



# Handle with care

## Spur-thighed, Hermann's, marginated and Horsfield's tortoises

**Species:** Spur-thighed or Greek tortoise, Hermann's tortoise, marginated tortoise and Horsfield's or Russian tortoise

**Scientific names:** *Testudo graeca*, *T. hermanni*, *T. marginata* and *T. horsfieldii*

### Description

All tortoises have a bony shell made of hard plates that protect their soft bodies. The overall size, colours and features of tortoise shells and bodies vary from species to species. Generally shells are tones of brown, blacks and buffs with quite a bit of yellow in the case of the Hermann's tortoise. The spur-thighed tortoise has a bony spur on the rear of each thigh, whereas the Horsfield's tortoise has a claw on the tip of its tail. The marginated tortoise is the largest and darkest of these land tortoises; it grows to 30cm in length, with the edge of the upper shell of adults being splayed out at the back.

### Life in the wild

Spur-thighed tortoises are found in sparsely vegetated, dry areas from northern Africa to the south-western part of the Iberian Peninsula, Israel, Turkey, southern Russia and Iran. Hermann's are found from the Balkan Peninsula through Italy to Iberia. Marginated tortoises live on the mountain slopes of southern Greece and on some Greek islands. Horsfield's tortoises inhabit plains in south-western parts of Asia, where they are found in fairly dry rocky areas and hillsides, most commonly near springs where vegetation is abundant, in Afghanistan, Iran, Pakistan and the former Soviet Union.

### Source of animals

Trade in tortoises is strictly regulated throughout the European Union because of concerns for their welfare and the impact trade has on the survival of some species in the wild that are now threatened. Tortoises on sale in the UK are generally captive bred. RSPCA animal centres may have, or know of, tortoises that need rehoming. Alternatively your local veterinary surgeon or one of the exotic keeping organisations that rescues or promotes best practice when keeping tortoises may know of a reputable breeder.

### Prior knowledge and preparation

Before acquiring a tortoise, it is crucial that any potential keeper finds out about the animal – including how to provide for the animal's needs when kept in captivity, how big it gets and how long it lives. Only then can the keeper make an informed decision about whether s/he can provide the specialist care and captive environment required, and has the facilities, time, financial means and long-term commitment to maintain a good standard of care. The keeper can then acquire suitable accommodation, food and the necessary accessories, and prepare the enclosure to ensure the captive environment is stable before taking the animal home. This also gives the novice keeper time to locate and talk to relevant experienced keepers and professionals for further advice such as a vet with experience of treating the species and specialist organisations that keep these species in the UK.

### Vet care/costs/holiday cover

Tortoises need specialist handling and treatment. Your veterinary surgeon will advise on the costs of consultations. Holiday cover may be difficult and expensive to arrange, but your tortoise will need to be looked after properly every day by someone who understands its complex needs.

### Unhealthy/healthy animal signs

A healthy tortoise should have a hard shell with no deformities, weakness or damage to its surface and the plastron should not drag on the ground as it walks. It should be alert, with bright shiny eyes, and, unless the animal is used to being handled, will withdraw its head and legs into its shell if disturbed. A tortoise's skin should be free of ticks and mites, not have sores or fungal patches and not hang loosely in folds around its legs and neck as this is a sign of too much vitamin A. The tortoise should breathe easily with no signs of a respiratory disease, such as wheezing, nasal discharge or mucus around the mouth. Blood in the faeces may indicate bladder stones that can result from a diet too high in protein. Faeces should also be tested for internal parasites.

#### Health issues to find out about

- Incorrect hibernation practices.
- Bone disease – calcium and Vitamin D3 deficiency.
- Excess of Vitamin A.
- Bladder stones.
- Burns from incorrect lighting and heating.
- Respiratory infections.
- Internal/external parasites.
- Mouth rot.
- Dehydration.
- Anorexia.
- Fungal infections.
- Shell rot after shell damage and/or oiling.
- Ovulatory disorders.
- Overgrown beak and claws.

## **Why are tortoises vulnerable in captivity?**

Tortoises are completely dependent upon their owners for the provision of suitable accommodation, heating, lighting and food, all of which must reflect as closely as possible their wild habitat. Tortoises have very specific needs and research into the survival of the more commonly kept species found that most kept as pets die prematurely. Many tortoises have suffered shell weakness and other health problems caused by a poor diet lacking in calcium and Vitamin D3. Others can die because their owners do not follow veterinary advice on the health checks and care needed before, during and following hibernation. A tortoise's potential longevity of 50-100 years also makes it vulnerable if it ends up living longer than its owner.

## **Handling/transporting the animal home**

Anyone handling tortoises or cleaning their enclosure should wash their hands before and after handling the animals to reduce the risk of picking up and spreading bacteria such as *Salmonella*. Tortoises can be picked up by holding either side of the shell. The person's fingers should then be stretched out underneath to support the body and to stop the animal being dropped. Tortoises can be transported in a insulated wooden box lined with shredded newspaper, as long as the box cannot slide and risk the animal being injured during the journey. The box should be well ventilated with a tight-fitting lid.

## **Needs: grouping, diet, accommodation and environment**

Unless their enclosure is very large, these tortoises are best kept alone as they are naturally solitary and territorial in the wild. If kept in a group the animals should be monitored closely. Males can engage in shell butting and leg biting of females, and smaller tortoises may be prevented from eating if larger males are present. Females can be kept with other females, but those expecting young can become aggressive towards other females. Hermann's tortoises are more social than other species.

These tortoises need both an outdoor and indoor enclosure where ideally they can have free access to both areas in the summer. The indoor enclosure can be in a shed providing at least 180x120cm space for one tortoise; lined with a suitable substrate, such as a mixed loam compost base mixed with varying amounts of soft (play) sand. This needs to be of sufficient depth, about 50mm or 2 inches as a minimum. Increase the proportion of sand for a more arid habitat. Gravel, wood shavings, alfalfa pellets, calci-sand and cat litter are all unsuitable substrates. Tortoises need to be kept at a temperature of 20-25°C during the day and 15°C at night. Each tortoise will need its own basking spot at a temperature of 35°C provided by a tungsten or incandescent lamp with a reflector hood above one end of the enclosure. A full spectrum light that provides a source of ultraviolet-B radiation at less than 30cm away from the tortoise is also needed. The light period in the enclosure should reflect what the tortoise would find seasonally in its natural habitat (12 hours light in winter, 13 hours in spring and autumn, 14 hours in summer). If the species of tortoise would naturally hibernate in the wild, an experienced tortoise keeper or breeder should be consulted to find out about the special care needed. A vet should also check that the animal is healthy and of a suitable size and weight to survive a period of being kept at a cooler temperature without food. Any tortoise that is not hibernated over the winter will require a warm environment and a continuation of the care provided during the rest of the year. Large rocks for hiding, basking on and climbing over, and an area of deep insulating material (shredded paper or leaves) in which the tortoise can bury itself in, are other essentials.

An outdoor enclosure of 10m<sup>2</sup> is suitable for one tortoise and should be escape proof to prevent the tortoise from climbing or burrowing out as tortoises will climb and dig burrows in the wild. The enclosure should be surrounded by a barrier that is at least 45cm high and buried to a depth of 15cm. Wooden fences can be used, but brick or stone walls make the best barriers. In addition to including shrubs for shade from the sun in the enclosure, a waterproof refuge should be located in a sunny location. Wire mesh fixed above the enclosure can also help to reduce the risk of predation. The refuge will need to be raised off the floor to keep any water out and to prevent the newspaper or dried leaves that are used to line the refuge from becoming wet. A ramp, that is wide and strong enough to support the tortoise and securely fixed to the hide, is then needed to allow safe access. No pesticides or herbicides should be used inside the enclosure, leaving any suitable food plants, such as dandelions, to grow. The ground should not be water logged and should include an area of rocks for scrambling over.

A good tortoise diet is low in fats and protein but rich in minerals, vitamins and fibre. Tortoises also need a constant supply of clean drinking water in a shallow water bowl that is also used for bathing. Young tortoises should be fed daily and others every other day on a diet of plants, flowers and vegetables. All should be washed to remove any fertiliser or pesticide. Dandelions, chickweed, clover, plantains white-dead nettle and sow thistle should be given to tortoises. You must research the safe plants and feed a good variety of those and importantly, avoid the toxic plants. Do not feed green beans or peas as they contain too high protein. Also avoid foods high in oxalic acid which include cabbage, broccoli and spinach. Lettuce is not suitable as it contains a high level of water and therefore poor nutrition per gram. Calcium should also be given grating cuttlebone onto the food, with a sprinkling of a suitable vitamin/mineral supplement over food daily.

### **THIS IS BASIC INFORMATION ONLY.**

**If you still believe that you could care for this animal then you must obtain further specialist information prior to taking on the responsibility.**