<u>http://californiaherps.com</u>)
- San Diego Zoo (http://animals.sandiegozoo.org/animals/lizard)

