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SKINKS

Ocellated (Bronze) Skink

Chalcides ocellatus

Chalcides ocellatus is a lively, diurnal skink from the Mediterranean region, North Africa and the Middle East with a smooth, cylindrical body, small legs and pale-edged eyespots on the back. It swims through loose sand, gives birth to live young and is inquisitive and easy to watch. It does well in a dry enclosure with a sandy substrate, a warm basking spot and humid nights.

Family: Scincidae

KEY FACTS

THE ANIMAL

Adult size	**15-30 cm** total length incl. tail
Weight	**22-39 g**
Lifespan	**10-20 years**
Active	**By day**
Lifestyle	**Terrestrial and burrowing**
Habitat	**Desert and semi-desert**
Difficulty	**Intermediate**

CARE

Min. enclosure	**90 × 45 × 30 cm** L × W × H for 1 adult
Temperature, day	**24-29 °C**
Basking spot	**33-37 °C**
Temperature, night	**18-21 °C**
Humidity	**15-35%**
Water	**Water dish**
UVB	**Recommended** Ferguson zone 2
Diet	**Insects and small invertebrates (springtails, fruit flies)**
Kept	**Singly or in groups**

BREEDING

Reproduction	**Live-bearing**
Litter size	**2-12 young**
Clutches per year	**1-2**
Gestation	**90-120 days**

PROTECTION AND PAPERWORK

CITES	**Not listed**
EU annex	**Not listed**
IUCN	**Least Concern (LC)**

About the species

Chalcides ocellatus is a small, smooth and glossy skink with a cone-shaped head, a long, cylindrical body, short legs with five toes, long toes on the hind feet and a tapering tail. The legs are small but well developed, and this distinguishes the species from *Chalcides chalcides*, which lives side by side with it in Sardinia and Sicily. The ground colour is bronze, grey or brownish with a pale belly, and the back has rows of dark spots with a pale edge, the so-called eyespots (ocelli). Dark bands run from the lips up across the cheek. Colours and markings vary greatly from population to population. The species name ocellatus means precisely "eye-spotted".

The species reaches 15-30 cm including the tail and weighs about 22-39 g. Lifespan in captivity is not documented; 10-20 years is an estimate. Females have a larger body and belly than males, while males have a relatively larger head. The animal is agile, but not particularly fast, and escapes predators by darting in behind the plants. It can "swim" through loose sand and soil by beating its body like a fish, but the legs are not built for real digging, and it rarely digs deeper than about 4 cm.

The species was described in 1775 by Peter Forsskål with Egypt as the type locality. It is divided into several subspecies, some of which are doubtful, and the closely related *Chalcides colosii* was formerly regarded as a subspecies.

C. ocellatus is inquisitive and quick to learn, can tell people apart and remembers how it has been treated. It is, however, slippery, fast and easily frightened and not an animal to be handled much. It has a light-sensitive parietal eye that picks up movement from above, and therefore becomes frightened easily if approached from above.

Distribution and habitat

Chalcides ocellatus has a very wide range. In Europe it occurs in Sardinia, Sicily, Lampedusa and Linosa, on Malta, Crete and several other Greek islands, in Cyprus and in Turkey. In the Middle East it lives in Lebanon, Syria, Jordan, Israel, Palestine, Iraq, Iran, Saudi Arabia, Yemen, Oman and the United Arab Emirates, and to the east it reaches southern Turkmenistan and western Pakistan. Records from India and Sri Lanka are doubtful.

In North Africa the species occurs from Morocco and Western Sahara to Egypt and south to Mauritania, Mali, Niger, Chad and Sudan. Records from East Africa are disputed and are not shown on the map.

The species has been introduced to the Italian mainland, among other places near Naples and in a port in Tuscany, with ship traffic from Sardinia, and it has been introduced in France and in the USA. The introduced populations are not shown on the map.

> **Native range:** Italy, Malta, Greece, Cyprus, Turkey, Lebanon, Syria, Jordan, Israel, Palestinian Territories, Iraq, Iran, Saudi Arabia, Yemen, Oman, United Arab Emirates, Turkmenistan, Pakistan, Morocco, Western Sahara, Mauritania, Algeria, Tunisia, Libya, Egypt, Niger, Mali, Sudan and Chad.

HABITAT

Chalcides ocellatus is a generalist found in many kinds of dry land along the Mediterranean and on into the desert regions: sandy and stony plains, gravel desert and farmland. It prefers loose, sandy to stony ground with scattered vegetation, stones and fallen branches where it can seek cover. It rarely lives far from water, and the coastal areas are far more humid than the dry landscape suggests.

The species is diurnal and basks, but also spends much time down in the substrate. The days are dry and warm, the nights humid with dew and high humidity, and at night the animals choose a lower body temperature. In winter there is a cool period, but the species does not enter true hibernation. The breeding season is in spring and summer and follows temperature and day length.

Read more: Humidity, misting and ventilation Read more: Brumation and the seasons

Care

THE ENCLOSURE

A single animal needs an enclosure of at least 90 × 45 × 30 cm, and larger is better. Floor area matters more than height, because the species mostly moves on the ground, but it also climbs, so branches and rocks give variety. Over 60 cm in height is seldom necessary. The enclosure must be well ventilated, open at the front and closed or covered on three sides, so that the animal feels less exposed.

The substrate must be diggable: a loose mixture of 3 parts topsoil and 2 parts play sand in a layer of at least 5 cm, more if there are to be plants. A layer of dry leaves on top gives extra structure to dig in. Avoid coconut fibre, bark, wood chips, nut shells, gravel and calcium sand. Calcium sand is sold as a safe product, but it is not. Remove droppings, food remains and urates daily, and change the substrate completely every 1-3 months if the enclosure is not bioactive.

Furnish with several hides of cork, caves and flat rocks, branches, ledges and drought-tolerant plants. Flat rocks must lie stably so that they do not fall on an animal digging in under them. Many hides mean that the animals move freely and show themselves more often.

Read more: Terrarium construction and bioactive substrate Read more: Calcium, vitamins and supplements

TEMPERATURE

Chalcides ocellatus loves the sun and needs a clear temperature gradient. The basking spot should have a surface temperature of 43-49 °C, measured with an infrared thermometer, and the air temperature above it should be 33-37 °C. The cool side should be 24-29 °C. At night all heat and light are switched off, and the temperature may fall to 18-21 °C.

Use a halogen spot or an ordinary incandescent bulb at one end, and place a large, flat stone underneath as a basking spot. The light and heat should come from the same place, because the animal associates light with a basking spot. Newborn young climb well and can slip past a lamp shade, so the lamp is best placed outside the enclosure above the mesh. Measure the temperature both at the basking spot and in the cool side. If the animal cannot get away from the heat, it can suffer heatstroke.

The species does not hibernate, but a cool rest period of about three months from December to March is beneficial. Gradually turn down the heat lamp, by no more than half an hour a week, until it is on only about three hours a day, and lower the night temperature. The animal eats less or not at all during the period. Weigh it, and warm up again if it loses 10 % of its weight.

Read more: Heat and temperature

HUMIDITY AND WATER

Humidity should follow the rhythm of nature: dry by day and humid at night. By day the enclosure should dry out to 15-35 %, and at night it may rise to 90-100 %. Mist the enclosure every evening after the light is off, and let it dry out again during the day. This requires really good ventilation, especially in humid homes; otherwise the substrate becomes too wet and mouldy.

Misting also moistens the substrate, so the animal finds it easier to keep its fluid balance. Measure humidity with a digital hygrometer in the middle of the enclosure. There must always be a shallow bowl of fresh water. Change the water when it is dirty, and scrub the bowl every week.

LIGHTING AND UVB

The species is diurnal and needs strong light and UVB. It belongs to Ferguson zone 2, and the UV index should be 2-3 at the basking spot and lower in the rest of the enclosure. A T5 HO tube of 5-6 % gives that at 25-35 cm from the animal's back through mesh, a tube of 10-12 % at 40-50 cm. The tube should cover about half the length of the enclosure and sit over the basking spot together with the heat lamp. Glass and plastic block UVB, so there must be no pane in between. Replace the tube according to the manufacturer's instructions. Vitamin D3 in the food can keep the animal alive without UVB, but the dosage is imprecise, and UVB is better.

Also provide strong daylight from a T5 tube or an LED lamp of about 6500 K, covering two thirds to three quarters of the length. Day length can be 12 hours all year, but it can also follow the seasons from about 10 hours in January to 14 hours in July. Use a timer, and never use coloured light.

Read more: Lighting and UVB

FEEDING

The species is first and foremost an insectivore and in the wild takes almost anything it can overpower: locusts, crickets, ants, beetles, woodlice, spiders, centipedes and insect larvae. It also eats the young of other lizards and the tails of its own species. In the enclosure the food can be crickets, cockroaches (for example *Blaptica dubia* and *Blaberus discoidalis*), locusts, mealworms, flour beetles, silkworms, small superworms, hornworms, woodlice and black soldier fly larvae. Variety is important. Waxworms and butterworms are treats and are given at most once a month. Feed the insects up for at least a day before they are given.

The species also eats a little plant food: finely chopped greens such as dandelion, carrot tops and hibiscus, as well as flowers and soft fruit. Greens twice a week are ample, and many animals leave them. Complete food for insectivorous lizards and wet cat food are also eaten and are good to have in reserve; give them at most once a week.

Young are fed daily, adults 2-3 times a week, and gravid females and females that have just given birth daily. Prey should be slightly smaller than the animal's head. Dust the food with calcium, and give a multivitamin now and then; better too little than too much.

Read more: Feeder animals: keeping and breeding

BEHAVIOUR AND HANDLING

Chalcides ocellatus is active and inquisitive, but not an animal for regular handling: it is slippery and fast and disappears easily if it becomes frightened. Calm approaches and food make it bold, while chasing and force make it shy and stressed, and it can

take a long time to regain its trust.

Give a new animal 2-3 weeks in peace, in which only water and food are changed and the substrate is cleaned. Approach from the side, not from above. Then offer insects with soft-tipped tweezers and later from the hand.

The animal can be kept singly, and that is the safest. Groups are possible, but aggression occurs between males, from gravid females towards males, from males towards young and between adult females. Females of roughly the same size usually get on well when there is space, many hides and visual barriers. Males can fight to the death in the breeding season. Sex is hard to see, so groups require close supervision, and animals that bite hold and roll around with each other must be separated at once. Allow at least 1,300 cm² of extra floor space per additional animal and more basking spots.

Breeding

SEXUAL MATURITY AND SEXING

Sex is very hard to determine, and the seller can rarely guarantee it. Adult females have a larger body and belly, while males have a relatively larger head. Males become sexually mature at a larger size than females. Age at sexual maturity is not documented. Behaviour often gives the males away: they are aggressive towards other males, especially in the breeding season, and during mating the male bites hold of the female.

MATING

In the wild the species breeds in spring and summer, and the breeding season follows temperature and day length. A cool rest period in winter is not necessary for breeding, but can benefit the animals' hormone balance. A female can mate several times a year.

Only put a male and a female together if you want young and can look after them, because the litters quickly become many. The female should be healthy and in good condition. During mating the male bites hold of the female, and tail-twisting often precedes it. Gravid females can attack males, so separate the animals if unrest arises.

EGG-LAYING AND CLUTCHES

Chalcides ocellatus gives birth to live young, which are nourished by the mother through a placenta. A litter is 2-7 young, on average about 4, and large females have the most; litters of up to a dozen occur. Some females have two litters in the same season.

Pregnancy falls in the summer months. The female stops eating towards the end of pregnancy, which is normal, and she should be fed generously after birth. Give her peace and many hides. The young are independent from birth.

INCUBATION

There is no incubation period, because the young are born alive. The length of gestation is not documented; 3-4 months is an estimate. The gravid female is kept under the usual conditions with heat, UVB and calcium, fed daily and must not be stressed. Preferably house her alone, so that she is not attacked by other animals or does not attack them herself.

Read more: Incubating eggs

REARING THE YOUNG

Newborn young are small and active, seek food and cover at once and climb well. Feed them daily with small insects dusted with calcium, and give them the same conditions as the adults: loose, sandy substrate, a basking spot, UVB and dry days with humid nights. Take the young away from the adults, because adults bite them and can eat them. Provide many hides, and distribute the young among several enclosures if there are many.

Health and common mistakes

Chalcides ocellatus is hardy when the temperature gradient, humidity rhythm and UVB are right. Most problems are caused by wrong husbandry:

- Too little UVB and calcium cause metabolic bone disease (MBD). Use a good UVB tube, and dust the food.
- Too little heat causes poor digestion, weight loss, gout, impaction and a weakened immune system. At the same time the animal must be able to retreat to cool spots, otherwise it risks heatstroke.
- A substrate that is too wet and poorly ventilated causes mould and skin problems. Let the substrate dry out during the day.

- Calcium sand and coarse substrate are unsuitable. Use fine sand or a mixture of sand and soil.
- Lack of drinking water causes dehydration and shedding problems.
- Too many animals together cause fights, bites, lost tails and cannibalism.

A healthy animal has clear eyes, a round and plump body, a straight back and legs, smooth scales and firm droppings with a little white urate, eats regularly and wriggles when held. Signs of illness are a sunken body, a visible spine, dull skin, loose droppings, open-mouth breathing and lethargy. The animals hide illness, so keep notes on weight and behaviour, and have an annual health check with a vet experienced with reptiles.

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.