

## Use of a subterranean habitat by the Mediterranean stripe-necked terrapin (*Mauremys leprosa*)

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Use of caves by turtles is an uncommon but reported behaviour. According to the literature, some turtles are known to use caves sporadically to hide from predators (Acuña-Mesen, 1994) or as temporary refuges during the dry season. (Tuberville et al., 2005). But until now, caves have never been reported as thermoregulatory refuges. The Mediterranean stripe-necked terrapin (*Mauremys leprosa*) occurs in a wide variety of habitats from fast flowing mountain streams to ponds and drainage ditches and it is highly tolerant of a wide range of water conditions; acid, alkaline and brackish water. It hibernates from November to February in Central Spain (Salvador & Pleguezuelos, 2002).

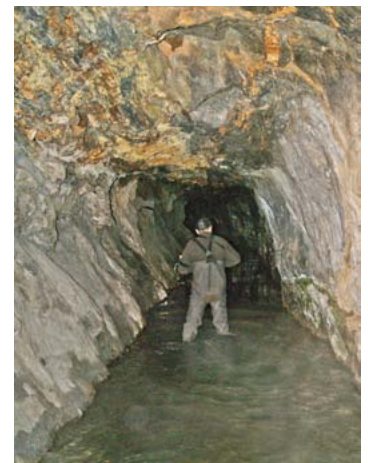
During January 2014, two individuals of *M. leprosa* were seen in the abandoned iron mine at Valmayor (38° 24' 23.55''N 4° 10' 01.50'' W, 684 m altitude). The mine is 424 m long, 2.5 m high, 2m wide and filled with polluted black water (1 m maximum depth) that pours into the Valmayor river. This mine has been worked since the Roman period and the water contains a mixture of bat guano and leachates.



**Figure 1.** One of the two *M. leprosa* found inside the tunnel. (David Herrero)

The two individuals were found approximately 50m from the cave entrance. Both were females of 121 mm and 115 mm carapace length that were active and seemed to have a good body condition with no visible abnormalities. Air temperature

inside the cave was 20 °C and 3 °C on the outside. The air temperature in the tunnel is constant all year round (De Paz personal communication) while outside air temperatures can drop to -5 °C. The warm temperature of the tunnel presumably allows any resident terrapin to remain active throughout the whole year but is lower than normal activity body temperatures recorded for *M. leprosa* (e.g. Meek, 1983). It remains to be seen whether terrapins overwintering in this environment are able to feed to maintain their raised metabolic rates.



**Figure 2.** Tunnel where the *M. leprosa* were found. (David Herrero)

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