

## Parrot-beaked dwarf tortoise (*Homopus areolatus*)

Version 4

The following information is based on experience gathered within the studbooks coordinated by Dwarf Tortoise Conservation.

### Enclosure

The parrot-beaked dwarf tortoise (*Homopus areolatus*) is kept and bred successfully in enclosures measuring approximately 1 m<sup>2</sup> for up to three adult specimens. Males are aggressive amongst each other, and need to be housed separately. Males and females can be housed together year-round. Studbook terrariums are decorated to imitate the natural habitat of the tortoises. Grasses, shrubs, wood stumps and rocks (all real or artificial) and (artificial or live, pesticide-free) plants are commonly used for this purpose. It is essential that multiple hiding places are present for tortoises to retreat. The animals show a preference for hiding places under plants and logs, where they can partially dig in the soil substrate. The soil substrate can be a mix (2:1) of sand and loam; loam makes the substrate more solid and difficult to ingest. A mix of sand, fine gravel and natural peat can also be used and helps maintain a higher humidity. The soil should remain slightly humid, but the top layer should dry out between sprayings to avoid possible shell rot or infection. Nocturnal use of a fog machine can provide high humidity and a relatively dry substrate. For adult females, an egg-laying site with a soil layer of at least 10-15 cm deep should be provided to allow nesting. This site should have (plant) cover to allow secluded nesting.

Enclosures need to be sprayed or fogged from time to time, preferably more often in winter (for instance every other day) than in summer (for instance twice or three times weekly), to simulate the natural climatic cycle.

Juveniles can be kept successfully in simple enclosures, starting at approximately 0.10 m<sup>2</sup> for two to three hatchlings. These enclosures are decorated with the same soil substrate as the adult enclosures and a (natural or artificial) hiding place. Hatchlings can be kept on paper substrate for the first week. Small and simple enclosures allow better observation and therefore increase the chance of survival of the tortoises.

Juvenile *H. areolatus* need to be kept relatively humid, with a part of the soil kept permanently humid (preferably near or in retreats). A spraying frequency of every other day for the first year, three times weekly for the second, and thereafter as for the adult tortoises is recommended. Soaking the hatchlings several times weekly can help to prevent dehydration.

*Homopus areolatus* can be kept successful in (partly) outdoor enclosures in southern or sunny parts of Europe from late spring until early fall. Animals should not be transferred among enclosures on a daily basis. A dry and warm area should be available at all times and (near) freezing temperatures should be avoided.

### Illumination/temperature

The enclosures described here are being illuminated by means of daylight, tube lights, CDM/HQI, HID, led and incandescent (including halogen) light bulbs. Illumination may provide UV radiation, but this is not essential (if it is not provided, sufficient vitamin D3 has to be added to the diet). Since the light intensity in the natural distribution range is high, there appears to be no maximum light intensity in captivity. At least one tube light or other lamp that emits a high light intensity should be installed, or natural daylight should be provided. The sole use of incandescent bulbs does not suffice. Providing UV lighting may enhance pigmentation of the tortoises.

Photoperiod needs to be adjusted to the natural distribution range. This means 13-14 hours in summer and 8-10 hours in winter, with a gradual shift between these two limits. Climatic cycle can be adjusted to northern or southern hemisphere.

Studbook terrariums contain light bulbs for heating, sometimes in combination with sun or soil heating. The day temperatures need to fluctuate with season, for instance 30-35°C in summer and 20-25°C in winter. Night temperature should be lower than day temperature. There is no minimum night temperature, as long as the temperature remains above 0°C. Day temperature under a spot light or in sun needs to be higher, for instance 40°C or higher, to allow basking.

## **Diet**

Adult tortoises are mostly fed with green plant material (*Taraxacum*, *Plantago*, endive, chicory, et cetera), supplemented with a fiber-rich component such as Agrobs Pre-Alpin Senior or (soaked) Heucobs. In addition, the food should be supplemented with a commercial calcium/vitamin additive at all feedings. Food can be provided four to five times weekly. Provision of fruit is not recommended. *Homopus areolatus* will readily accept slow-moving insects, and it may be beneficial to add these to the diet occasionally as a source of protein. It is best to feed the tortoises year-round, as they usually show some activity in each season. Hatchlings need food daily or every other day during the first year.

It is extremely important that food items are provided in a feeding dish or on a flat rock, and not directly on the soil substrate. If food is provided on the soil substrate, too much soil may be ingested and lead to death of the tortoise.

Clean drinking water should be provided for all life stages at all times, as the tortoises drink infrequently.

## **Parasites**

Wild and captive *Homopus areolatus* can carry significant loads of nematodes in the intestines, particularly after stressful events such as transfers. Faecal examinations can help monitor nematode infestations. Fenbendazole (e.g., Panacur) has been successfully used to suppress nematode populations in *Homopus areolatus*, upon diagnosed infestations or in routine administrations (e.g., annually at the end of summer).

## **Incubation of eggs**

At northern hemisphere conditions, tortoises may start egg-production in February-May. Incubating *H. areolatus* eggs requires high humidity and moderate temperatures (around 31°C). Threshold and detrimental incubation temperatures are not known but temperatures above 33°C increase embryonic mortality.

## **Situation in the wild and in captivity**

*Homopus areolatus* is uncommon in captivity, but not endangered in the wild. However, the natural distribution range is small and human pressure is increasing for various reasons. Therefore, it is of importance to gather life-history information on the species (both in the wild and in captivity), allowing formulation of wildlife management plans if necessary. It is estimated that circa one quarter of the European captive population of this species is registered in the studbook. The aims and methods of the studbook have been described in a [studbook management plan](#).

## **Literature**

A detailed bibliography can be found at the [website of the Dwarf Tortoise Conservation](#).

## **Additional information**

This caresheet was drawn up in January 2020. Husbandry and caring methods are dynamic and therefore it is recommended to [check for updates](#).