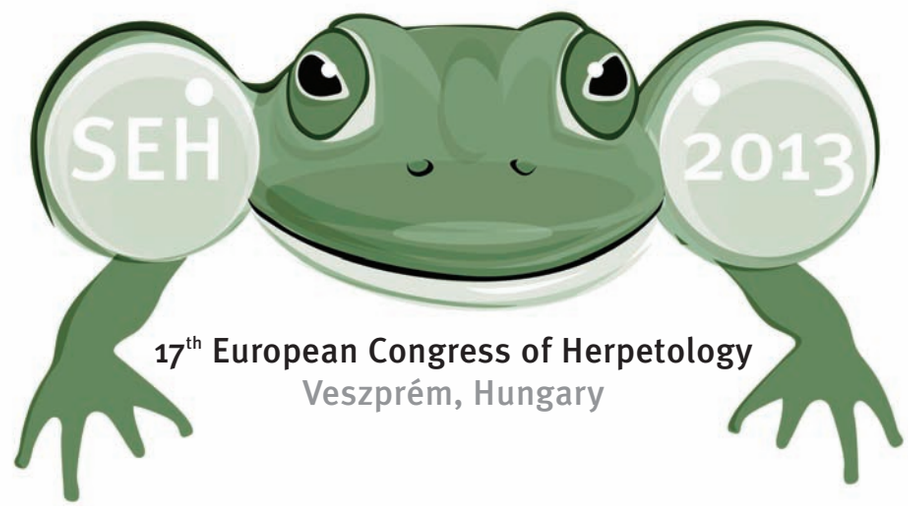
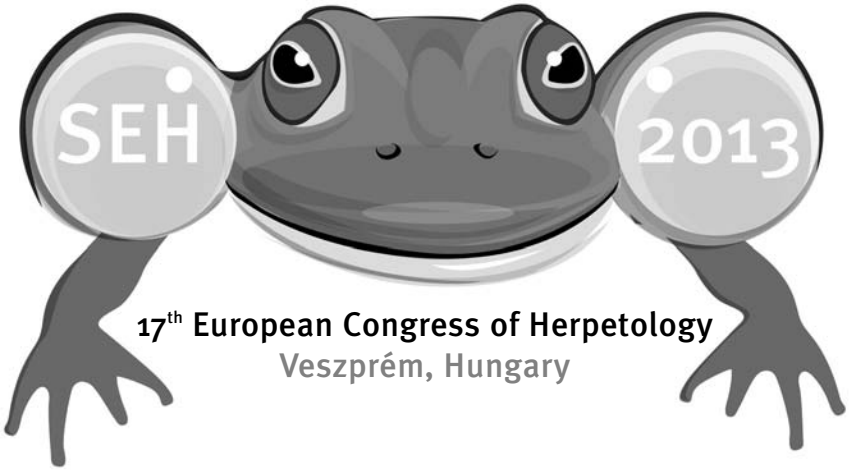
Veszprém, Hungary

17th European Congress of Herpetology



PROGRAMME & ABSTRACTS

University of Pannonia
22–27 August 2013



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PROGRAMME & ABSTRACTS

DEPARTMENT OF LIMNOLOGY
UNIVERSITY OF PANNONIA

HUNGARIAN NATURAL HISTORY MUSEUM

University of Pannonia
22–27 August 2013

17th European Congress of Herpetology, Veszprém, Hungary, 22–27 August 2013. *Programme & Abstracts.*

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Welcome

Dear Colleagues,

Welcome to Veszprém, Hungary!

The 17th SEH European Congress of Herpetology is hosted by the University of Pannonia, and co-organised by the Hungarian Ornithological and Nature Conservation Society (MME) and the Hungarian Natural History Museum.

Participants from six continents (39 countries) registered for the event, giving the meeting a global perspective on the science of herpetology.

The scientific programme includes four invited talks on topics of broad interest (evolution of reptile venom, invasive species, biogeography and systematics) and 113 talks in 11 different parallel sessions. On the symposia day, four symposia will be presented on relevant topics such as invasive alien species, chytridiomycosis in Europe, monitoring of Natura 2000 species and herpetofauna and transport systems. There will also be 120 poster presentations divided between two poster sessions.

Wine will be served during the poster sessions and a morning raffle will be held with valuable prizes to be won. There will be a contest for the best student talk and poster, and for the first time in the history of SEH European Congress of Herpetology, a silent auction will take place.

The welcome party, the wine tasting in Balatonfüred-Csopak Wine Region and the gala dinner all provide further opportunities to meet the other delegates.

Although August is not the best time for field herping, locations have been chosen for congress excursions where sightings of amphibians and reptiles are guaranteed. These locations are the Kis-Balaton and the Hungarian Meadow Viper Conservation Center in Kiskunság.

On behalf of the Local Organising Committee I wish you an exciting and interesting meeting.

Kind regards,
Judit Vörös

Sex colour and stress: investigating the role of stress and reproductive hormones in amphibian colour

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Some animals have the capacity to change their colour, sometimes dramatically. There are two main questions that are asked when investigating such colour change: (1) how does this animal change colour; and (2) why does it change colour? Understanding how colour change occurs will often help determine why. Here we demonstrate dynamic colour change in an anuran and investigate regulatory mechanisms of how it changes colour. *Litoria wilcoxii* rapidly changes from brown to yellow during amplexus; we show this by comparing dorsal colour of unpaired and amplecting males. Colour change involves the movement of pigments in chromatophores activated by hormones. We investigated whether the corticotropin (adrenocorticotrophic hormone [ACTH]) and the neurohormone (epinephrine) or the male reproductive hormone (testosterone) were triggering colour change. We injected males with epinephrine (n = 5), ACTH (n = 6), testosterone (n = 5), and saline (n = 5) and sesame oil (n = 5) as controls. Colour was measured using digital photography from the images the Red Green and Blue (RGB) colour values were calculated, and the major correlation axis computed by a principal components analysis (PCA). Epinephrine injected frogs underwent a significant colour change to bright yellow within 10 minutes compared to ACTH and control frogs which did not change colour. Testosterone treated males underwent a much slower (1 hour) and less yellow change. These results suggest that even though the hypothalamo-pituitary gonadal (HPG) axis is important for the expression of sexual morphological traits in male frogs, it is the stress-axis, particularly neurotransmitters, that mediates the link between physiological and morphological traits (rapid color change) The results have opened up opportunities for future research to unravel the functions of physiological systems in amphibian colour change in breeding.

Mitochondrial phylogeography of grass snakes (*Natrix natrix, N. megalocephala*) conflicts with taxonomy and reveals an additional unexpected contact zone in Central Europe

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Grass snakes (*Natrix natrix*) represent one of the most widely distributed snake species of the Palaearctic region. Within *N. natrix*, up to 14 distinct subspecies are regarded as valid. In addition, some authors recognize big-headed grass snakes from western Transcaucasia as a distinct species, *N. megalocephala.* Based on phylogenetic analyses of a 1984-bp-long alignment of mtDNA sequences (cyt b, ND4 + tRNAs) of 410 grass snakes, a nearly range-wide phylogeography is presented for both species. Within *N. natrix,* 16 terminal mitochondrial clades were identified, most of which conflict with morphologically defined subspecies. These 16 clades correspond to three more inclusive clades from (i) the Iberian Peninsula plus North Africa, (ii) East Europe and Asia and (iii) West Europe including Corso-Sardinia, the Apennine Peninsula and Sicily. Hypotheses regarding glacial refugia and postglacial range expansions are presented. Refugia were most likely located in each of the southern European peninsulas, Corso-Sardinia, northern Africa, Anatolia and the neighbouring Near and Middle East, where the greatest extant genetic diversity occurs. Holocene range expansions led to the colonization of more northerly regions and the formation of secondary contact zones. Western Europe was invaded from a refuge within southern France, while Central Europe was reached by two distinct range expansions from the Balkan Peninsula. In Central Europe, there are two contact zones of three distinct mitochondrial clades, one of these contact zones was theretofore completely unknown. Another contact zone is hypothesized for Eastern Europe, which was colonized, like northwestern Asia, from the Caucasus Region. Further contact zones were identified for southern Italy, the Balkans and Transcaucasia. In agreement with previous studies using morphological characters and allozymes, there is no evidence for the distinctiveness of *N. megalocephala.* Therefore, *N. megalocephala* is synonymized with *N. natrix*.