

ering of temperature to 15–20 °C and a reduction in photoperiod and lighting intensity. Throughout the brumation, the animals should have the opportunity to warm themselves to preferred temperatures under a heat emitter. This heat source should be in operation for about 6–8 hours, and the remaining lighting should be operational for about 10 hours per day. If maintained in a greenhouse, species requiring a brumation period should be kept at a temperature of at least 15°C. On sunny winter days, the air temperature can reach values over 20 °C through sun exposure. Also in a greenhouse situation, depending on the weather, heat emitters should be in operation for 6–8 hours a day from mid-September until the end of March.

In the terrarium, the duration of the brumation period is 2–4 months for *U. acanthinura*, 3–4 months for *U. aegyptia*, and 4 months for *U. hardwickii*. For species with no significant annual temperature fluctuation, a slight reduction in temperature during the winter is sufficient. For *U. dispar*, *U. thomasi*, and *U. ornata*, experience has shown that a maximum temperature reduction of 5–10 °C is sufficient to encourage reproduction. Other species in this category include *U. princeps*, *U. benti*, *U. ocellata*, and *U. macfadyeni*. When maintained in a greenhouse, even winter temperatures must correspond to natural conditions within the range of each species. In addition, lighting must be provided in the terrarium.

Although *Uromastyx* are acclimated to life in desert and semi-desert regions, a minimum of humidity is necessary to maintain them in captivity. In the wild, the animals will spend a significant portion of the day in their burrows, where the moisture content of the air and the surrounding ground is somewhat higher than that on the surface. The humidity requirements also

differ according to species. Species originating in extremely arid inland deserts are considerably more tolerant of dryness than species from coastal mountains. Climate tables for each species' point of origin should be consulted. An occasional misting can increase the humidity within the terrarium; juveniles should be provided with a water dish. However, water build-up in the terrarium should be avoided, as this is a known cause of many of the skin diseases that occur in various species of *Uromastyx*.

Lighting Conditions

Lighting in the terrarium should vary seasonally and correspond with the length of the natural photoperiod. In general, a duration of 12–14 hours of light per day in the summer and 8–10 hours per day in winter is beneficial. Fluorescent tubes, mercury vapor lamps, and metal halogen lamps are all suitable for illuminating the terrarium. In a terrarium of up to 65 cm in height, the desired lighting intensity (without heat emitters!) should be about 100–120 W/m². In principle, a *Uromastyx* terrarium can never have too much lighting, and it tends to be limited only by financial constraints.

The use of appropriate UV lighting is critical for maintaining *Uromastyx* species. Apart from critical UV rays, the heavy illumination will also positively affect the activity levels and overall well-being of the animals. The distance between the light and the animal will vary depending on the lighting products used; however, the animals must be able to withdraw from proximity to the light if they become overheated. Mercury vapor bulbs such as T Rex's UVHeat and Zoomed's Powersun UV can be operated all day long to provide both heat and ultraviolet light. Specially designed fluorescent tubes also can be used to provide UV (e.g., Zoomed 5.0 Reptisun). In order for these tubes to be



Retreats are important for providing humidity. This *U. acanthinura* guards the entrance to her self-excavated below-ground retreat (bottom left of photo).