CONSERVATION ECOLOGY OF CRESTED NEWTS: HIGH SITE INFIDELITY IN A NETWORK OF SMALL PONDS

MATHIEU DENOËL
University of Liège, Liège, Belgium
FNRS-FNRS Research Director
HUGO CAYUELA
Laval University, Québec, Canada

The crested newt, Triturus cristatus, is an emblematic and endangered amphibian species that is usually associated with large ponds, considered site faithful within a breeding season, and functioning in metapopulations. However, such large newt species can also be found in apparently suboptimal patches such as small-sized ponds (pools). Therefore, we aimed at better understanding its habitat use and dispersal strategies by innovative capture-mark-recapture using RFID aquatic teletemetry in more than 100 shallow ponds from a protected area in Belgium. Data were analysed with multi-event models. We found out that such networks of small ponds can host thousands of crested newts. The population was composed of a highly pond faithful phenotype and a dispersing phenotype. Breeding site infidelity occurred at a high rate in both sexes within and between reproductive seasons. Most movements occurred between close ponds with few recaptures at the periphery of the study area. Our work highlights that in the presence of alternative aquatic habitats, newts exhibit not only habitat complementation (i.e. land and water) but also habitat supplementation (pond shift) and this, during the peak of the reproduction. These results have implications for our understanding of reproductive strategies of newts but also for their conservation. First, this shows that (apparently) suboptimal breeding habitats can be worth for conservation of crested newts when they are closely connected together and, second, very short distances among ponds (i.e. much under the « 400 m » usual target) can be important to sustain large newt populations.

XX European Congress
of Herpetology
Milan, 2-6 September 2019

PROGRAM & ABSTRACTS

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Detailed program

Tuesday, 3rd			
	Aula Levi	**Room 501**	**Room 502**
9:00-9:30	*Opening ceremony*		
9:30-10:15	**Plenary:** T. Uller Evolutionary origin and spread of a sexually selected phenotype		
10:15-10:45	Coffee break		
	Ecology and Ethology	***Conservation***	***Biogeography & Distributions***
10:45-11:00	M. D. Barquero et al. Effect of temperature on the visual displays of the Jacky Dragon	F. Andreone et al. A conservation strategy for the amphibians of Madagascar: old and new threats in an iconic biodiversity-rich country	D. Chamorro et al. Forecasting distributions and competitive interactions for European vipers
11:00-11:15	V. Bjelica et al. Turning, tugging, running and reversing: survival strategies of the European Pond Turtle	F. Belluardo et al. Characterization of the herpetological diversity of the Andringitra Massif (South-East Madagascar)	U. Enriquez-Urzelai et al. Does geography rule over biology? Lessons from the diversification of green lizards
11:15-11:30	G. Blouin-Demers & J. E. Paterson Density-dependent habitat selection predicts fitness and abundance in a small lizard	G. Deso et al. The Tyrrhenian painted frog (*Discoglossus sardus tschudi*) in the Port-Cros National Park (France): definition of a monitoring protocol, past and present distributions, potential threats and management measures	P. Ginal et al. Ecophysiology predicts the fundamental niche of native and invasive populations of the African clawed frog (*Xenopus laevis*)
11:30-11:45	M. A. Carretero et al. Infection of parthenogenetic lizards by blood parasites does not support the “red queen hypothesis” but reveals the costs of sex	A. Kozakova et al. Cost-effective analysis of mitigation measures for amphibian protection on roads	Y. V. Kornilev et al. Updated distribution and ecology of the Alpine newt (*Ichthyosaura alpestris*, Laurenti, 1768) (Amphibia: Salamandridae) in Bulgaria
11:45-12.00	V. Clement et al. Climatic preferences of a sand lizard population (*Lacerta agilis linnaeus* 1758) in W Germany	M. Ferreira et al. Incorporating evolutionary history into conservation planning – the case of Madagascar’s mantellids	M. Solé et al. Ignored for centuries: why is our knowledge on bromeliad frogs from Brazil so poor?
12:00-12:15	U. Dajčman et al. Does sympatry influence the parasite prevalence and parasite load in two competing lacertids?	J. Foster et al. Progress and challenges in restoring a nationally extinct species: *Pelophylax lessonae* in the UK	
12:15-12:30	M. Denoël & H. Cayuela Conservation ecology of crested newts: High site infidelity in a network of small ponds	D. Guinart et al. An endemic newt (*Calotriton arnoldi*) as a tool for conservation of riverside habitat	
12:30-14:00	Lunch break		
	Ecology and Ethology	***Conservation***	***Morphology & Physiology***
14:00-14:15	C. Dittrich & M.-O. Rödel You cant´t always get what you want – female mate choice in the European common frog	J. Hall et al. Wind farms – a neglected opportunity for viper conservation?	I. Avella et al. Evolving trends in snake venom research: a review of the last 60 years of publications
14:15-14:30	C. Ducotterd et al. Metabarcoding as a tool to determine feeding behaviour – is the European pond turtle a threat for other endangered species?	A.M.Hantzschmann & U. Sinsch Focussing on yellow-bellied toad (*B. variegata*) populations in the Westerwald region – consequences for regional species conservation management	S. Baškiera & L. Gvoždík Repeatability but not heritability of metabolic rate in the Alpine newt