

Tiliqua scincoides

Common Blue Tongue Skink

Lizards are one of the most abundant groups of vertebrates and have successfully adapted to a wide-range of environmental conditions. Reptiles evolved from amphibians, which are a different group, but Linnaeus couldn't distinguish between them (Avery, 1979). Reptiles have a scaly skin, which enables them to resist desiccation, so the skin is not used to any significant extent as a respiratory organ.



p1.- Introducing, the Blue Tongue Skink

Common Blue Tongue Skink
Phylum: <i>Chordata</i>
Sub-Phylum: <i>Vertebrata</i>
Class: <i>Reptilla</i>
Sub-Class: <i>Lepidosauria</i>
Order: <i>Squamata</i>
Family: <i>Scincidae</i>
Genus: <i>Tiliqua</i>
Species: <i>scincoides</i>

There are seven species of *Tiliqua*, and all of them have elongate bodies, short limbs—each one with 5 digits—and short tails. The common blue tongue skink is mostly diurnal (active in early mornings and late afternoons or in warm nights), has overlapping scales which are smooth and shiny and, which is particularly interesting, if the tail is cut it can re-grow. They also have an ear opening and a

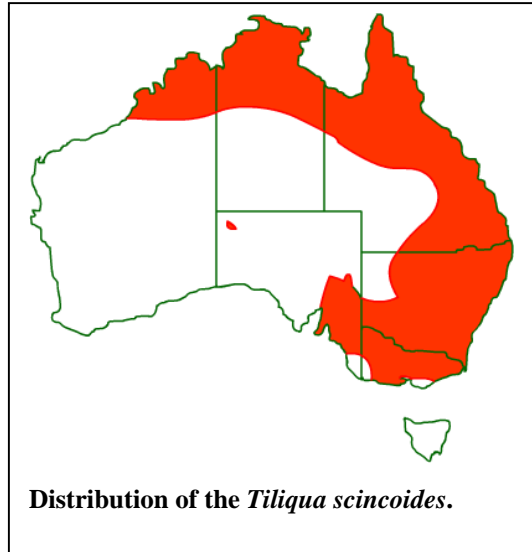
broad, fleshy tongue. The colour of this species can vary from silverly grey to yellow-brown. It has also 7-9 irregular darker brown to black transverse cross bands on body and 7-10 on tail. The head is pale brown to grey with a wide-back stripe from the eye to above the ear (as we can appreciate on the picture). According to most of the authors, the size of this animal is in between 29 to 35 cm (snout-vent), and can reach the size of 50 cm, including the tail.

These animals, being reptiles, have a relatively constant body temperature and had adjusted their behavior so that they get the maximum profit of external sources of heat, but also can control their temperature with a high degree of precision, supplementing their energy demands by anaerobic processes, such as the degradation of glycogen or glucose to lactic acid. Implantation of microelectrodes in the brain of *Tiliqua scincoides* [Avery, 13] showed that there are heat-sensitive and cold-sensitive neurons, which increase their firing rate in response to temperature changes.

Lizards obtain their energy from external sources (ectotherms animals), primarily solar radiation, so they have a resting metabolism, but in vigorous activity they produce energy by anaerobic processes like glycolysis, having lactic-acid as a byproduct, but only for short periods given the nature of their inefficient respiratory and circulatory system, which limit the rate at which oxygen can be supplied to the tissues. Also, because anaerobic glycolysis reduces the pH of blood and this, by consequence, reduces the oxygen carrying capacity of the haemoglobine. But they are extensively tolerant to lactate production.

The blue tongue skink has a metabolic heat production to speed heating and retard cooling [Pough, 181], in addition to the three temperature means for controlling temperature in reptiles: higher heart beating rate during heating than during cooling, carrying heat from the warm body surface to the cooler body core; transfer blood

within the heart decreases the proportion going into the lungs, increasing the amount of heat transported by blood; blood vessel dilation in the warm parts of the skin, increasing blood flow.



Tiliqua scincoides has a wide-spread distribution, as shown in the map, and can live in dry sclerophyl forest, open woodlands, heath and grasslands, excluding rainforest. They are common in suburban gardens, and are surface active, usually found sheltering under ground debris, abandoned burrows, beneath fallen logs and hollows. The diet is mainly snails, insects, mice and fruit, and according to Cronin (2001) their diet can include also carrion, flowers and fungi.

Using a climate classification map of Australia (appendix figure 1), we can appreciate that these species of skinks can be found in the humid oceanic climates of Victoria and south of NSW, the humid subtropical of the eastern coast, the tropical wet and/or dry of the north coast, in the subtropical dry summer of the south of SA and of course, in the large distribution of semiarid climates, avoiding the desert regions of the interior of Australia, except for a tiny zone in South Australia, as shown in the map.

They are very exceptional survivors of human urbanization, and there is good reason to suppose that their distribution in the past was pretty much the same, although their numbers could have increased in suburban areas, given the easy opportunities to obtain food from parks and backyards –they have a reputation of stealing dog food.

They are slow moving, and regardless they appearance, they are non-venomous [Swanson, 50]. If there is danger this animal will prefer to retreat, but if cornered could hiss violently in order to frighten the aggressor, and as a last resort they can give a powerful and painful bite



p2.- The harmless skink

but it could only produce a superficial wound. But because of their docile temperament they are kept as pets by children, for they are easy to look after¹.

Tiliqua scincoides mate in spring and, from early to late summer they give birth to live young (hence, it is a viviparous species). Numbers vary from source to source, from 5-25 young live with measurements from 10 to 14 cm. This species can live up to 20 years.

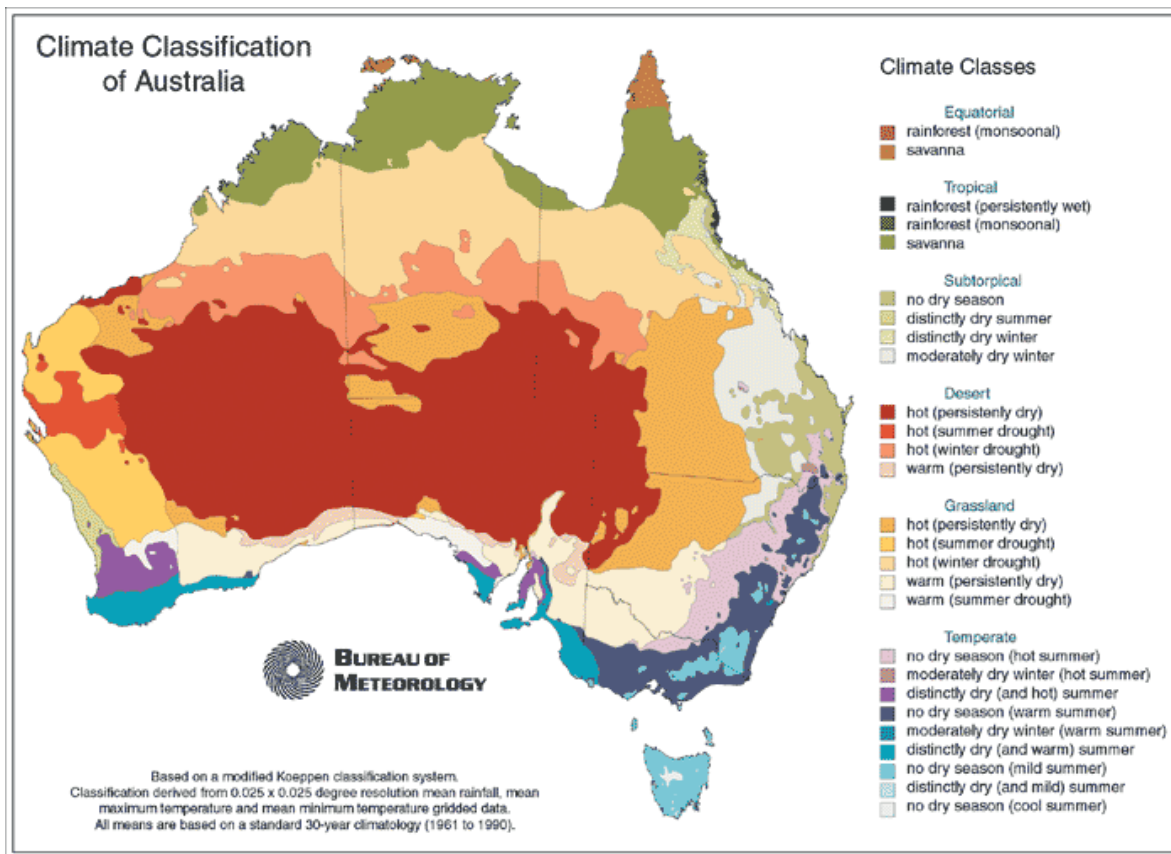
It is strange to acknowledge that this slow-moving, relatively large animal could have survived successfully to human intervention. Sightings are common in every city on the eastern side of Australia, as expressed above, and can spent many years living in a backyard or in a park. This species in particular is not of conservation concern, at the contrary; it is in many cases attractive to humans as a docile and harmless pet. Sometimes it is mistaken with the Death Adder Snake, and thusly, killed [Griffiths, 88], mostly because in high grass their limbs are hidden and may appear as a snake, but this is uncommon and is not a threat to their numbers. But also, human activity in some areas could have helped the common blue tongue skink to survive as urbanization wiped-out any bigger and dangerous animal that could threat this reptile (apart from dogs, which appear to be not obsessed with them) and helped them with an easy shelter and food supply. Of course, their temperament

¹ There are several sites on the internet with detailed information on how to look after such an animal. Given the number of sites devoted to it I can infer that it is very appreciated as a pet, mainly for children. I cite one of those sites (*All Creatures Animal Hospital*): <http://www.all-creatures.com/456004.html>

could have helped too, as not being of any concern for human activity they are allowed to live with relatively calm and kept as a pet for children, hence, helping their population to be, if not encouraged, at least stable.

Appendix 1.- Climate Classification of Australia

Taken from the Website of the Department of the Environment and Heritage, at <http://www.deh.gov.au/soe/2001/atmosphere/images/atfg002.gif>



Bibliography and sources:

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8. SWANSON Stephen, *Lizards of Australia*, Angus and Robertson Publishers, 1987, Australia

The images were taken from the following internet sources:

p1.- www.rareearthinc.com/

p2.- www.thereptilerainforest.com/