



**POLISH EVOLUTIONARY CONFERENCE  
2013**

Kraków

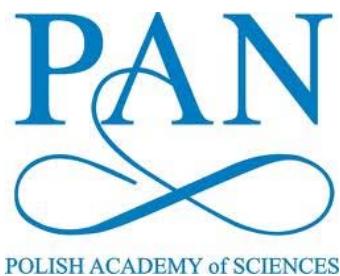
19-21 September 2013

**Conference Book**

# Organizers



Institute of Environmental Sciences



Committee on Evolutionary and Theoretical Biology

## Venue

Jagiellonian University, Natural Science Complex,  
Gronostajowa 7, Kraków, **Lecture Hall P.1.1**

## Conference Dinner

Collegium Maius, Jagiellońska 15, Kraków

Dear Participants,

The committee for Evolutionary and Theoretical Biology, PAS, began organizing Workshops on Evolutionary Biology in 1996. Most of these workshops were in the format of one-day meetings in Warsaw, with two lectures along with several shorter contributions. Some of these workshops ran over several days and were attended by 20-30 young scientists and a few experienced researchers. Between 1996 and 2012 there were 57 workshops, 15 of them were in English with invited speakers from other countries. The total number of participants over the years exceeded 6 000.

Following discussions last year, we decided to keep organizing workshops that lasted several days for attendance by young scientists, but to stop organizing one-day meetings in Warsaw. Instead, a regular conference will be organized once a year, in different cities. It seems that the group of researchers working in the field of evolutionary biology has strengthened during these years and is ready for such an initiative.

It is my great pleasure to invite you to Kraków for the First Polish Evolutionary Conference. Although most participants will be from Poland, the Conference is in English, because the landscape of Polish science has changed during these years: now many researchers working in Poland have come from abroad.

I wish you good and fruitful time here, in old Kraków!

Jan Kozłowski

The chairman of the Committee

# PEC 2013 Important Information

## **Badges**

The ID badge each delegate will receive at registration is the admission pass to scientific sessions, coffee breaks and lunches. Delegates are asked to wear it all the time

## **Lunch**

Will be served at the canteen area in the basement. The badge is your lunch ticket – “no badge no lunch”

## **Certificate of Attendance**

Request at the Registration Desk.

## **Book of Abstracts**

The Conference Book of Abstracts is published online.

## **Language**

English is the Conference official language. No translation will be provided.

## **Internet**

Network: UJ\_Open; user: PEC2013; password: Evolution

## **Registration Desk**

Will be open on Thursday, 19<sup>th</sup> from 4 p.m. to 8 p.m. and on Friday, 20<sup>th</sup> from 8.30 a.m. to 1.30 p.m.

# PEC 2013 Important Information

## **Timing**

Plenary talks: 45-50 min followed by a 10-15 min discussion

Contributed talks: 15 min followed by a 5 min discussion

## **Posters**

Will be on display throughout the conference. Poster numbers correspond to page numbers in the Book of Abstract and to the numbers on the poster stands. Please find your poster stand and attach your poster as soon as you arrive – necessary materials will be provided.

## **Preparing and Handing in Your Talk**

Preferred format of presentations is PDF, as it minimizes incompatibility issues. PowerPoint format is also acceptable. For the same reason the use of laptops is not recommended – all presentations will be displayed using the Lecture Hall's computer system. If your presentation contains complex animations or movies, please contact the organizers before the conference. Presentations should be handed in to the organizers not later than during the break preceding the session.

## **Conference dinner**

For those who will attend the conference dinner on Saturday 21th, at 18:00h, a ticket will be provided at the registration desk. To get from Gronostajowa 7 to Collegium Maius (Jagiellońska 15), we advise you to take tram #18. The journey takes approximately half an hour. Please arrive on time for the guided tour of the Collegium Maius.

# PEC 2013 Program

## Thursday, 19th September

16:00-20:00

**Registration**

18:00-20:00

**Welcome Reception**

## Friday, 20th September

### **Plenary: Neil Metcalfe**

09:00-10:00

The origins and ecological consequences of variation  
in aggression and metabolic rate in fish

10:00-11:00

### **Plenary: Ewa Bartnik**

Evolution of mitochondria

11:00-11:30

Coffee break

### **Piotr Dawidowicz**

11:30-11:50

Climate change, costs of diel vertical migrations and size  
structure of lakes' zooplankton communities

### **Szymon Śniegula**

11:50-12:10

Variation in development rates in core and peripheral  
populations of *Lestes sponsa* - the importance of photoperiod

### **Dawid Moroń**

12:10-12:30

Short-lived ants take greater risks during food collection

### **Paweł Koteja**

12:30-12:50

Multidirectional artificial selection experiment in a wild rodent,  
the bank vole: mimicking an adaptive radiation

13:00-14:20

Lunch

# PEC 2013 Program

## Friday, 20th September

### Grażyna Jasieńska

14:30-14:50 Trade-offs between reproduction and aging in women:  
biomarkers and confounders

### Lukasz Oldakowski

14:50-15:10 Is the oxidative stress a proximate mechanism  
of reproductive costs?

### Barbara Pietrzak

15:10-15:30 Evolutionary ecology of ageing in a clonal organism

15:30-16:00 Coffee break

### Eoin Duffy

16:00-16:20 The role of sexual selection during adaptation  
to a novel, stressful environment

### Magdalena Herdegen

16:20-16:40 Strong association between heterozygosity and orange  
colouration in the guppy (*Poecilia reticulata*)

### Agata Plesnar-Bielak

16:40-17:00 Sexual conflict explains the coexistence of alternative  
reproductive phenotypes in the bulb mite.

**Saturday, 21st September**

**Plenary: Janusz Bujnicki**

09:00-10:00 RNA structure, function and evolution  
(a bioinformatician's view)

10:00-10:30 coffee break

**Maciej Pabijan**

10:30-10:50 Body size and speciation rate in tropical frogs  
- a case study from Madagascar

**Piotr Zieliński**

10:50-11:10 Nuclear genome integrity despite complete mtDNA  
replacement in newts.

**Krzysztof Spalik**

11:10-11:30 Is long-distance dispersal necessary to explain wide  
distribution of hydrophytes?  
Case study of hydrophytic umbellifers

**Jacek Radwan**

11:30-11:50 Evolution of polymorphism of MHC genes:  
simulation models

12:00-13:20 lunch

# PEC 2013 Program

## Saturday, 21st September

### Tereza Petruskova

13:30-13:50 Ecological and evolutionary interactions of two closely related songbird species in their contact zone:  
the case of Nightingales (*Luscinia* spp.)

### Piotr Minias

13:50-14:10 Habitat structure and evolution of distribution patterns in colonial birds

### Marta Szulkin

14:10-14:30 RAD sequencing in a wild passerine bird:  
genetic structuring and signatures of selection  
in a phenotypic trait?

14:30-15:00 Coffee break

15:00-17:00 Poster session

from  
18:00

Collegium Maius guided tour  
and  
Conference Dinner

## PEC 2013 List of Abstracts

Poster numbers correspond to page numbers in the Book of Abstract and to the numbers on the poster stands.

Name of the presenting author is underlined.

Nr	Authors	Title
25	<u>Ł. Banasiak</u> , K. Spalik	Dating phylogeny of Apiaceae (Magnoliophyta, Apiales) revisited: evidence from the analyses of pollen evolution
26	<u>A. Bednarska</u> , M. Grzesiuk	The effect of cyanobacteria and raised temperature on reproductive success of <i>Daphnia</i>
27	<u>P. Brzęk</u> , A. Książek, Ł. Ołdakowski, M. Konarzewski	High basal metabolic rate in laboratory mice does not elevate oxidative stress during lactation
28	<u>M. Buczek</u> , J. Radwan, H. Okarma	Antler quality in red deer: a test of Hamilton and Zuk hypothesis
29	K. Chodasewicz	Evolutionary definition of individual as a step toward the biological system of concepts more general than the one from the population genetics
30	<u>K. Chrząścik</u> , E. T. Sadowska, P. Koteja	Learning and memory in bank voles from a multidirectional artificial selection experiment
31	D. Copilaş-Ciocianu, L. Pârvulescu, <u>A. Petrușek</u>	Phylogeography of a widespread amphipod species complex in the Carpathian Arc suggests persistent effects of Tertiary sea level changes
32	M. Czarnołęski	Small cells with large fitness consequences: how and why thermal environment shapes cell size in ectotherms?
33	M. Czarnołęski, <u>A. Łabęcka</u> , U. Bauchinger, J. Kozłowski	Is temperature-cell size-rule stronger than temperature-body size-rule?
34	<u>J. Czech</u> , K. Pawlik, D. Kübler, P. Kramarz	Body size, reproduction and mortality of entomopathogenic nematode, <i>Steinernema feltiae</i> (Nematoda: Rhabdidae) in constant and fluctuating thermal conditions
35	<u>M. Czernik</u> , M. Świślicka, M. Czajkowska, M. Ratkiewicz	Food plasticity of moose, <i>Alces alces</i> in Poland
36	M. Dańko	Can potentially non-senescent hydra unravel the mystery of aging?
37	<u>N. Derus</u> , M. Czarnołęski	Cellular bases of body size variance in the fence lizard <i>Sceloporus undulatus</i> (Phrynosomatidae) from different latitudes

## PEC 2013 List of Abstracts

<b>38</b>	<u>A. Dubiec</u> , E. Podmokła, M. Zagalska-Neubauer, L. Gustafsson	The effect of malaria parasites on reproductive success in the great tit – the medication experiment
<b>39</b>	<u>A. Fijarczyk</u> , J. M. Szymura	Patterns of genome divergence in hybridizing <i>Bombina</i> species
<b>40</b>	<u>M. Filipiak</u> , J. Weiner	Multielemental stoichiometry of woodeaters and deadwood: nutritional determinants of the life histories of xylophages
<b>41</b>	<u>A. Galbarczyk</u> , M. Walas, I. Nenko, G. Jasieńska	Duration of breastfeeding is differentially influenced by paternal or maternal grandparents
<b>42</b>	A. Gecow	From a theory of purposefulness and biological information, through Darwinian mechanism and chaos in the complex networks, to structural tendencies
<b>43</b>	<u>A. Gozdek</u> , K. Pawlik, P. Kramarz	Longer development can lead to smaller body mass - response of <i>Tribolium castaneum</i> to constant and fluctuating thermal environment
<b>44</b>	<u>I. Góźdż</u> , T. Mazgajski	Nest building costs in the females of Great Tit
<b>45</b>	E. Grzędzicka	Will global warming change the future of birds? Influence of weather disturbance for the immune condition and reproductive success of tits.
<b>46</b>	<u>T. Horváthová</u> , M. Czarnołęski, U. Bauchinger	Do symbiotic bacteria enable terrestrial isopods to cope with minimum diets?
<b>47</b>	R. Joag	Transcriptomics of male reproductive proteins in <i>Drosophila melanogaster</i> populations in absence of sex peptide receptor
<b>48</b>	S. Kaczanowski	The private life of malaria parasites
<b>49</b>	<u>E Kaczyńska</u> , M. Niedziałkowska, B. Jędrzejewska, J. Gerc, Z. Korbut, W. Babik, J. Radwan, M. Konczal	Correlation between genetic and ecological differences in bank vole populations in the contact zone of two phylogenetic lineages in NE Poland
<b>50</b>	<u>K. Kalarus</u> , P. Skórka, W. Halecki, A. Jirak, J. Kajzer-Bonk, P. Nowicki	Mobility of the dryad butterfly in old and newly established populations: the effect of evolutionary history or environmental conditions?
<b>51</b>	K. Kaszycka	Reconstructing the mating and social system of an extinct hominid species
<b>52</b>	<u>J. Kierat</u> , H. Szentgyörgyi, M. Woyciechowski	Life expectancy and offspring sex ratio in the red mason bee ( <i>Osmia rufa</i> L.)

## PEC 2013 List of Abstracts

53	<u>J. Kierat</u> , H. Szentgyörgyi, M. Woyciechowski	Local mate competition in a red mason bee ( <i>Osmia rufa</i> L.)
54	<u>M. Klimek</u> , A. Galbarczyk, I. Nenko, L. Odrzywołek, G. Jasieńska	Digit ratio (2D:4D) as indicator of body size, testosterone concentration and number of children in human males
55	A. Lis, A. Maryńska- Nadachowska, D. Lachowska-Cierlik, Ł. <u>Kajtoch</u>	The contact zone of phylogenetic lineages of the spittlebug <i>Philaenus spumarius</i> : an example of parapatric speciation in progress?
56	<u>M. Łukomska-Kowalczyk</u> , A. Karnkowska, B. Zakryś	Incongruence between morphology and phylogeny among eukaryotic microorganisms - a case study of autotrophic euglenids.
57	<u>U. Maiti</u> , K. M. Chrząćik, A. Rudolf, E. T. Sadowska, P. Koteja	Exploratory performance in an open field test of bank voles from multidirectional artificial selection experiment
58	A. Marek	Restricted pleiotropy facilitates mutational erosion of major life-history traits
59	<u>P. Maszczyk</u> , Z. M. Gliwicz	Selectivity by planktivorous fish at different prey densities, heterogeneities and spatial scales
60	D. Matelska, J. Bujnicki, <u>S. Dunin-Horkawicz</u>	Evolution of cis-regulatory non-coding RNAs in reduced bacterial genomes
61	<u>M. Matosiuk</u> , A. Borkowska	Nearly neutral evolution of mitogenomes in genus <i>Capreolus</i>
62	D. Mika	Origin of avian flight - problems solved and unsolved
63	S. Mitrus	Do frequent migrations of the ant <i>Temnothorax crassispinus</i> to new nest sites affect life history parameters?
64	<u>L. Odrzywołek</u> , A. Ziomkiewicz, G. Jasieńska	Apolipoprotein E polymorphism - trade-offs between women's fertility and lifespan
65	<u>B. Pawłowski</u> , J. Nowak, B. Borkowska, Z. Drulis-Kawa	Body attractiveness, nasopharyngeal flora and immunocompetence
66	<u>T. Postawa</u> , I. Zagorodniuk, J. Bachanek	Patterns of cranial size variation in two sibling species <i>Plecotus auritus</i> and <i>P. austriacus</i> (Chiroptera: Vespertilionidae) in a contact zone
67	<u>E. Prawdzik</u> , J. Wyszkowska, D. Filak, M. Guńska, A. M. Łabęcka, E. T. Sadowska, P. Koteja	Correlated responses to artificial selection for high maximal aerobic metabolism in the bank vole: striped muscle morphology
68	J. Radwan, <u>M. Twardawa</u> , A. Łukasiewicz	Male polymorphism in <i>Rhizoglyphus echinopus</i>

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<b>69</b>	<u>A. Rudolf</u> , K. Chrzaszczik, G. Dheyongera, E. Sadowska, P. Koteja	Survival pattern of bank voles selected for high aerobic capacity
<b>70</b>	<u>J. Rutkowska</u> , A. Dubiec, S. Nakagawa	Meta-analysis reveals no egg sexual size dimorphism in birds
<b>71</b>	<u>E. T. Sadowska</u> , K. M. Chrząćzik, G. Dheyongera, A. Rudolf, P. Koteja	Maximum cold-induced food consumption in bank voles selected for high swim-induced aerobic capacity
<b>72</b>	<u>N. Sawka</u> , D. P. Singh, O. Arnaiz, M. Prajer, S. Tarcz, C. L. McGrath, T. Doak, E. Meyer	Searching for genes determining mating types in selected species of the <i>P. aurelia</i> complex
<b>73</b>	E. Sieredziński	"Escape into the niche" mechanism as novel evolutionary screenplay
<b>74</b>	<u>A. Skrzyniecka</u> , A. Plesnar-Bielak, M. Kolasa, J. Radwan	Different mate strategies in two morphs of bulb mite
<b>75</b>	<u>J. Stojak</u> , A. D. McDevitt, J. B. Searle, J. S. Herman, J. M. Wójcik	Phylogeography of two species of voles ( <i>Microtus</i> ) in Poland inferred from cytochrome b and microsatellite DNA analyses
<b>76</b>	<u>M. T. Stuglik</u> , W. Babik, J. Radwan	Characterization of sex-biased genes from the transcriptome of a male-dimorphic mite
<b>77</b>	<u>M. Ślusarczyk</u> , P. Bernatowicz	How long to remain in diapause in unpredictably changing habitats?
<b>78</b>	<u>S. Tarcz</u> , N. Sawka, E. Przyboś	DNA barcoding of unicellular eukaryotes - is it sufficient for fully species delineation in the <i>P. aurelia</i> species complex?
<b>79</b>	<u>K. Topolska</u> , M. Wolsan	Integration of the polecat dentition
<b>80</b>	B. Waclawik	Phylogeny and history of dispersion of Carpathian species of <i>Bryodaemon</i> Podlussany, 1998 (Coleoptera: Curculionidae).
<b>81</b>	A. Walczyńska	Physiological range of temperature limits the Temperature-Size Rule acting
<b>82</b>	<u>A. Wandycz</u> , M. Pabijan, S. Hofman, J. M. Szymura, M. Piwczyński, K. Węcek	When did the fire-bellied species arise? Thus spoke fossils and mitochondrial DNA
<b>83</b>	<u>K. Węcek</u> , J. M. Szymura	Can the lost variation be found by sequencing multiple mitogenomes from recent and archival wisents
<b>84</b>	M. Więcek	Effects of evolution of intromission on courtship and male and female morphology in water mites of the genus <i>Arrenurus</i>