

KEEPING AND BREEDING OF EUROPEAN SAND LIZARDS (*LACERTA AGILIS AGILIS*) IN CAPTIVITY

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Introduction

The European sand lizard (*Lacerta agilis*) is the smallest species of lacertid lizard and one of the widest ranging. This species is composed of five different subspecies and can be found from Germany to Russia and North into Sweden and England. Due to their huge natural range, *agilis* are able to tolerate a very wide range of climatic conditions. This translates to a very hardy and adaptable lizard. Males are more colorful, generally possessing bright green flanks. The author has even experienced males that are more blue in appearance. Females are more dull but have pleasant tan and brown coloration with various spots. The author has produced multiple “patternless” animals. This appears to be a recessive trait but the author has not proven it yet. While they are small at only 18-20 cm (7-8”) in total length they are fairly long lived and can live ten years or more.

This article specifically focuses on the care and breeding of the subspecies *Lacerta agilis agilis* which is the only form the author has experience with. The author has found this species to be one of the boldest species of lacertas he has kept. Also, unlike many other species of lacerta, they do well in communities of one male with several females. The author has never observed any aggression when keeping multiple animals together. Since they are the smallest species of lacerta it is easier and more economical to provide them with spacious terraria relative to their body size. They are also very active and intelligent, readily learning to associate their keeper with food. These characteristics make *agilis* a very enjoyable and rewarding species of reptile to keep. The author hopes that they will become more common in herpetoculture once more people discover this charismatic little lizard.

Keeping

The author utilizes a three-pronged approach to keeping *agilis* in captivity. From approximately the beginning of May to the beginning of October the lizards are kept in outdoor terraria. The author lives in southern Pennsylvania in the USA. During these months the lizards are exposed to temperatures ranging from 1-38 C (35-100 F). While kept outside it is important that the lizards have access to a dry secluded area in the enclosure where they can retreat from extreme heat and rain. The typical terrarium furnishings of cork bark, branches, soil substrate, and a water bowl are all utilized. Live plants, usually grasses, are also planted in the terraria. The terraria are primarily composed of screen mesh that allows for adequate airflow and light penetration and are oriented toward the south. The terraria measure 76x76x41 cm (30x30x16 in) and the *agilis* are kept with one male and up to three females per enclosure.

From approximately the beginning of October until the beginning of January the lizards are placed into small plastic storage containers with enough soil for the lizards to bury themselves. The storage containers are ventilated by puncturing multiple small holes through the sides. These storage containers are placed in the author's unheated but insulated garage where temperature stays a relatively stable 10 C (50 F) during the winter months. During this time the lizards will hibernate and rarely move. It is important that before the lacertas are hibernated that feeding ceases at least several weeks prior. Usually the animals stop feeding on their own when living outside as temperatures start to decrease.

From approximately the beginning of January until the beginning of May the lacertas are kept in indoor terraria in the author's main facility. During the transition from hibernaculum to terrarium temperatures are increased gradually and food is not offered for at least one week. Eventually the lacertas will become increasingly active, hungry, and ready to breed.

Lacerta agilis are primarily insectivores but will also eat fruit based diets as well. The author feeds his adult *agilis* every Monday, Wednesday, and Friday as much as they will consume within five minutes. Live crickets, mealworms, superworms, dubia roaches, and silkworms are all readily used and accepted as feeder insects. Like with all insectivorous reptiles it is very important to gutload all feeder insects with a diet of fresh greens, vegetables, and fruits. The author dusts all feeder insects with one either Repashy Calcium Plus, pure calcium powder, or bee pollen. Supplements such as powdered marigold or Repashy SuperPig are also occasionally used and can help the animals to achieve their best and most natural coloration. Occasionally insect feedings are substituted for Pangea complete gecko diet.

Three sources of lighting are utilized when the animals are kept indoors in the Spring. A high output LED light strip is used for visible light and plant growth. A T5HO fixture and bulb (5.0, 6.0, or 10.0 have all been used) is used to provide UVB lighting. Last, a halogen bulb is used to provide heat in the form of a basking spot. The author seeks to achieve a basking spot of approximately 38 C (100 F). The majority of the enclosure can have a much wider temperature range and temperature and lighting choices should be made available for the animals. It is beneficial to provide a night time temperature drop even in the Spring and Summer months. While keeping his lacertas indoors the author's main reptile facility ranges from 15-21 C (60-70 F) at night. It should be noted that all three of these light sources are kept outside of the terrarium and that the terrarium should have a fully screen top to achieve strong ventilation.

Fresh water should always be provided in a bowl. Additionally, the author also mists his terraria in the mornings and evenings to simulate natural humidity cycles. While the increased humidity from these mistings are beneficial it is important to not allow the terraria to become saturated and stagnant.

Breeding

The author observed breeding behavior several weeks after the adult lacertas were removed from hibernation. Approximately one month post copulation the females will lay between 4-18 eggs. The eggs are removed immediately after laying and are incubated externally. The author uses a sealed plastic cup containing perlite or vermiculite and water in a 1:1 ratio. The eggs are cushioned with the perlite and mostly buried with only the tops of the eggs visible. The eggs are incubated at variable temperatures with a significant night time drop. An artificial incubator is not used. The egg containers are kept in a secure location in the author's main facility. The authors' *agilis* eggs were exposed to temperatures ranging from 20-27 C (69-79 F). Under these conditions the eggs hatched after approximately 40 days. In the wild, females usually only lay one clutch per year but under ideal artificial conditions females will lay two or even three clutches in a season.

The young are raised communally in similar terraria to the adults. The main difference in their care is that they are fed as much as they will eat six days a week. It is important to monitor the young so that any slower growing individuals can be removed from the group to receive optimum care. With this care *agilis* will achieve adult size in as little as six to eight months.

Conclusion

Lacerta agilis are incredibly rare in herpetoculture, especially in North America. As of the writing of this article the author is not aware of any other breeder of the species in North America. The author highly encourages any others working with the species in the USA to contact him so that cooperation can be fostered in establishing this charismatic lizard. The author has found that they are hardy and extremely rewarding lizards to work with as long as a high level of consistent care is provided. Since *agilis* are bold, active, and able to be kept communally they are excellent candidates for expansion in herpetoculture.

Images

Adult male showing exceptional coloration.



Adult pair



Subadult male showing more typical green coloration



Adult female



Juvenile



Examples of enclosures



Sources

1. <https://www.eurolizards.com/lizards/lacerta-agilis/>
2. <https://www.inaturalist.org/taxa/35912-Lacerta-agilis>