



\*Photo Credit: Ben Birchall/PA

## Dwarf Day Geckos (*Lygodactylus* spp.)

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### **Hard to Come by Electric Blue Beauties**

Dwarf day geckos are a genus of small, arboreal geckos found on Madagascar and Africa (depending on the species), with other common names that include the turquoise dwarf day gecko, William's dwarf day gecko, and electric blue dwarf day gecko. Of these, the Electric Blue Day Gecko (*Lygodactylus williamsi*) is perhaps the most sought after, and commonly kept and bred species in herpetoculture. This is a small, diminutive gecko species, with females and juveniles being a bronze, to brown, or light green with few to no dark striping on their throats.

Males are the most vibrantly colored, and can range from black, grayish, to vibrant blue or turquoise with dark throat striping. The electric blue day gecko is a Critically Endangered species (CR) that is threatened by habitat loss, poaching and habitat encroachment, and unlawful collection and importation. Increased captive husbandry and breeding efforts for this species, as well as their plight in their natural ranges, are needed as a way to curb the illegal collection and importation of this species.

### **Taxonomy**

**Life:** All living, physical, and animate entities

**Domain:** Eukaryota

**Kingdom:** Animalia

**Phylum/Sub Phylum:** Chordata/Vertebrata

**Class:** Reptilia

**Order:** Squamata

**Suborder:** Lacertilia

**Infraorder:** Gekkota

**Family:** Gekkonidae

**Subfamily:** Gekkoninae

**Genus:** *Lygodactylus*

**Species:** *Lygodactylus* spp.\*

\*Taxonomy subject to change and revision.

### **Lifespan and Longevity**

If provided the proper care, dwarf day geckos can attain longevity of 5 to 10 years or more in captivity.

### **Distribution and Habitat**

The electric blue day gecko is endemic only to Tanzania's Kimboza and Ruvu Forest, where they are found only within a very small area of less than 5 square miles. This species is also found only on or within Pandanus trees within this range. Other species of dwarf geckos from the genus *Lygodactylus* can also occur on Madagascar and many countries of mainland Africa, each depending on the range and distribution of the 60 species within this genus. Two species, however, are also endemic to South America as well, where these species may occur from Brazil, northern Paraguay, to eastern Bolivia. Within this range, these species of dwarf geckos occupy primarily arboreal to semi-arboreal environments, where different species may occupy different habitats, niches, and elevations. Generally, however, most dwarf day gecko species occur in, and seek shelter in coconut palms and other high trees of tropical to sub-tropical forests and woodlands, as well as in and around human habitations and suburban areas, and agricultural plantations.

### **Origin/History**

*Lygodactylus* spp. Gray, 1864; *Lygodactylus williamsi* Loveridge, 1952.

The electric blue day gecko, *L. williamsi*, would become the most popular and sought after of the *Lygodactylus* species, where the first specimens would be imported into U.S. herpetoculture by the year 2005. It was estimated that collection for this species accounted for the demise of 15% or more of *williamsi* populations in the wild. As a result, the species *L. williamsi* would then be placed under EU Appendix B protection in December 2014, under EU Appendix A protection in January 2017, and under CITES Appendix I protection in January 2017.

The unlawful trade of the electric blue day gecko would continue, however, with specimens being intentionally mislabelled as "*Lygodactylus* spp." or other *Lygodactylus* species; however, CITES would then go on to create an identification guide for *Lygodactylus* species.

### **Experience Level Required**

Intermediate/Moderate to Advanced.

### **Size**

Dwarf day geckos are small geckos, which very seldom exceed 2.0 to 3.5 inches in total snout-to-tail length as adults depending on the species. Maximum snout-to-vent length varies depending on the exact species, but ranges from 0.9 to about 1.9 inches snout-to-vent length (SVL). *Lygodactylus williamsi* has a maximum SVL length of about 1.3 inches.

### **Housing and Enclosure**

***Enclosure System: Primarily Arboreal.*** Housing must be sealed and escape proof. Despite their diminutive size, these geckos require relatively large, sufficiently sized front opening arboreal screen or glass enclosures. For a single gecko, an arboreal enclosure that is about 20 gallons tall is recommended. Add height or vertical space for pairs or subsequent geckos; for a pair. Substrate for dwarf day geckos can include peat moss or non-toxic top-soil, natural peat moss, cypress mulch, or sphagnum fir mixtures. In a more naturalistic vivarium or setup, hydroton balls should be used for drainage, polyfoam to act as a divider between the drainage and plated layers, and the above substrates or similar for topsoil. These geckos do best in a naturalistic enclosure with ample hides, climbing opportunities, and retreats including microhabitats that very closely replicate the conditions these geckos live in in their natural ranges. Live or artificial plants, rocks, branches, vertical cork bark, and/or logs for ample basking, climbing, and hiding opportunities are recommended. Live plants can also help maintain adequate levels of humidity and moisture that these geckos require. Adequate humidity levels, as well as a small shallow dish of fresh water for hydration, is also recommended when keeping these geckos. Manual and/or an

automatic misting or fogging system every other day can also maintain adequate humidity levels.

### **Temperature, Lighting, and Humidity**

These geckos are primarily diurnal, and will also require large amounts of the correct lighting and UVA/UVB, as well as a thermal gradient and regular misting in the enclosure. For lighting, compact florescent strip lighting, along with a basking, mercury vapor, or halogen bulb of appropriate wattage, depending on the size of the enclosure, can be used. Create a thermal gradient, or a warm side, in the cage/enclosure with an appropriate incandescent bulb for a basking area of around 90 to 95 degrees F and a cooler area of around 70 to 80 degrees F. Nighttime temperatures can be permitted to drop below 70 degrees F, but an infrared nighttime bulb should still be used to maintain conditions at around 70 to 75 degrees F. Access to natural sunlight, although not required, is also beneficial for these geckos. Maintain humidity levels at around 60 to 80% overall, which may vary depending on the species. Spot clean the enclosure for urates, feces, or uneaten food at least twice per week. Be sure to periodically replace the substrate, clean, and disinfect the enclosure and its furnishings at minimum every 2 to 3 months. More specific lighting, heating, and humidity product suggestions and recommendations that can best suit one's needs, as well as those of one's animals can be given as well.

### **Feeding, Diet, and Nutrition**

*Insectivorous Microphagous to Frugivorous*; In the wild, dwarf day geckos are insectivorous to frugivorous, meaning they will eat insects and other invertebrates as well as fruit and vegetable matter. Many species are also microphagous, meaning they will also eat tiny insects and other invertebrates as well. In captivity, many commercially available fruit based diets are available that contain many of the essential nutrients, vitamins, and minerals required for their optimal health and nutrition. These diets are quite simple to use and prepare for your animal(s) as instructed. Feeder crickets, roaches, superworms, waxworms, mealworms, and microfauna such as isopods, springtails, and fruit fly cultures or other small insects of appropriate size can also be given depending on the species, but should be no larger than the animal's snout to eye. Feeder insects should be gut-loaded in order to increase their optimal nutritional value. Food should be offered in a small dish mounted off of the enclosure's floor, particularly for largely arboreal species that seldom come to the enclosure floor. Be sure that calcium and vitamin D3 supplementation needs are still being met with any diets used for optimal health and development. This is in order to prevent Metabolic Bone Disease (MBD) and other growth and nutritional deficiencies. Their feeding frequency will depend on the age, size, and overall health of your animal. Use care as to not overfeed them, as obesity and other health related issues can become an issue. More specific dietary and supplementary product suggestions and recommendations that can best suit one's needs, as well as those of one's animals can be given as well.

### **Handling**

Dwarf day geckos are small, fragile geckos will not tolerate frequent handling, and have soft, delicate skin that can easily be torn or injured, and therefore, handling should be kept to a minimum. These geckos are better suited and viewing or display animals rather than be handled. With time, patience, and regular interaction, however, some specimens can become quite bold and accustomed to small amounts of handling and interaction.

**\*\*Also be sure to practice basic cleanliness and hygiene associated with proper husbandry after touching or handling any animals or animal enclosures to prevent the possibility of contracting salmonellosis or any other zoonotic pathogens\*\***

### **Contact**

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this animal, group of animals, or this care sheet, please email and contact:

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### **Appendix: Full List of Lygodactylus Species:**

- Lygodactylus angolensis -Angola Dwarf Gecko
- Lygodactylus angularis-Angulated Dwarf Gecko
- Lygodactylus arnoulti-Pasteur's Dwarf Gecko, Arnoult's Dwarf Gecko
- Lygodactylus bernardi-Bernard's Dwarf Gecko, Fitz Simon's Dwarf Gecko
- Lygodactylus bivittis-Tiny scaled Gecko
- Lygodactylus blancae
- Lygodactylus blanci-Blanc's Dwarf Gecko
- Lygodactylus bonsi-Bons's Dwarf Day Gecko
- Lygodactylus bradfieldi-Bradfield's Dwarf Gecko
- Lygodactylus broadleyi-Broadley's Dwarf Gecko
- Lygodactylus capensis-Cape Dwarf Gecko, common Dwarf Gecko
- Lygodactylus chobiensis-Okavango Dwarf Gecko, Chobe Dwarf Gecko
- Lygodactylus conradti-Matschie's Dwarf Gecko, Conradt's Dwarf Gecko
- Lygodactylus conraui-Cameroon Dwarf Gecko
- Lygodactylus decaryi-Angel's Dwarf Gecko
- Lygodactylus depressus-Zaire Dwarf Gecko
- Lygodactylus expectatus- Ambilobe Dwarf Gecko
- Lygodactylus fischeri- Fischer's Dwarf Gecko
- Lygodactylus grandisonae-Kenya Dwarf Gecko, Bunty's Dwarf Gecko, Grandison's Dwarf Gecko
- Lygodactylus graniticulus-Granite Dwarf Gecko
- Lygodactylus gravis-Usambara Dwarf Gecko
- Lygodactylus grotei-Grote's Dwarf Gecko
- Lygodactylus guibei-Western Dwarf Gecko
- Lygodactylus gutturalis-Uganda Dwarf Gecko, Chevron-Throated Dwarf Gecko
- Lygodactylus heterurus-Boettger's Dwarf Gecko
- Lygodactylus incognitus-Cryptic Dwarf Gecko
- Lygodactylus inexpectatus-Dar es Salaam Dwarf Gecko
- Lygodactylus insularis-Insular Dwarf Gecko
- Lygodactylus intermedius
- Lygodactylus keniensis -Parker's Dwarf Gecko, Kenya Dwarf Gecko
- Lygodactylus kimhowelli-Kim Howell's Dwarf Gecko, Tanzanian Dwarf Gecko, Zebra Dwarf Gecko
- Lygodactylus klemmeri-Malagasy Dwarf Gecko, Klemmer's Dwarf Gecko
- Lygodactylus klugei-Kluge's Dwarf Gecko
- Lygodactylus laterimaculatus-Side-Spotted Dwarf Gecko

- Lygodactylus lawrencei-Lawrence's Dwarf Gecko
- Lygodactylus luteopicturatus-Dwarf Yellow-Headed Gecko, Yellow-Headed Dwarf Gecko
- Lygodactylus madagascariensis-Madagascar Dwarf Gecko
- Lygodactylus manni-Mann's Dwarf Gecko
- Lygodactylus methueni-Methuen's Dwarf Gecko, Woodbrush Dwarf Gecko
- Lygodactylus miops-Günther's Dwarf Gecko
- Lygodactylus mirabilis
- Lygodactylus mombasicus-White-Headed Dwarf Gecko
- Lygodactylus montanus-Mount Ivohibe Gecko
- Lygodactylus montiscaeruli-Makgabeng Dwarf Gecko
- Lygodactylus nigropunctatus-Black-Spotted Dwarf Gecko
- Lygodactylus ocellatus-Ocellated Dwarf Gecko, Spotted Dwarf Gecko
- Lygodactylus ornatus-Ornate Dwarf Gecko
- Lygodactylus pauliani-Ornate Dwarf Gecko
- Lygodactylus picturatus-White-Headed Dwarf Gecko, Painted Dwarf Gecko
- Lygodactylus pictus-Robust Dwarf Gecko
- Lygodactylus rarus-Thin Dwarf Gecko
- Lygodactylus regulus-Prince Dwarf Gecko
- Lygodactylus rex-King Dwarf Gecko
- Lygodactylus roavolana
- Lygodactylus scheffleri-Scheffler's Dwarf Gecko
- Lygodactylus scorteccii-Scortecci's Dwarf Gecko
- Lygodactylus somalicus-Somali Dwarf Gecko
- Lygodactylus soutpansbergensis-Soutpansberg Dwarf Gecko
- Lygodactylus stevensoni-Stevenson's Dwarf Gecko
- Lygodactylus thomensis-Annobon Dwarf Gecko
- Lygodactylus tolampyae-Grandidier's Dwarf Gecko
- Lygodactylus tsavoensis- Tsavo Dwarf Gecko
- Lygodactylus tuberosus
- Lygodactylus verticillatus- Mocquard's Dwarf Gecko
- Lygodactylus viscatus-Howell's Dwarf Gecko, Copal Dwarf Gecko
- Lygodactylus waterbergensis-Waterberg Dwarf Gecko
- Lygodactylus wetzeli-South American Dwarf Gecko
- Lygodactylus williamsi-Williams' Dwarf Gecko, Turquoise Dwarf Gecko, Electric Blue Gecko
- Lygodactylus wojnowskii-Mt. Kenya Dwarf Gecko