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ANGUIDS

Terrestrial Alligator Lizard

Abronia graminea

Abronia graminea is a small, emerald-green, arboreal alligator lizard from the cloud forests of southern Mexico. It reaches 20-30 cm, gives birth to live young and eats insects. It needs a tall, airy enclosure with moss and bromeliads, cooler temperatures than most terrarium animals and daily misting, without the air standing still. The species is threatened in the wild and is best suited to experienced keepers.

Family: Anguidae Former name: *Gerrhonotus gramineus; Abronia taeniata graminea*

KEY FACTS

THE ANIMAL

Adult size	**20-30 cm** total length incl. tail
Weight	**15-25 g**
Lifespan	**10-20 years**
Active	**By day**
Lifestyle	**Arboreal**
Habitat	**Montane forest**
Difficulty	**Experienced**

CARE

Min. enclosure	**50 × 50 × 75 cm** L × W × H for 2 adults
Temperature, day	**20-27 °C**
Basking spot	**26-30 °C**
Temperature, night	**10-18 °C**
Humidity	**60-80%**
Water	**No water dish**
UVB	**Recommended** Ferguson zone 2
Diet	**Insects and worms/snails**
Kept	**Singly or in pairs**

BREEDING

Reproduction	**Live-bearing**
Sexually mature	**24-36 months**
Litter size	**2-12 young**
Clutches per year	**1**
Gestation	**180-240 days**

PROTECTION AND PAPERWORK

CITES	**Appendix II**
EU annex	**Annex B**
IUCN	**Endangered (EN)**

About the species

Abronia graminea is a slender, compact alligator lizard with a triangular head, strong, keeled scales and a long, prehensile tail. Adults are a vivid emerald green, often with yellow-green to orange tones on the snout, chin, throat and around the eyes. Hatchlings are brownish to grey-brown with dark crossbands, and some females keep faint bands as adults. The scientific species name comes from the Latin graminea, "of grass", and suits the fresh green colour.

The head and body measure at most about 11 cm, and the tail is longer than the body, so the animal reaches about 20-30 cm in total. The total length is an estimate based on the snout-vent length. Adults weigh about 15-25 g. Males have a slightly larger head and weigh slightly more than females, but the sexes are almost the same length. Newborn young are about 10 cm long, of which the body is about 3 cm.

The species was described in 1864 by Edward Drinker Cope under the name *Gerrhonotus gramineus* and is today placed in the genus *Abronia*. In northern Puebla and Veracruz its range overlaps with that of *Abronia taeniata*, and here the two species are so alike that many animals cannot be identified with certainty. The origin and identification of the animals should therefore be documented. Animals kept indoors at stable temperatures often become more grey-green or blue-grey, whereas wild animals are a strong green.

The species is slow and cautious, but if startled it can quickly drop from the branches and flee. It does not become tame to the same degree as many other lizards and is best suited as an animal to observe. Lifespan in captivity is not documented; 10-20 years is an estimate.

Distribution and habitat

Abronia graminea lives in the mountains of southern Mexico: central Veracruz, Puebla and northern Oaxaca, in the southern part of the Sierra Madre Oriental and in the Sierra Madre de Oaxaca. The type locality is Orizaba in Veracruz. The range is small and fragmented, because the species is found only in belts of cloud forest and humid oak forest at certain elevations.

The species is most often found above 2,000 m, but has been recorded from 1,170 to 2,520 m. In northern Puebla and Veracruz it overlaps with *Abronia taeniata* in a belt of about 100 km.

> **Native range:** Mexico.

HABITAT

Abronia graminea is a diurnal, arboreal animal that lives in oaks and hawthorn in cloud and oak forest, typically a couple of metres up and on average about 3 m above the ground. The trees are covered with moss, ferns, orchids and bromeliads, and the bromeliads are an important microhabitat: they collect water, hold moisture, provide shelter and harbour many prey animals. Occasionally the animals are found on the ground, in rotting wood or in large cushions of moss.

The climate is cool and humid, with mist and heavy rainfall. The difference between day and night is large, and the temperature can briefly go from below 5 °C to above 30 °C, although the normal range is far more moderate. The animals are most active at 24-27 °C and bask in the morning and early forenoon. In cold spells they take shelter in hollow trees and crevices. In hot spells they retreat into the shade under thick moss.

The population is threatened by forest clearance for agriculture and charcoal, by fires and by illegal collection for the trade. The species is assessed as Endangered (EN) by the IUCN, and the population is declining.

Care

THE ENCLOSURE

A pair needs an enclosure of at least 50 × 50 × 75 cm (length × width × height). Height matters more than floor area, but bigger is better, and 60 × 60 × 90 cm gives clearly more room. The enclosure must be very well ventilated: fully or partly mesh, so that the air changes without the humidity disappearing altogether. Stagnant, damp air causes mould and respiratory problems.

Cover the floor with 5-10 cm of long-fibre sphagnum moss. It holds moisture and provides a cool spot, but it should be damp in some places and dry in others, for example under the basking spot. Now and then let the whole substrate dry out before moistening it again, so that the humidity fluctuates as it does in the wild. Furnish the enclosure densely with branches of several thicknesses and live plants, especially bromeliads and orchids, and ideally cork tubes filled with moss as hides. The plants also provide humidity, cover and drinking water in their leaves.

Keep males separately. A pair can be kept together if there are many hiding places and plenty of space. Juveniles can be kept in small groups of two or three, but must be watched closely, and if they cannot avoid each other they must be separated. Small gaps in the corners of a mesh enclosure where feeder insects could escape should be sealed with silicone.

Read more: Heat and temperature Read more: Humidity, misting and ventilation

TEMPERATURE

Abronia graminea does not tolerate heat. The daytime temperature should be 20-27 °C, and the basking spot under a weak spotlight may reach 26-30 °C. The animal is most active at 24-27 °C. Above 32 °C is dangerous, and a closed, sunlit enclosure without shade can kill the animal in a short time. At night the temperature may fall to 10-18 °C, but never below 7 °C. A clear

drop at night and a cool winter matter most if the animals are to breed; animals that are not to breed do well at room temperature with a warm end and a cool end.

Juveniles are more sensitive than adults. Above 29 °C is dangerous for them, so the basking spot should be weaker, and they need cooler areas. Shade panels of cork bark or broad-leaved plants provide shade, and damp moss on the floor provides cool spots. Measure with digital thermometers both high and low in the enclosure.

A cool winter with slightly less feeding and shorter days suits the species. The animal becomes slower and eats less when it is cold.

HUMIDITY AND WATER

Relative humidity should be 60-80 %, with the highest values at night and after misting. Mist the plants, walls and animals lightly almost every day, ideally with a pressure sprayer or a fogger that produces a fine mist. Two to three times a week, a drip system or a dripping cup of about 2.5 dl of water over a plant lets the water run down the leaves. The species drinks water droplets from leaves and rarely uses a water bowl.

Water must be free of chlorine: use tap water that has stood open for a day, or filtered water. Humidity must not become constant: the species is not a wetland animal, and a substrate that is always waterlogged causes mould and disease. Short, wet periods of four to five days are followed by dry days. Dehydration is a common cause of death, and an animal with sunken eyes or wrinkled skin must immediately be given humidity and drinking water.

LIGHTING AND UVB

The species is diurnal and needs UVB. The best option is natural, unfiltered sunlight, for example in an outdoor mesh cage in dry weather in summer, with shade and a cool surface so that the animal can move away. Indoors, use a T5 tube with UVB and a weak heat source. The species belongs at around Ferguson zone 2, with a UV index of 0.7-3 in the brightest part and shade elsewhere. Position the light so that the animal can choose for itself how much it wants.

Without sunlight and with stable temperatures, the green colour often fades to grey-green. The light is switched on in the morning and off in the evening, and the day length can follow the season. The heat is switched off at night.

Read more: Lighting and UVB

FEEDING

Abronia graminea feeds on insects and other small animals. Offer crickets, grasshoppers, mealworms, cockroaches, snails, spiders and soft larvae, for example green caterpillars and fly larvae with a high calcium content. Insects with a lot of plant matter, such as grasshoppers and caterpillars, are particularly good. Gut-load feeder insects for a day before use with greens and vegetables. Avoid feeder insects reared on very protein-rich feed, because the diet should be relatively low in protein.

Dust the food with calcium without D3 at most meals and with a multivitamin now and then. If you use UVB or sunlight, D3 should not be added. Juveniles get calcium at every meal for the first few months. Pregnant females need extra calcium.

Feed adults 2-3 times a week and juveniles more often, and remove what is not eaten. Many eat most readily from tweezers. Males eat less in summer before mating, and all animals eat less in winter.

Read more: Feeder animals: keeping and breeding Read more: Calcium, vitamins and supplements

BEHAVIOUR AND HANDLING

The species is quiet and shy. The animal spends most of the day sitting still on a branch or in a bromeliad and basks for short periods. It is not an animal to be handled. Some become calm with time, but others bite, and a bite can hurt and bleed. Keep handling to a minimum, and do it only when necessary.

Males are territorial and can fight seriously, so they must be kept separately. Females can also fight, but less often. The tail can be shed if the animal is grabbed, and it only partly regrows. Wash your hands after any contact with the animals and the enclosure, because reptiles can carry salmonella.

Read more: Quarantine and hygiene

Breeding

SEXUAL MATURITY AND SEXING

Males have a slightly larger head and weigh slightly more than females. Sex is hard to determine in juveniles, and a vet with experience in reptiles can help. The species becomes sexually mature at 2-3 years of age, once fully grown. Do not put a female into breeding until she is in good condition.

MATING

Mating takes place from July to December, most often in autumn. The male grabs the female by the neck, and the pair can stay together for up to a day. Introduce the male to the female, keep watch, and separate them at any sign of injury. Cooler nights and slightly more humidity in autumn match the season in the wild.

EGG-LAYING AND CLUTCHES

The species gives birth to live young and does not lay eggs. Gestation lasts 6-8 months, and the female visibly gains weight and develops calcium patches on the sides of the jaw in the last part of gestation. She needs plenty of food and calcium. In captivity the young are most often born from March to June, in the wild from May to July, and a litter is born over one to three days. The female has at most one litter a year. A litter is 2-12 young, on average 4-7. Litters as small as one and as large as 14 young occur.

INCUBATION

There are no eggs to incubate. Gestation lasts 6-8 months, and that is the figure given in the specification box. Keep the female calm in a cool, humid and ventilated enclosure with hiding places. The female does not eat her young, but other adults may, so move the young or the other animals if several share the enclosure.

REARING THE YOUNG

The young are born brownish with dark crossbands and are about 10 cm long. They have the same requirements as the adults, but are far more vulnerable to heat: above 29 °C can kill them. Keep them in enclosures like the adults', ideally in small groups of two or three, so that they can avoid each other. Check that every young animal is eating.

Offer small crickets, fruit flies, small grasshoppers and fly larvae for the first three to four months. Dust with calcium every time, and give as much natural light as possible. Feed daily or every other day, but do not offer more insects than the young can eat.

Health and common mistakes

The species is hardy when temperature, humidity and ventilation are right, and most problems are caused by faults in the set-up. The typical problems are:

- Overheating, especially in juveniles. If the heat rises above 29-32 °C without shade, the animal can die quickly.
- Dehydration from air that is too dry and too little misting. The signs are sunken eyes, wrinkled skin and lethargy.
- Mould, skin fungus and respiratory infection from stagnant, damp air and too little ventilation.
- Metabolic bone disease from too little UVB and calcium, especially in juveniles and pregnant females.
- Parasites and mites. New animals should be quarantined for at least three months, and faeces should be examined.
- Bite and claw wounds from fights between animals kept together.

A healthy animal has clear eyes, a plump tail, clean, green skin and calm breathing with the mouth closed. If the animal does not eat, loses weight or breathes with its mouth open, it should see a vet with experience in reptiles. Weigh the animal regularly.

Read more: Common diseases and signs of illness

Always ask someone who knows

This guide is a good place to start, but it cannot replace experience. Animals differ, and much of what matters most is learned from people who have kept the species for years. Talk to a breeder, an experienced keeper or a vet who knows reptiles and amphibians before you get the animal - and again if anything looks wrong.