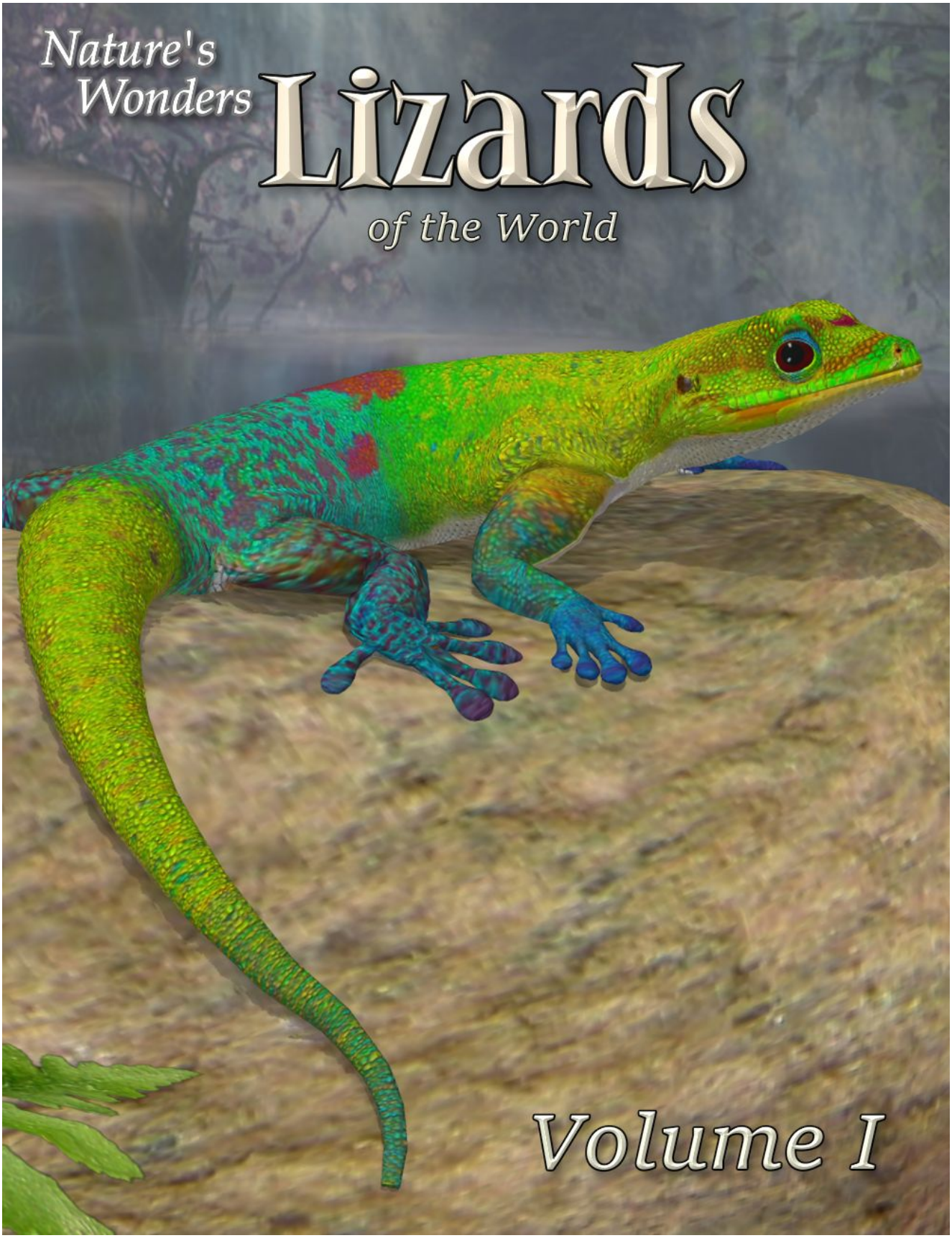



3D model set by Ken Gilliland

Nature's Wonders

# Lizards of the World

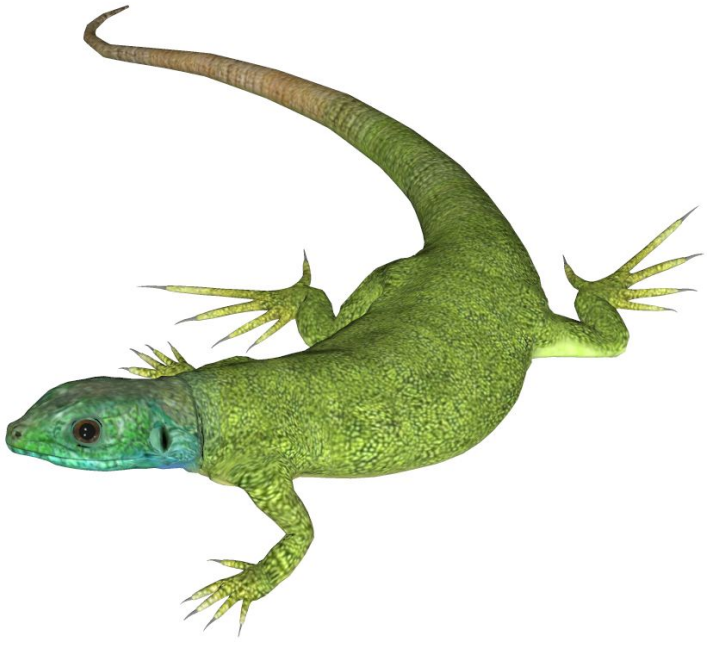
## Volume I

**Manual**



**Field Guide**





# 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 Eastern Fence Lizard.
2. 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 library*) → "FIGURES" → "Nature's Wonders" →"Reptiles" folder.
3. To create an Eastern Fence Lizard, use the "Nature's Wonders Lizard" base model.
4. 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 Eastern Fence Lizard (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

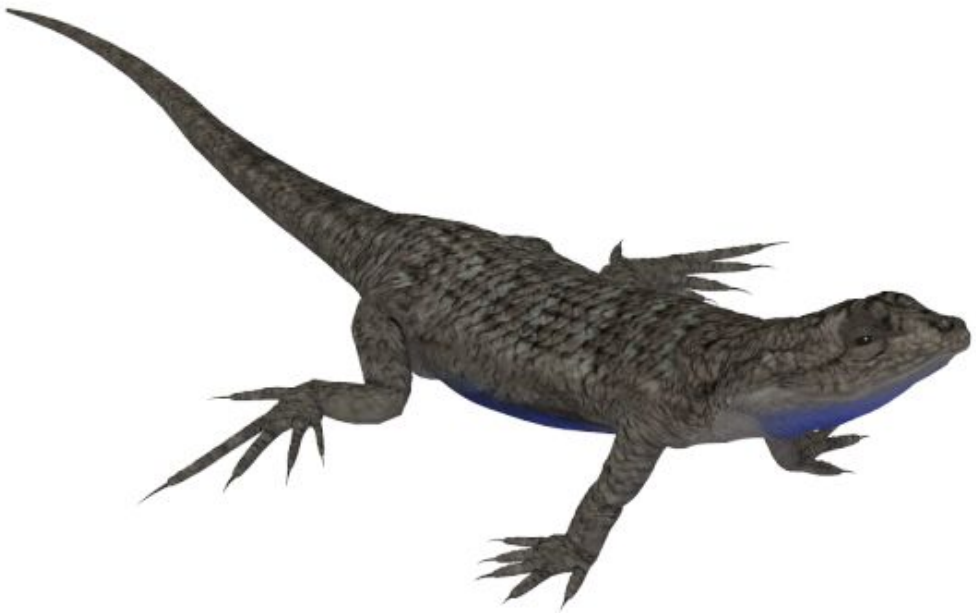
the tail loss), simply reapply the lizard species to the model. The Lost Tail morph may not properly work in versions of Poser below Version 10.

## 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

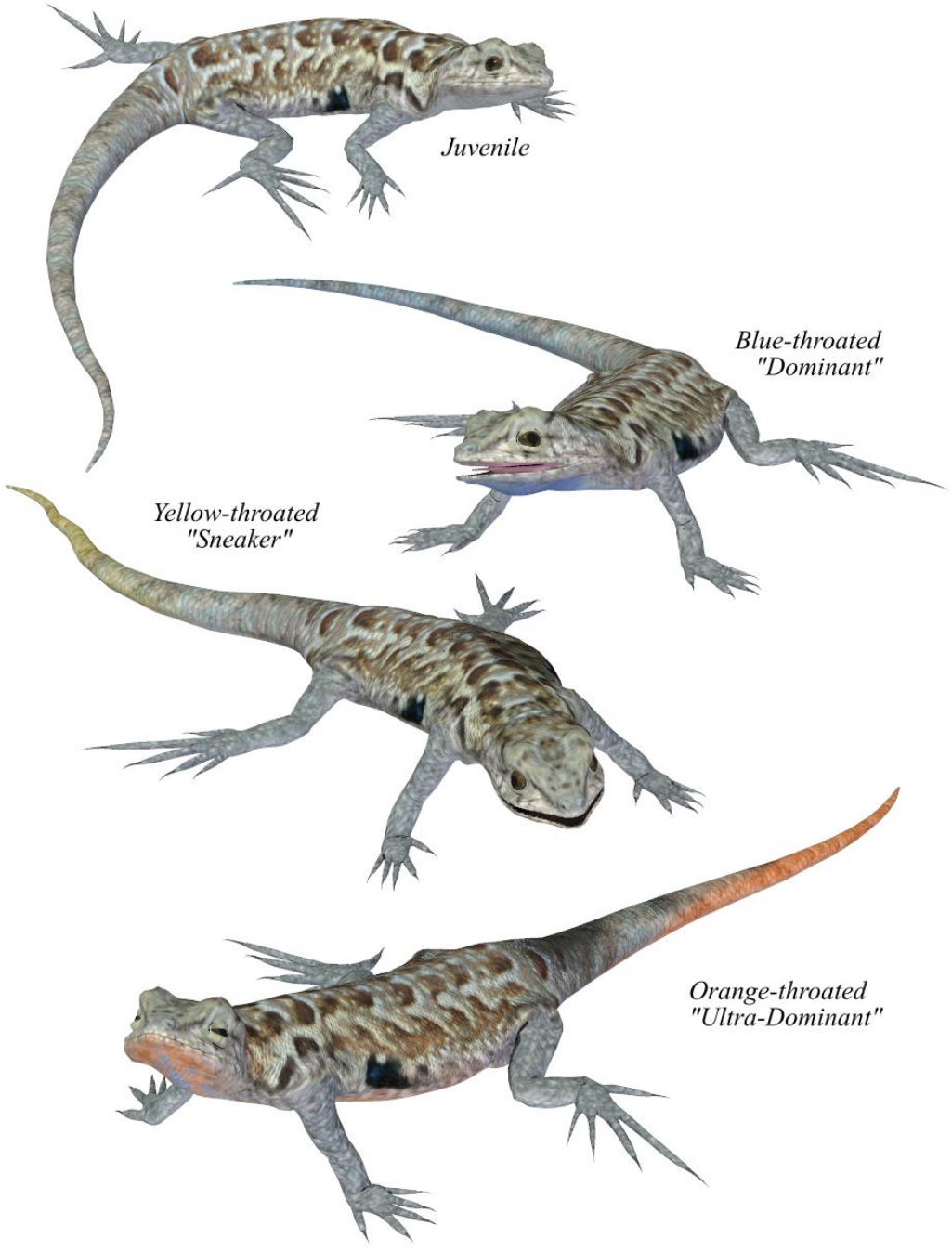
DAZ Studio Iray materials have been included in this set. They are found in the Iray Versions subfolder in the Poses folder. The versions found in the main folder are 3D Delight Materials.



## Common Side-blotched Lizard *Uta stansburiana*

This is a species of lizard found on the Pacific Coast of North America. Males can grow up to 14 cm (5.5 inches) from snout to vent, while females are typically a little smaller.

It is notable for having a unique form of polymorphism wherein each of the three different male morphs utilizes a different strategy in acquiring mates. The three morphs compete against each other following a pattern of rock, paper, scissors, where one morph has advantages over another but is outcompeted by the third.



- Orange-throated males are “ultradominant”. They are the largest and most aggressive morph, defending relatively large (about 100 m2 or 120 yd2) territories and keeping harems of females with which they mate. They are adept at stealing mates from blue-throated individuals, but are vulnerable to cuckoldry by the yellow-throated female mimics. Orange-throated males also have significantly reduced yearly survival rates compared to the other two morphs.
- Blue-throated males are "dominant". They are intermediate in size, and guard smaller territories containing only a single female. As they only have one mate to defend, they are better at catching yellow-throated sneaks, but are also susceptible to having their mates stolen by the larger, more aggressive orange-throated males.
- Yellow-throated males are “sneakers”. Their coloration is similar to that of sexually mature females, and they typically mimic female “rejection” displays when they encounter dominant orange- or blue-throated males. Unlike the other morphs, yellow-throated males do not hold territories. Instead, they have wide-reaching home ranges that may overlap with several other lizards’ territories.They rely on their mimicry to sneak matings with unattended females. This is more easily achieved among the harems kept by orange-throated males than by the single, closely guarded mate of the blue-throated males. Though orange-throated males have the highest mortality rates, yellow-throated males have higher relative rates of posthumous fertilization (posthumous birth), indicating an increased reliance on sperm competition as part of their reproductive strategy.Yellow-throated males can in specific instances transform into blue-throated males over the course of the breeding season. This transformation is usually triggered by the death of a nearby dominant male, and the blue patches the yellow-throated males develop is qualitatively distinct from the blue patches of genetically blue-throated males. Not all yellow-throated males transform, but when they do, they give up their female mimicry and adopt the “dominant” morph's behavior pattern. No transformations in the other direction, in which dominant males gain yellow-throat coloration, have been observed.

Female side-blotched lizards have also been shown to exhibit behaviorally correlated differences in throat coloration. Orange-throated females are considered r-strategists. They typically produce large clutches consisting of many small eggs. In contrast, yellow-throated females are K-strategists that lay fewer, larger eggs. Like the male morphs, the frequencies of these two female morphs also cycle with time. However, the cycle is shorter – two years in comparison to the male morphs’ four- or five-year cycle – and is not a result of frequency-dependent sexual selection. Instead, orange-throated females are more successful at lower population densities, where competition for food

is less fierce and less selection pressure from predation occurs. When population density is high and or when predators abound, yellow-throated females tend to have higher reproductive success. In general, their larger hatchlings have higher short-term and long-term survival rates, and these advantages are magnified in times of scarcity. Side-blotched lizards show displays and aggression shortly after hatching, and even minute differences in size can lead to increased social dominance and capacity to outcompete the smaller hatchlings.

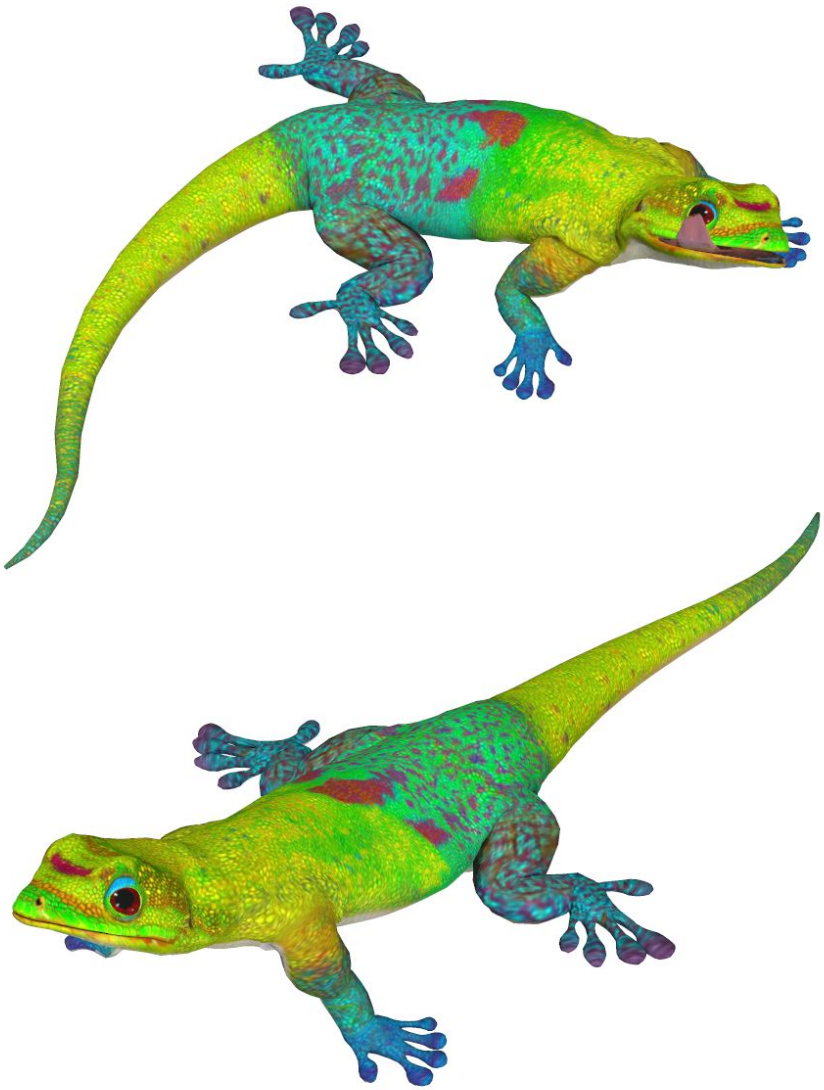
The degree of pigmentation varies with sex and population. Some males can have blue flecks spread over their backs and tails, and their sides may be yellow or orange, while others may be unpatterned. Females may have stripes along their backs/sides, or again may be relatively drab. Both sexes have a prominent blotch on their sides, just behind their front limbs.

## Gold Dust Day Gecko *Phelsuma laticauda*

This lizard belongs to the smaller day gecko family, and can reach a total length of about 15–22 cm (6–9 in). It is endemic to northern Madagascar, and on the Comoros, it has also been introduced to Hawaii and other Pacific islands.

The body color is a bright green or yellowish green or rarely even blue. Typical for this day gecko are the yellow speckles on the neck and the upper back. There are three rust-colored transverse bars on the snout and head; the upper part of the skin around the eye is blue. On the lower back there are three tapering red bars. The tail is slightly flattened. The under side is off-white.

The males of this species are rather aggressive and can be quite quarrelsome. They do not accept other males in their territory. In captivity, where the females cannot escape, the males may also seriously wound a female. In this case, the male and female can be separated.

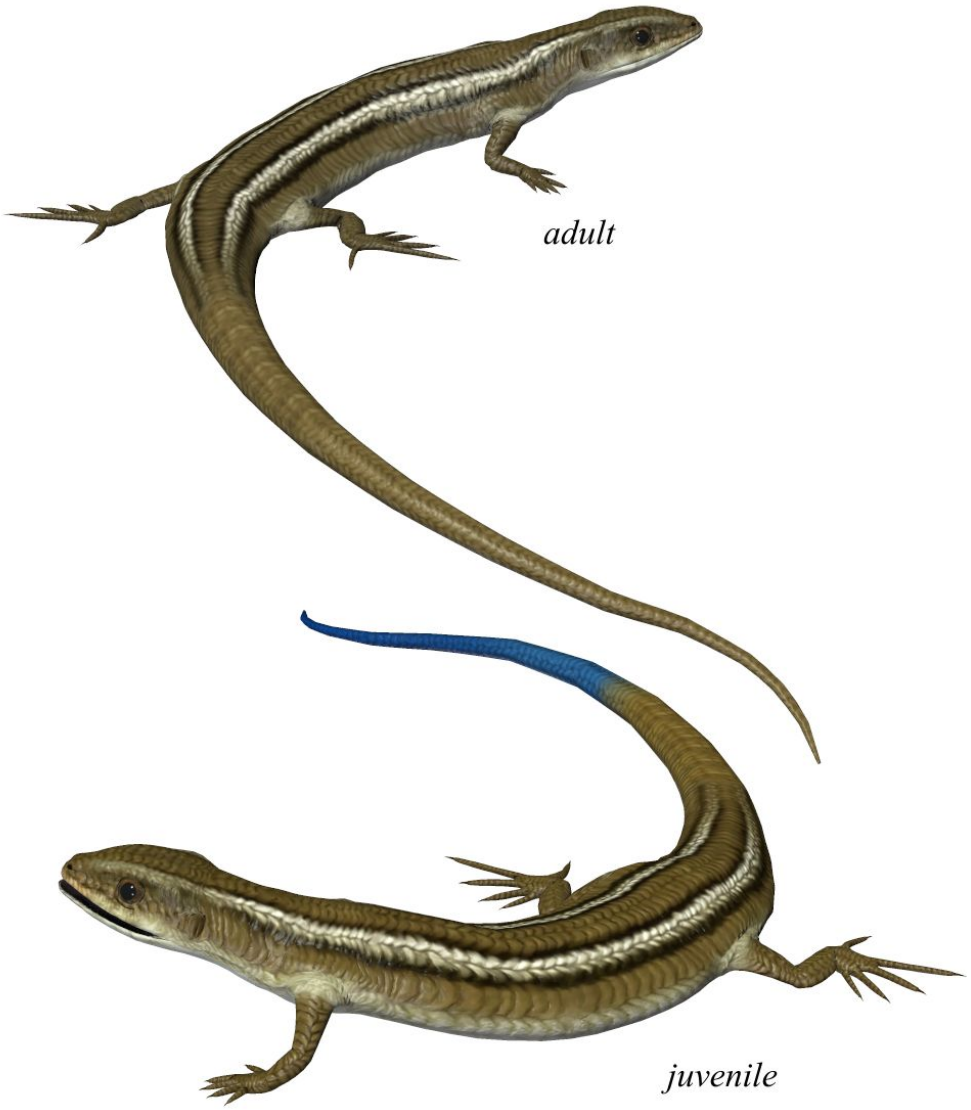


They feed on various insects and other invertebrates, and are also capable of eating other smaller lizards. They also eat soft, sweet fruit and pollen and nectar from flowers, often congregating in groups of many individuals to feed off of one plant.

## Western Skink Plestiodon skiltonianus

It is a species of small, smooth-scaled lizard with relatively small limbs. It measures about 10 -21 cm (4-8.25 inches) in length. It is found from southern British Columbia, Canada, to the tip of the Baja California Peninsula, and throughout most of Great Basin to extreme Northern Arizona; central Utah to the Pacific Coast. The species is apparently absent from the floor of San Joaquin Valley, central Sierra Nevada (except a few scattered locations in the foothills where they are very common), and lowland deserts of California. In Northern Baja, California the species occurs in the northwestern part at least as far south as Colonia Guerro and in the south in the cape and Comondu regions, Santa Agueda, and San Francisco de la Sierra. On Santa Catalina, Los Coronados, and Todos Santos Island off the coast of California.

Adults have a broad brown stripe down their backs, edged with black and bordered on each side by a conspicuous whitish to beige dorsolateral stripe that begins on the nose and extends over the eye and back alongside the body onto the tail. A second pale stripe, starting on the upper jaw, occurs low on each side and is separated from the first by a broad dark brown or black band originating on the side of the head and usually extending well out onto the tail, though this band can be disrupted if the tail is lost and regrown. Juvenile



skink's tails are bright blue, turning to gray in adulthood. In the breeding season reddish or orange color appears on the side of the head and chin, and occasionally on the sides, tip, and underside of the tail. They usually have seven supralabial scales and four enlarged nuchals. Young skink's colorations are more vivid than those of adults. Skinks can perform autotomy; if seized by a predator its tail is deliberately cast and wriggles violently attracting attention so that the lizard may escape. The tail will grow back with time but it is often darker in color and misshapen.

They spend much of their day basking in the sun. Their diet ranges widely, from Crickets, beetles, moths, grasshoppers, and other arthropods to spiders. Western skinks will bite if grasped and will flee if they feel threatened. It is a good burrower and sometimes constructs burrows several times its own body length.

*There are three recognized subspecies:*

- Coronado skink, *P.s. interparietalis* (W. Tanner, 1957). It occurs in southern California and Baja California, Mexico.
- Great Basin skink, *P.s. utahensis* (W. Tanner, 1957). It occurs in Utah.
- Skilton's skink, *P.s. skiltonianus* (Baird & Girard, 1852). It occurs in the Pacific Northwest, Northern coastal California, Central California and Southern California.

## European Green Lizard *Lacerta viridis*

The European green lizard is a large lizard, up to 40 cm (16 inches) long and is native to southeastern Europe. Its range extends from southern Germany, Austria, eastern Italy, Croatia, Bosnia & Herzegovina, Montenegro and Greece to southern Ukraine, Romania, Bulgaria and western Turkey. It has been introduced into the state of Kansas in the United States.

It is found from elevations up to 2,200 m (7,218 ft) above sea level and its typical habitat is dense bushy vegetation in open woodland, hedgerows, field margins, embankments and bramble thickets. In the northern parts of its range it may be found on bushy heath-land, while in the southern parts it prefers damp locations.

The male has a larger head and a uniform green coloring punctuated with small spots that are more pronounced upon its back. The throat is bluish in the adult male and to a lesser extent in the female. The female is more slender than the male and has a more uniform coloration, often displaying between two and four light bands bordered by black spots.

It feeds mainly on insects and other small invertebrates but it also sometimes takes fruit, birds eggs, fledglings, small lizards and even mice.

# 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** (http://www.wikipedia.com)
- **California Herps** (http://californiaherps.com)
- **San Diego Zoo** (http://animals.sandiegozoo.org/animals/lizard)