



Tortoise hibernation

***Which species should be hibernated:** all the Testudo genus (Herman's, Spur thigh, Horsefield, Marginated...) except Testudo kleinmanni (Egyptian tortoise). Desert tortoises can also hibernate (genus Gopherus) but are less commonly seen as pets in UK. Some species such as red-foots tortoises, leopard tortoises and African spurred tortoises SHOULD NOT BE HIBERNATED.

Although in the wild tortoises can hibernate from their first year of life, we recommend not to hibernate very young animals or to keep it to a shorter period (maximum 6 weeks) as it is more risky for them. For adult individuals a maximum of 12 weeks hibernation period is adequate.

*Preparation for hibernation

- Vet check to make sure tortoise has an adequate body condition and does not present any signs of illness. It is also advisable to bring a faecal sample to check for parasites.

- You will need 3-4 weeks to get your tortoise ready for hibernation. The purpose is to allow the tortoise to empty its bowel, make sure it is hydrated and slowly reduce the temperature below 10 degrees to trigger hibernation.

+week 1: keep normal ambient temperature (25-30 degrees) and stop feeding the tortoise, bath daily to ensure hydration and stimulate defecation. Allow night temperature drop down to 10-15 degrees Celsius.

+week 2: reduced ambient temperature to 17-20 degrees, continue daily bath

+week 3: reduce temperature to 10-15 degrees and stop bath. At the end of the week check the weight of the tortoise and allow temperature to drop under 10 degrees on the last day. Your tortoise is ready for hibernation!

*Hibernation

- Place the tortoise in an insulated box with soil substrate and make sure it is protected from predators (rat bites are a very common problem during hibernation). The box can be placed in a garden shed, garage or a fridge. Hibernation in the fridge allows a constant temperature and avoids the risks mentioned below. Make sure you open the fridge door at least 3 times a week to allow ventilation.

- Temperature should be maintained between 4 and 8 degrees – if the temperature rises above 10 degrees the tortoise's metabolism will increase (even if it still looks asleep!) and the animal will start consuming its reserves faster. This will put your tortoise at risk of losing too much weight and may make it difficult to recover properly from hibernation. Make sure the temperature does not drop below zero as there is a risk of frost bites or freezing.



- As mentioned previously, hibernation period should be of a maximum of 12 weeks. Keep in mind that most of the tortoises kept as pets are Mediterranean species and not meant for the long and cold British winters!

- Monitor the weight of your tortoise weekly. The weight loss should not exceed 10% over the all hibernation length (ex: 500g tortoise should not lose more than 50g). If your tortoise loses too much weight the hibernation should be discontinued. Ideally the weight loss should be around 1-2% per month.

- Humidity and urine production: usually tortoises start hibernation with a full bladder, which is used as fluid store. Your tortoise should not pass any urine during hibernation. If you notice any urine in the box it means the metabolism is probably higher than it should be (often if temperature is over 10 degrees) and this puts the tortoise at risk of dehydration. If the environment is too dry it also makes them prone to dehydrate too quickly.

***Recovering from hibernation**

When the time has come, take your tortoise out of the box and slowly increase the ambient temperature between 15 to 25 degrees. Bath your tortoise daily in warm water for 20-30 minutes and start offering food. It should start eating within a week after waking up. If that is not the case contact your local exotic vet.

References:

- *Essentials of Tortoise Medicine and Surgery - By John Chitty, Aidan Raftery*
- *Reptile Medicine and Surgery - Stephen J. Divers, Douglas R. Mader*
- *Medicine and Surgery of Tortoises and Turtles - Stuart McArthur, Roger Wilkinson, Jean Meyer*