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XII Congreso Luso-Español de Herpetología  
XVI Congreso Español de Herpetología

XII Congresso Luso-Espanhol de Herpetologia  
XVI Congresso Espanhol de Herpetologia

Fragmentación del territorio y conservación de herpetofauna  
Fragmentação do território e conservação da herpetofauna



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**P38 - A useful method to monitor the body temperature of freshwater turtles**

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Freshwater turtles, as ectotherm animals, depend on environmental temperatures for thermoregulation. Traditionally, several field methods have been implemented to study the spatial and temporal patterns as well as social interaction between the individuals. However, little is known about the importance of thermoregulation activity in the turtles' behaviour. In our study, we developed a method to monitor body temperatures (Tb) in free-ranging individuals using external shell temperature radio transmitters (TW31-THERM; Biotrack, Ltd.), which record the temperature of the shell (Ts). The use of internal transmitters involves a surgical procedure on the individuals and limits its distance of localization. Ts were related to Tb using temperature-sensitive radio transmitters (SOPT-2070; Wildlife Materials, Inc.) implanted into the abdominal cavity of 3 individuals of *Trachemys scripta elegans*. The individuals were kept in a container where the water temperature was controlled and varied (range: 4.1-35.3 °C). Tb were measured using a digital thermometer (HD 9215; to nearest 0.1 °C), and were fitted with Ts using a regression model. The multiplicative regression model showed a good fit between Tb and Ts (slope: 1.93 +/- 0.003, p<0.0001; intercept 0.84 +/- 0.009, p<0.0001; R<sup>2</sup>=0.9877). With this experiment, we provide an easy and useful method to study Tb using external transmitters.