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ANGUIDS

Campbell's Alligator Lizard

Abronia campbelli

Abronia campbelli is a small, arboreal alligator lizard found only in the oak forests of south-eastern Guatemala. It grows to about 20-30 cm, gives birth to live young and feeds on insects. The species is critically endangered in the wild, and almost nothing is known about its care; it needs a tall, airy enclosure with cool nights.

Family: Anguidae

KEY FACTS

THE ANIMAL

Adult size	**20-30 cm** total length incl. tail
Weight	**14-45 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 1 adult
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**

BREEDING

Reproduction	**Live-bearing**
Sexually mature	**24-36 months**
Litter size	**3-15 young**
Clutches per year	**1**
Gestation	**180-240 days**

PROTECTION AND PAPERWORK

CITES	**Appendix I**
EU annex	**Annex A**
IUCN	**Critically Endangered (CR)**

About the species

Abronia campbelli is a sturdily built, arboreal alligator lizard with a broad head and a prehensile tail. It belongs to the subgenus *Auriculabronia* and is most similar to *Abronia aurita* and *Abronia anzuetoi*. The species was described in 1993 by Edmund Brodie and Robert Savage from finds in dry oak forest in eastern Guatemala, and it is named after the American herpetologist Jonathan A. Campbell.

Adults measure 9-13 cm from snout to vent, and animals of 93-94 mm already count as adults. Males and females are the same size and weigh 14-45 g, on average 27-29 g. Including the tail, the animal reaches about 20-30 cm; total length has not been measured and is an estimate based on body length. Males have a broader head than females: 18-26 mm against 16-24 mm, on average 19 % broader. The difference probably relates to fights between males and to the male's grip on the female's head during mating. Only about 4-5 % of animals in the wild have lost their tail, and that is less often than in many other species in the genus, perhaps because the prehensile tail is so important to a tree-dwelling animal.

The species gives birth to live young. It is counted among the so-called lost species that have been rediscovered: in 2010 it was reported rediscovered in a pine-oak forest in south-eastern Guatemala. Lifespan in captivity is not documented; 10-20 years is an estimate based on *Abronia graminea*.

Distribution and habitat

Abronia campbelli is found only in a small area in the mountains of south-eastern Guatemala, in the department of Jalapa. The type locality is Cerro Tablón de las Minas near La Pastoría. The species has also been found at Potrero Carrillo. It lives at 1800-1900 m elevation.

The species is found nowhere else in the world.

> **Native range:** Guatemala.

HABITAT

Abronia campbelli lives in the trees of montane pine-oak forest and cloud forest; the type locality is a dry oak forest. It inhabits old-growth oak forest dominated by *Quercus peduncularis* and *Quercus brachystachys* and is closely tied to the bromeliad *Tillandsia usneoides*, which hangs from the trees and is the species' most important microhabitat. The plant provides cover, moisture and prey.

At 1800-1900 m the climate is cool, especially at night. The animals are active by day. When two animals meet, they chase and bite one another, most often animals of the same sex, but also males and females.

The species is assessed as critically endangered (CR) by the IUCN. It occurs only in a very small area and is considered close to extinction. It depends on large, old trees with epiphytes.

Care

THE ENCLOSURE

Care of *Abronia campbelli* has not been described, and the figures here are borrowed from the closely related *Abronia graminea*, the best-known species in the genus, and from the genus in general. One animal 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 better space. The enclosure must be very well ventilated: wholly 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-strand sphagnum moss, which holds moisture and provides a cool spot. The moss 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 it is moistened again. Furnish the enclosure densely with branches of different thicknesses and live plants, especially bromeliads and orchids, and preferably cork tubes filled with moss as hides. *Tillandsia usneoides* is hung up as part of the furnishings.

Keep the animals singly. Animals of the same sex chase and bite one another, and so do males and females when put together. A pair may only be put together during the mating season and under supervision. Small holes in the corners of a mesh enclosure, where feeder insects can escape, are sealed with silicone.

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

TEMPERATURE

Abronia campbelli does not tolerate heat. The daytime temperature should be 20-27 °C, and the basking spot under a weak spotlight may be 26-30 °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 suit the species and are important if the animals are to breed; a cool winter with somewhat less feeding and shorter days is a good starting point.

Measure with digital thermometers both high and low in the enclosure. Always provide shade and cooler places, for example under broad-leaved plants and in damp moss, so the animal can choose for itself. Young animals are more sensitive than adults, and above 29 °C is dangerous for them.

HUMIDITY AND WATER

The relative humidity should be 60-80 %, with the highest values at night and after misting. Mist plants, walls and the animal lightly almost every day, preferably with a pressure sprayer or a fogger that produces a fine mist. The species drinks water droplets from leaves and rarely uses a water bowl, so a drip system or a dripping cup over a plant a couple of times a week provides drinking water.

The water must be chlorine-free: use tap water that has stood open for a day, or filtered water. The humidity must not be constant. A substrate that is always waterlogged causes mould and disease. Let the enclosure dry out between mistings, but never for more than a couple of days. Dehydration is a frequent cause of death in the genus, and an animal with sunken eyes or wrinkled skin must at once be given moisture and drinking water.

LIGHTING AND UVB

The species is diurnal and needs UVB. The best is natural, unfiltered sunlight, for example in a mesh cage outdoors in dry weather in summer with shade and a cool floor, so the animal can move about. 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 the animal can choose how much it wants. The genus turns grey and dull without UVB.

The light is switched on in the morning and off in the evening, and day length preferably follows the season. The heat is switched off at night.

Read more: Lighting and UVB

FEEDING

Abronia campbelli feeds on insects and other small animals. Give crickets, grasshoppers, mealworms, cockroaches, snails, spiders and soft larvae. Feeder insects are fed greens and vegetables for a day before use. Avoid feeder insects reared on very protein-rich food.

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. Young animals get calcium at every meal for the first months. Pregnant females need extra calcium.

Feed adults 2-3 times a week and young animals more often, and remove what is not eaten. Many eat most readily from tweezers. The 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.

The animals chase and bite one another, especially those of the same sex, and must therefore be kept separately. The tail can be shed if the animal is grabbed, but this seldom happens, and it only partly grows back. Wash your hands after any contact with the animal or enclosure, because reptiles can carry salmonella.

Read more: Quarantine and hygiene

Breeding

SEXUAL MATURITY AND SEXING

Males have a broader head than females, but are otherwise equally large. Sex can be confirmed by a vet with experience in reptiles, for example by everting the hemipenes. Sexual maturity is not documented for *Abronia campbelli*; *Abronia graminea* becomes sexually mature at 2-3 years of age. Do not put a female to breed until she is in good condition.

MATING

Mating has not been described for the species itself. In *Abronia graminea* it takes place from July to December, most often in autumn. The male grips the female by the head or neck, and the pair may stay together for several hours. Put the male with the female, watch them, and separate them at signs of injury. Cooler nights and slightly more moisture in autumn correspond to the season in the wild.

EGG-LAYING AND CLUTCHES

The species gives birth to live young and does not lay eggs. Gestation has not been measured for the species; in the genus it lasts 6-8 months. The female visibly gains weight in the last part of gestation and needs plenty of food and calcium. In the genus the young are most often born from March to June, and the female has at most one litter a year. In *Abronia graminea* a litter is 3-15 young; litter size has not been documented for *Abronia campbelli*.

INCUBATION

There are no eggs to incubate. Gestation lasts 6-8 months, and that is the figure in the box; it is borrowed from the genus. Keep the female quiet in a cool, humid and ventilated enclosure with hides. 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

Size at birth is not documented for the species. The young have the same requirements as the adults, but are far more vulnerable to heat: above 29 °C is dangerous. Keep them in enclosures like the adults', preferably singly or in twos, so they can avoid each other. Check that each 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 provide as much natural light as possible. Feed daily or every other day, but do not give more animals than the young can eat.

Health and common mistakes

Care of the species is not documented, and the typical problems are taken from the genus. Most are caused by errors in the set-up:

- Overheating, especially in young animals. 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. Signs are sunken eyes, wrinkled skin and lethargy.
- Mould, fungal skin infection and respiratory infection from stagnant, damp air and too little ventilation.
- Metabolic bone disease from too little UVB and calcium, especially in young animals and pregnant females.
- Parasites and mites. New animals should have at least three months of quarantine, and droppings should be examined.
- Bite and claw wounds after fights between animals kept together.

A healthy animal has clear eyes, a plump tail, clean skin and calm breathing with the mouth closed. If the animal does not eat, loses weight or breathes with its mouth open, it must 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.