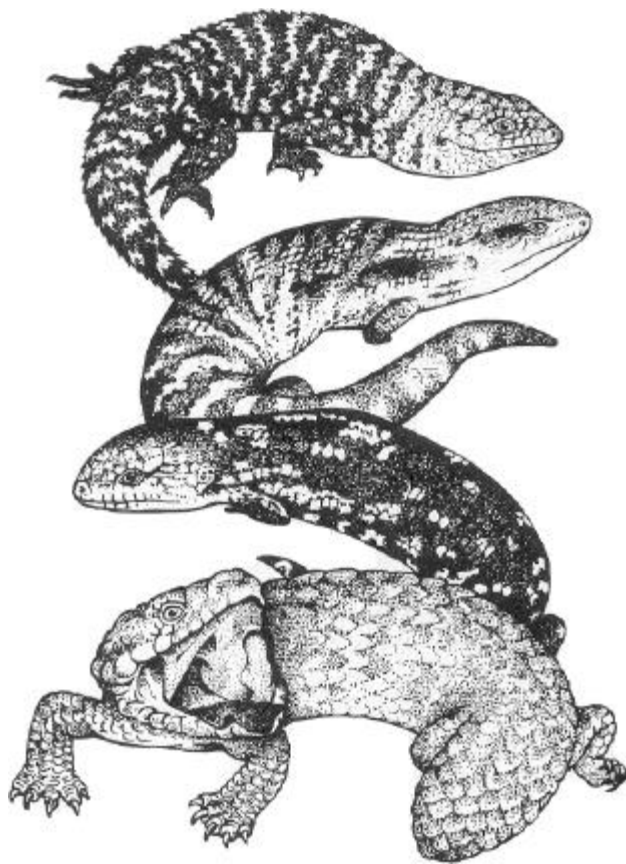


SIMPLY
SKINKS



MELBOURNE ZOO

The purpose of this pamphlet is to provide lizard fanciers with basic information necessary to correctly keep skinks in captivity.

The family Scincidae is the largest family of Australian lizards. However, we will only be looking at the four species most popularly kept in Victoria, two Blue-tongued Lizards, the Shingleback Lizard and the Cunningham's Skink. Much of the following information can apply to many other species of skinks.

Distribution

Blue-tongued Lizards are found throughout Victoria. Two separate species, the Common or Eastern Blue-tongue and the Blotched Blue-tongue overlap in their distribution and habitat within the State. Both are diurnal ground-dwelling lizards found in a wide variety of habitats from coastal heaths, to lowlands and mountain forests and the more and interior plains of Victoria.

The Shingleback is a diurnal lizard and grows to a length of 450 mm. It is widely distributed in the drier areas of northern and western Victoria.

Cunningham's Skink is a gregarious diurnal lizard which inhabits crevices amongst rocky outcrops of central and northern Victoria. It is a large lizard growing to a maximum total length of 450 mm.

Obtaining a lizard

Before acquiring the lizard of your choice you should ensure the animal is in good health. Make sure its skin is in good condition and free of external parasites, but do not be worried about old scars. Its eyes should be clear and bright, and check its mouth for signs of mouth rot (red spots or cheesy exudates) on the gums. Finally, observe that the lizard moves, rests and behaves normally.

It must be remembered that no animal should be kept in



Cunningham's Skink
(Egernia cunninghamii)

captivity unless you can provide the necessary requirements for its well-being. Furthermore, check with the Department of Conservation & Environment whether you require a permit (licence).

Housing requirements

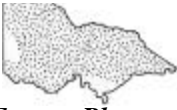
In order to maintain any animal in captivity it is always necessary to be aware of the basic requirements essential for its survival and well-being in the wild. By then providing these requirements in a captive situation the animal will live a healthy life.

Skinks, as do all reptiles, rely on an external source of heat to maintain their specific preferred ranges of body temperature. They achieve this by basking in the sun or lying on warm surfaces. When they are in danger of overheating they seek shelter under vegetation, below ground or in water. By this behavioural activity they maintain their preferred temperature range and therefore, most importantly, all their internal bodily functions will operate normally (e.g. digestive, circulatory, respiratory, reproductive and nervous systems).

Necessary criteria for keeping skinks are as follows:

Size of vivarium and number of lizards - always remember that no enclosure can be made too large. A guide to the floor space necessary for up to three captive skinks would be 1m x 1.3 m and the walls a height of 60cm or more.

Escape proof - Cunningham's Skinks are particularly good climbers. However, do not underestimate the sluggish Shingleback Lizard. Never use chicken wire to contain lizards in outdoor enclosures, as they are inclined to rub their noses on the wire. Use woven wire mesh or solid walls.



Eastern Blue-tongued Lizard
(Tiliqua scinoides scinoides)

Easy access - for ease of cleaning and placing food into enclosure

Substrate - coarse sand, aquarium gravel, pebbles and/or dry leaf litter. These materials are absorbent and will ensure a dry environment.

Hiding locations - in order to help reduce stress, always provide your lizard with some form of retreat, e.g. raised flat rocks, hollow logs, concave slabs of bark, broken flower pots, grass tussocks.

Water - clean fresh water should be provided at all times.

Use a container that cannot be tipped over by the lizards.

Heat source - a heat lamp or high wattage light bulb with reflector, suspended over one end of the enclosure will allow the lizards to move in and out of the heat source and maintain their preferred temperature range. Temperatures at the basking site for Blue-tongues and Cunningham's Skinks should be 30 deg. C. and 35 deg. C. for Shinglebacks.

Light - a source of ultra-violet is essential - either direct sunlight, or if this is not possible an ultra-violet fluorescent tube known as 'Blacklight' is a good alternative.

Ventilation - provide a good free flow of fresh air.

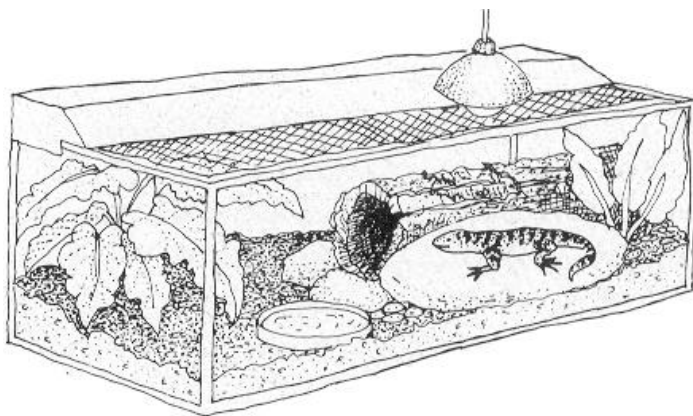
Mixing species - skinks of different species can be kept together provided they are of a similar size and a close watch is kept on them to ensure no one animal is dominated by the others.

Other furnishings - many lizard keepers like to house their animals in as natural an environment as possible, by including in the enclosure such things as plants, leaf litter and interesting moss-covered branches, rocks and logs.



Blotched Blue-tongued Lizard
(Tiliqua nigrolutea)

A typical aesthetically landscaped skink vivarium providing the necessary enclosure furnishings essential for a healthy life.



How to Handle and Transport

A lizard not used to being handled may bite and should be restrained by supporting the animal and preventing it from twisting and thrashing. There are no venomous Australian lizards and therefore no need for alarm if bitten.

To minimise stressing a captive lizard, always allow it time to settle into its new environment and begin to eat and behave normally before you handle it.

Lizards are best transported in calico bags and for added safety, placed into a well ventilated wooden box. Hessian bags should never be used for transportation due to the fibres getting caught and causing damage to the lizard's scales, mouth and toes. It is also not recommended to transport lizards along with any enclosure furnishings, e.g. rocks, branches, water dish, etc.

Place lizards individually into bags when transporting and keep them out of direct sunlight and draughts. Cease feeding them a couple of days prior to transporting, though give them a good soak in shallow tepid water before departure and again on arrival to prevent dehydration.



Shingleback
(Trachydosaurus rugosus)

Food and Feeding

A wild lizard will eat a large variety of food types, thus balancing its nutrient requirements for a healthy life. This principle ***must*** also be applied to captive lizards. An artificial diet which you prepare should form the foundation of your lizard's diet. In general, it should consist of a mixture of any soft fruit or vegetable, e.g. tomato, banana, cucumber, zucchini, apple, pear, peas, broccoli, etc. chopped or diced to about mouth size for the lizard and making up approximately 80% of the mixture. The remaining 20% of the ingredients should be high protein food in the form of boiled egg, minced meat, canned dog food, or dry dog food pellets soaked in water until they are soft, then squeeze the excess water out and mix in with the chopped fruit and vegetables. It is essential that the food mix is not sloppy, otherwise severe dental problems will result. Multi-vitamin and calcium powder should be added to the diet as a supplement. Other food items which should be fed as frequently as possible are garden snails (that have not been feeding on poisonous snail pellets), meal worms, wild flowers, e.g. dandelions, and large insects, e.g. moths and their larvae, crickets, grasshoppers, cockroaches. It is important when feeding your lizards that ***they are being maintained at the correct temperature***. Failure to do so may lead to illness or even death. If a lizard is kept at below normal temperature, it may refuse food altogether, regardless of when it last fed. If the temperature drops after feeding, food may be regurgitated or remain undigested in its digestive tract and cause serious illness. Regurgitation can also occur if temperatures are too high. Like most reptiles, skinks do not need to be fed everyday, rather every two or three days. When they are fed, however, they should be given as much as they can eat and you should observe to be sure each lizard is eating and not being

Further Reading

Cogger, H.G. (1986) Reptiles and Amphibians of Australia Reed Books, Sydney, 688 PP. 4th Edition.

Weiget, J.R. (1988) Care of Australian Reptiles in Captivity, Reptile Keepers Association, Box 22 7, Gosford, N.S.W. 143 PP.

dominated by another lizard. To overcome this problem if it exists, you could either provide several food dishes or remove the dominant lizard at feeding time.

Breeding and Rearing Young

All male lizards have what is known as paired hemipenes which, at the time of copulation with a female, swell up and invert like the finger of a glove. Mating takes place by the male inserting a hemipene into the female's cloaca. All four species of lizard that we have looked at are viviparous, which means they give birth to live young. Mating generally takes place in late spring/early summer, the female giving birth approximately two to three months later in mid to late summer. The young lizards are independent at the time of birth and should be immediately housed separately to prevent being eaten or injured by larger lizards. House and feed them exactly as described for adult lizards, except cut up their food smaller for convenience.

Eastern Blue-tongued Lizards can produce an average of 10 but up to 25 young at the one time. Blotched Blue-tongued Lizards produce from 6 to 10 young, and Cunningham's Skinks average 4 to 7 young. Shinglebacks produce 1 to 3 young, but usually two.

Distinguishing between males and females in the species we are discussing is difficult, and is usually done by comparative means. Male Blue-tongued Lizards and Cunningham's Skinks generally have broader, longer tails than females, together with a broader, thicker head and neck region. In contrast, male Shingleback Lizards have a thinner, longer tail than do females of the species. Few records can be found about how long a lizard can live for. However, there is a record of an Eastern Blue-tongued Lizard living for 21 years in captivity. It would be

safe to say the longevity of these species of skinks would be 8-15 years.

Torpid Period

Unlike birds and mammals, lizards are unable to produce their own body heat and maintain a constant body temperature. They rely on obtaining that heat from their environment, i.e. the sun. In temperate zones of the world, that heat is not available year round, e.g. winter. Therefore, without environmental heat, all the lizard's bodily functions slow down. From April onwards it becomes less active and slowly goes into a state of torpor as the days become shorter and cooler. It then draws nourishment from the fat stored in its body through the active summer period.

There is therefore, no magic date that lizards will become torpid, this behaviour is entirely temperature related. Lizards generally spend this period of the year well concealed, deep within rock crevices and hollow logs. These same principles apply to captive lizards. However, newly acquired, sick or injured lizards and very young lizards should be kept warm and fed throughout the winter months.

Large, healthy specimens may be kept outside in their enclosure provided they have dry, draught-free areas in which to spend the winter. Alternatively, they could be collected and kept in a secure box with plenty of dry leaf litter or shredded paper and placed in a cold, dry, draught-free area indoors (e.g. garage, laundry, shed). As the days get longer and become more consistently warm, generally mid to late spring (October), your lizard should become more active and accept food items with increasing regularity.

Problems that might arise

The majority of problems in maintaining skinks in captivity arise from poor environmental conditions, particularly inadequate heating. If your lizard shows signs of illness check to be sure all its housing requirements have been met.

Trauma - abrasions to the nose and head region, cuts and sores can be treated successfully by keeping the area clean and the application of an antiseptic iodine solution. Severe injuries should be treated by a Veterinarian.

Respiratory Infections - are generally caused through stress and the lizard being kept in cool, draughty or damp conditions. The symptoms which appear are usually difficult breathing, nasal and oral discharge, wheezing, gaping, head held up and lethargy. Veterinary advice should be sought for treatment and the affected lizard should be isolated and kept warm.

Sloughing Defects - skin shedding (sloughing) problems in skinks usually indicate its environment is too dry. Such difficulties commonly occur on the lizard's legs, feet and tail. Allow the lizard to soak in a bucket of shallow tepid water to soften the skin and remove manually.

Mouth Rot - this condition can easily occur if the lizard is under stress. Early symptoms are loss of appetite and red spots on the gums, developing into a cheesy like substance forming on the gums. Treat by removing any loose material with a small artist's paint brush, then paint peroxide onto gums. The affected specimen should be isolated and if the condition persists a Veterinarian should be consulted.

Cannibalism - is not usually a problem with skinks. Nevertheless, avoid keeping lizards of greatly differing sizes together, including mother and young.

Blisters and necrotic dermatitis - floor covering that remains too damp can result in fluid filled blisters that look like sub-

cutaneous haemorrhages or rotting scales. Treatment of these symptoms should begin by replacing the substratum with fresh material and swab affected areas of the lizard with iodine. Consult a Veterinarian if symptoms persist.

Nutritional Problems - are typical of lizards which have not been fed a varied and complete balanced diet. It is also important that lizards are not deprived of Vitamin D which is obtained from the ultra-violet rays of sunlight. Without Vitamin D, calcium is unable to be synthesised into a usable form in the lizard's body which may develop into the softening of bones, fractures or bone disease.

External Parasites - Ticks - are commonly found in the ears and leg folds of lizards. To remove them, swab the tick with paraffin oil or methylated spirits and remove with a pair of forceps ensuring not to leave the tick's head behind as it could cause infection.

Mites - can be detected by seeing them moving around freely on the lizard's skin or the presence of very small white dots which are the mites' faeces. The lizard may also be seen rubbing itself against objects in its enclosure. Mites can be easily treated by hanging a Shelltox Pest Strip in the lizard's enclosure and covering ventilation holes with a sheet of plastic for approximately half an hour. Repeat this treatment every 5 days for 3 to 5 weeks. If there is serious infestation, completely strip all furnishings from the enclosure and replace with new materials.

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