

Differences in locomotor activity in two syntopic spadefoot toad species (genus *Pelobates*)

Diana SZÉKELY¹, Mathieu DENOËL², Paul SZÉKELY¹, Dan COGĂLNICEANU¹

¹ Faculty of Natural and Agricultural Sciences, Ovidius University, Aleea Universităţii 1, 900470 Constanţa, Romania; diana@butanescu.com

² Laboratory of Fish and Amphibian Ethology, Behavioural Biology Unit, University of Liège, 22 Quai van Beneden, 4020 Liège, Belgium

Understanding the coexistence of related species in ecological communities is a challenge for ecologists. The spadefoot toads (genus *Pelobates*) from Dobrudja (Romania) provide a very interesting study-case: the ranges of two species of the genus overlap at the limit of their distribution ranges—southern limit for *P. fuscus* and northern limit for *P. syriacus*. Both spadefoot toad species are nocturnal, fossorial, and exploit a similar ecological niche. They have similar sizes at metamorphosis, reach sexual maturity at a similar age but *P. syriacus* becomes significantly larger than *P. fuscus*. We examined the adaptive value of interspecific variation in behavioural patterns, such as level of activity (locomotor behaviour), since any type of movement includes trade-offs, in terms of energetic costs, exposure to predation and drought, but at the same time provides increased access to food. The nocturnal activity of 6 adult *P. fuscus* and 6 *P. syriacus* (3 females and 3 males for each) was monitored in a laboratory setting for a period of 30 days. We used webcams to capture time-lapse photographs of the toads' movement, which were then used to obtain tracks for each individual (a total of 48 tracks and over 260 hours of activity). Our results showed that *P. syriacus* was significantly more active than *P. fuscus* with almost 2.5 overall distance covered and more than twice the speed achieved, but with approximately the same time spent outside burrows. Our preliminary results suggest that the closely related *Pelobates* species from Dobrudja differ in patterns of foraging behaviour, *P. fuscus* being relatively sedentary ('sit-and-wait') whereas *P. syriacus* is more an active ('widely-foraging') predator.



PROGRAMME & ABSTRACTS



University of Pannonia
22–27 August 2013