

Elands Veterinary Clinic.

CLIENT INFORMATION SHEET.

Hibernating Mediterranean Tortoises

(*Testudo* spp)



.....because we care!

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HIBERNATION.

During late August and September, decreasing day length and dropping temperatures stimulate tortoises to prepare for hibernation. Before this, usually in early September, a routine veterinary examination and worming is advisable. Any disease problems must be corrected prior to hibernation. We can make measurements to help ensure that the tortoise scheduled for hibernation has sufficient body weight and reserves to cope. Only adult tortoises over 5 years old should be hibernated. Juveniles should be maintained over winter in a heated vivarium. Prior to hibernation feeding declines and starvation for 4-6 weeks prior to hibernation is essential to prevent undigested food decomposing in the stomach over the winter. Your tortoise should be maintained at 28°C for one week after the last meal to allow for digestion. The temperature should then be dropped by about 5°C a week for the next 3 weeks. This can be achieved by moving him to cooler rooms around the house. During this time, daily bathing will help ensure elimination of faeces and urine and proper hydration. Bathing water should also drop by 4-5°C per week to about 18°C.

For hibernation, a domestic larder fridge is the gold standard, as the temperature can be accurately regulated and it is vermin proof. Tortoises can be hibernated in a suitable container in an unheated shed (unassisted hibernation) but this is not recommended as it can lead to rodent damage or fluctuations in temperature. Tortoises exposed to temperatures below 5°C may experience post-hibernation anorexia, limb damage, eye problems or even death. Use a maximum and minimum thermometer to monitor minimum temperatures. If the tortoise is kept too warm (above 10°C) and becomes active it will consume its fat and glycogen reserves during hibernation resulting in weight loss, chronic dehydration, build up of toxins and uric acid and exhaustion of energy reserves which are needed for emergence. If there is no other way than unassisted hibernation, then use a large, wooden, rodent-proof tea-chest or box, with small air holes in the sides. Both the top and the holes should be covered with wire mesh to prevent vermin entering. Line the base and the sides of the box with polystyrene or shredded newspaper. Place the tortoise in an inner box with air holes and filled half way with polystyrene chips or shredded newspaper. Avoid hay or straw and do not cover the tortoise. Place the smaller box inside the larger one, making sure that it can be opened easily to permit observation during hibernation.

For routine assisted hibernation, check the fridge that you have chosen to use with a max/min thermometer. Aim for 5

degrees. Hibernation should be between 3°C and 10°C - the ideal temperature is 5°C as the tortoise uses very little energy at this temperature, therefore producing little waste. Weigh your tortoise and record the weight, then place the tortoise in a box just bigger than its self lined with shredded paper or vermiculite. Place this small box into larger box also lined with shredded paper or polystyrene chips, and place the whole thing into the fridge. The double insulation will reduce the impact of any temporary temperature fluctuation, but remember it will not prevent freezing if the outside temperature drops below freezing at any time – fridges do not contain heating elements and do not function well in out-houses and sheds! You must check the temperature inside the fridge regularly using a mix/min thermometer. The air must also be regularly changed - by daily opening the door of the fridge.

The tortoise should be carefully weighed on a weekly or twice monthly basis. An adult tortoise loses about 1% of its pre-hibernation weight every month while hibernating, i.e. on a 500 gm tortoise allow 5 grams to be lost each month. A drastic weight loss indicates something is wrong: the animal should be brought out of hibernation immediately and checked. If the tortoise urinates whilst in hibernation it will lose valuable fluid reserves. Warm it up straight away and seek veterinary advice

Do not hibernate your tortoise for longer than 3 months or there will be inadequate time the following year to build up reserves for the next hibernation. For adult captive Russian, Hermann's, Spur-thighed and Marginated tortoises a hibernation period of 2 – 3 months is the *maximum* for these species. Leopard and African spurred tortoises are not recommended for hibernation at all.

WAKING UP

Remove the tortoise from the fridge and inspect it carefully, bathe the face and eyes and examine the mouth. Check for discharges from the nose, eyes and cloaca. Allow to come up to room temperature over the day before returning to the heated vivarium. Using a basking spot so tortoise is over 24°C and offer food, - it will now eat. Crushing and warming the food increases its smell and palatability. Daily bathing in shallow tepid water for at least 30 minutes assists urination and defecation and encourages drinking. Keep the animal in a vivarium environment until the weather permits outdoor housing. Once out of hibernation and eating, keep the tortoise active (in a vivarium) if the weather deteriorates again. If your tortoise is not drinking or eating within the first week, it should be examined by a veterinary surgeon.