KEEPING AND BREEDING OF TAKYDROMUS SMARAGDINUS IN CAPTIVITY

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March, 2026

Introduction

Takydromus smaragdinus, commonly known as the Emerald Grass Lizard, originates from the Ryukyu Islands of Japan. They are listed as “near threatened” with a declining natural population due to habitat fragmentation. The grass lizards from the genus Takydromus and Lacertidae family, often affectionately called “Takys” are most well known for their exceptionally long prehensile tail which typically comprises two-thirds or more of the lizard's total length! They are a small species with a snout to vent length of approximately 7.5 - 10 cm (3-4 in) and a total length of around 30 cm (10 in). Their body is slight and about the diameter of a pencil. Females are slightly longer and heavier than males. Females are also solid bright green for which they are so named. Males are also the same vibrant emerald color but also typically have a brown stripe running the length of both of their sides. Some males may be solid green like females, but this is uncommon in the author's experience. Adult males are also easily distinguished from females by pronounced hemipenal bulges at the base of the tail.

Takys are arboreal lizards that spend most of their time climbing in the branches and leaves of plants. Their long and light bodies coupled with their even longer tail allow them to move through delicate leaves and branches with ease and grace. They do occasionally come to ground to hunt and to lay eggs. They are extremely active, intelligent, and social animals making them an ideal terrarium candidate. The author keeps his breeding colonies with two or three males and four to six females per large terrarium. While there may be some territorial scuffling between the males, aggression is low and typically not dangerous. Having multiple males in the terrarium likely also stimulates breeding success. They are primarily insectivores, but, like most lacertas, are also opportunistic omnivores and readily consume fruit based diets. The author speculates that they may serve as pollinators in their natural habitat.

The positive attributes of this species are numerous and hard to overstate. They are very active, bold, and do well in larger communities than most other reptiles in herpetoculture. Their slight size and weight mean that extremely large enclosures are not needed and delicate and beautiful plantings can be done in the terrarium similar to dart frog terraria. They do not climb glass and therefore do not obscure the viewing panels of the terraria with droppings. They are tolerant of a wide range of conditions and are extremely hardy and forgiving of beginner mistakes. They readily consume commercially produced fruit-based gecko diets like those made by Pangea and Repashy. Because of

this, live insect feedings are not needed for every feeding. They reproduce well in terraria and babies can even be allowed to hatch in the enclosure with little danger from the parents. And last, their high intelligence and food motivation means that they are excellent candidates for socialization and training. All of these positive aspects make them an ideal terrarium lizard and the author believes that this species will continue to become more common in herpetoculture as more keepers discover the joy of keeping this endearing little lizard.

Keeping

The author recommends a minimum enclosure size of 45x45x60 cm (18x18x24 in) for a single adult or one pair of Takys. If you are able to provide a larger enclosure, do so. Larger enclosures can accommodate more individuals. The author keeps his large breeding groups in 60x60x75 cm (24x24x36 in) enclosures. While they are small lizards, they are very active and will utilize larger spaces. The author also only uses naturalistic or bioactive vivaria for housing this species. A well draining soil mixture, such as ABG (Atlanta Botanical Gardens) mix, is used, and at least one bushy plant, such as *Ficus benjamina*, is planted directly within. The enclosure should also be furnished with many branches of varying diameters running at different angles throughout the enclosure. The enclosure should be structured so that the lizards are able to choose areas within the enclosure of varying temperature, light, and humidity conditions.

Lighting is provided with three fixtures. First, a high output LED fixture for visible light and plant growth in the 5000K-6500K spectrum. Second, a T5HO UVB linear bulb with a 5.0 or 6.0 UV rating. The author uses Reptisun and Arcadia bulbs and fixtures with equal success. A basking spot is provided using a halogen flood bulb. Wattage and size of the fixtures will depend upon the size of the terrarium and the conditions of the room it is kept in.

This species experiences seasonal variation in their natural habitat and the author tries to replicate that within safe limits. The lights are on for fourteen hours a day during the summer season, twelve hours a day during Spring and Autumn, and ten hours a day in the Winter. Each season is simulated for approximately three months. In the Summer, ambient temperatures range from 21-30 C (70-85 F), in the Spring and Autumn 18-24 C (65-75 F), and in Winter 15-21 C (60-70 F). Cooler and warmer temperatures can be tolerated but are not seemingly necessary. During the Summer, a heat bulb is used to achieve a basking spot of approximately 38 C (100 F) for eight hours a day. During the Spring and Autumn the same heat bulb is used but only for four to six hours a day. During the Winter a heat bulb is not used.

Being arboreal, Takys would likely not naturally drink from standing pools of water. Instead, they drink from rain droplets and dew that accumulate on leaves and branches. Therefore, a water bowl is not

provided and hydration and humidity are achieved by misting in the mornings and evenings. Duration of the misting cycle will depend on a variety of local factors. A good place to start would be approximately one minute per misting session. The author utilizes misting systems like those made by MistKing and HydroHerp, but manual hand misting is also adequate. Longer and more frequent misting is provided in the Spring and Summer seasons. It is important that good airflow be present in the enclosure to prevent stagnation. The enclosure surfaces should completely dry between misting sessions and standing water should not be allowed to develop in the substrate. The author does not typically measure humidity levels but 40-80% during the day and 60-100% at night are appropriate ranges for beginners to emulate.

Takys are primarily insectivores and are ravenous feeders. The author mostly feeds crickets of appropriate sizes. However, variety should be provided and various species of fruit fly, mealworm, roach, and worms can all be provided. Mealworms and roaches are fed from a bowl but crickets, fruit flies, and bean beetles are sprinkled throughout the enclosure to provide the lizards with the necessary enrichment that comes from hunting. Takys will actively look through leaf litter to find hiding crickets. The author feeds his adult animals approximately six to ten feeder insects per animal three or four times a week. Each insect feeding is lightly coated with either Repashy Calcium Plus LoD. Babies and juveniles are fed five times a week as much as they will consume. Fruit-based gecko diets like those made by Pangea and Repashy are readily accepted and you can supplement their diet with these foods on a regular basis. While the author has not performed this experiment, he hypothesizes that this species would thrive on a primarily fruit based diet just like New Caledonian geckos.

Breeding

Breeding of Takydromus smaragdinus is straight-forward and requires little to no interference from the keeper as long as the previously described conditions are met. As long as a male and female are kept together you will eventually get eggs and babies. The author has not observed any major signs of intraspecific aggression among this species. You will notice scuffing on the females flanks from mating where the male bites to hold on and occasionally minor injuries do occur. The author typically keeps his breeding smaragdinus together year round, but it is always important to closely observe reptiles being kept together for any possible issues. Takys are viviparous (lay eggs) and tend to reproduce more like geckos than other lacertids. After a gestation of around a month, two to four eggs are laid. Two is the most common clutch size. Females will often choose to lay under a moss layer or to dig a shallow nest in the soil. Eggs can be incubated in situ (in the enclosure where the female laid them) or ex situ (in an incubator). Lower temperatures tend to produce females and higher

temperatures tend to produce males. A wide range of incubation temperatures are tolerated 20-30 C (70-90 F). The female will typically lay a clutch every month except during the Winter.

Babies can be kept exactly like adults but require more frequent feedings with smaller food items. Small crickets, bean beetles, and a variety of flightless fruit fly species are fed five or six times a week. The babies are quite hardy and can be raised in small groups. They will also eat the fruit-based gecko diets.

Conclusion

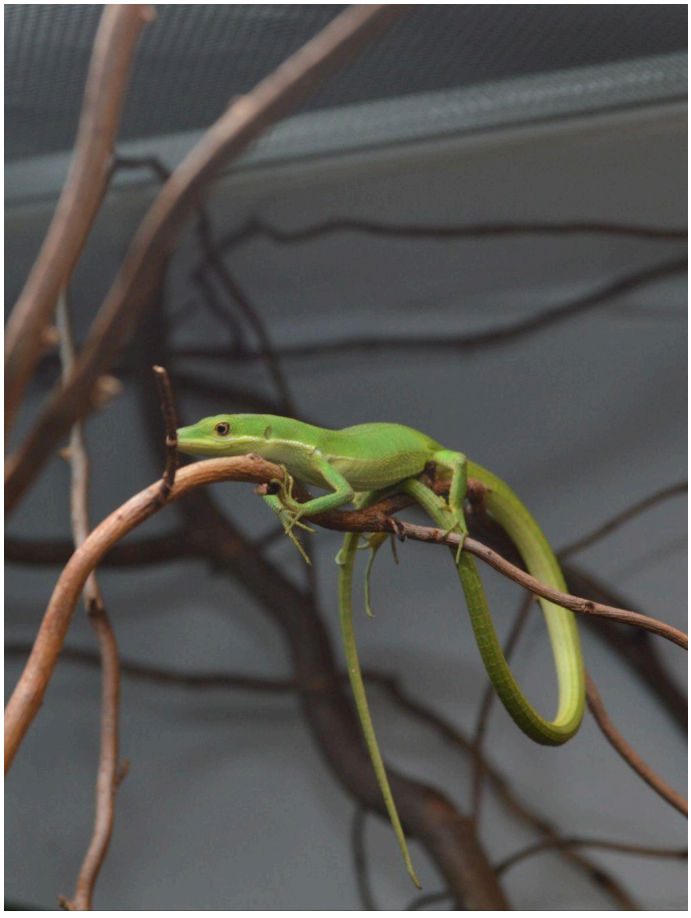
The author is extremely passionate about working with and establishing this species in herpetoculture as he believes they represent an ideal species for many reptile keepers. The author cannot think of another species with so many positive attributes and he hopes that they will achieve the popularity that they deserve.

Images

A common sight in the author's terraria: a "Taky pile"

Male front, female rear

Several females exhibiting the arboreal nature of this species.



Terraria

Sources

1. https://www.inaturalist.org/taxa/35499-Takydromus-smaragdinus