

## Symposium Programme

*Surnames in italic indicate student presenters*

### Sunday, September 15, 2024

18:00-20:00 Registration and welcome drink

### Monday, September 16, 2024

8:00-9:00 Registration

9:00-9:30 IAA24 Opening ceremonies

9:30-10:00 **Sture Abrahamsson** All ok in Fennoscandia? Well, at least crayfisheries messed  
**lecture Edsman & Jussila** up big time

**session eDNA** chair Strand

10:00-10:15 **Baudry** Unlocking crayfish biodiversity: eDNA metabarcoding for  
exhaustive monitoring?

10:15-10:30 **Burnham** Testing substrates for an environmental DNA signal of a  
Critically Endangered burrowing crayfish

10:30-11:00 Coffee break - poster  
session

**Posters 1, 3, 5, 7, 9, 11, 13**

**session eDNA** chair Grandjean

11:00-11:15 **Bohman** Comparison and intercalibration of eDNA protocols for  
crayfish and crayfish plague detection across Europe

11:15-11:30 **Strand** Molecular detection of *Aphanomyces astaci* – experience  
with an improved species specific qPCR assay

11:30-11:45 **Vucić** First application of environmental DNA metabarcoding and  
single-target detection of invasive and native crayfish in  
Croatia

11:45-12:00 **Petrusek** Monitoring of native and invasive crayfish from environmental  
DNA: experience from Czech waters

12:00-12:15 **Aluma** eDNA-based detection of invasive crayfish and crayfish  
plague in Estonia

12:15-12:30 **Manfrin** Harmonizing Transboundary Monitoring of *Austropotamobius*  
*pallipes* Using Environmental DNA (eDNA): The PALLIPES  
Project

12:30-13:30 Lunch

**session Genetics** chair Diéguez-Urbeondo

13:30-13:45 **Colli** Population genomics and habitat modelling to improve the  
conservation status of the white-clawed crayfish  
*Austropotamobius pallipes* species complex in the Italian  
North-Western Apennines

13:45-14:00 **Pipinić** Genetic and population characteristics of stone crayfish  
*Austropotamobius torrentium* (Schrank, 1803) in the cave  
Sušik

14:00-14:15 **Ströder** Genetic screening of Tyrolean noble crayfish (*Astacus*  
*astacus*) - Identification of potentially endangered populations  
for the planning of sustainable conservation measures

14:15-14:30 **Bonassin** Characterisation and comparative genomics of satellite DNA  
in freshwater crayfish

14:30-14:45 **Khan Areeba** Characterizing the role of RNA editing in clonal and invasive  
marbled crayfish

14:45-15:00 **Vucić** Coevolution of genus *Branchiobdella* with their crayfish hosts  
generated new species?

15:00-15:30 Coffee break – poster  
session

**Posters 15, 17, 19, 21, 23, 25, 27**

**session  
Biogeography**

chair Taylor

15:30-15:45	<b>Huber</b>	Keep digging: two new burrowing crayfish species of genus <i>Parastacus</i> Huxley, 1879 (Decapoda, Parastacidae) from southern Brazil
15:45-16:00	<b>Westhoff</b>	Systematic distributional survey of endemic and invasive crayfishes in the upper Saint Francis River drainage, Missouri
16:00-16:15	<b>Bányai</b>	Has everything changed in ten years, or not so dramatically? The results of long-term crayfish monitoring programs in different Hunagrian waters
16:15-16:30	<b>Audo</b>	Reviewing fossil crayfishes
16:30-16:45	<b>Furse</b>	<b>STUDENT TRAVEL AWARDS</b>

19:00

**surprise evening (Zagreb's walks)**

**Tuesday, September 17, 2024**

9:00-9:30	<b>Plenary lecture: Tricarico</b>	How behavioural studies help to control invasive alien crayfish
	<b>session Invasive species</b>	chair Hudina
9:30-9:45	<b>Riascos-Flores</b>	<i>Procambarus clarkii</i> in Andean waters: Ecological impacts and mitigation efforts
9:45-10:00	<b>Orlandi</b>	Spatio-temporal occurrence and abundance of <i>Faxonius limosus</i> (Decapoda: Cambaridae) in two North-western subalpine lakes (Italy)
10:00-10:15	<b>Hamr</b>	First Record of the first wild Marbled crayfish ( <i>Procambarus virginalis</i> ) population in North America/Canada and subsequent eradication efforts
10:15-10:30	<b>Mrugała-Koese</b>	Towards a risk-oriented national monitoring in the Netherlands
10:30-10:45	<b>Weiperth</b>	Are we really able to do anything, or are we just sitting back and watching? The history and the current status of signal crayfish ( <i>Pacifastacus leniusculus</i> (Dana, 1852)) in Hungary
10:45-11:15	Coffee break - poster session	<b>Posters 2, 4, 6, 29, 31, 33, 35</b>
	<b>session Invasive species</b>	chair Westhoff
11:15-11:30	<b>Bohman</b>	Density estimation of signal crayfish with diving and ROV
11:30-11:45	<b>Fitzsimmons</b>	Multimethod assessment of Woodland Crayfish ( <i>Faxonius hylas</i> ) movement in the upper St. Francis River drainage, Missouri, USA
11:45-12:00	<b>Morbidelli</b>	Improving trapping effectiveness for controlling the red swamp crayfish <i>Procambarus clarkii</i>
12:00-12:15	<b>Saito</b>	Effects of pleopods removal on survival and sterility of signal crayfish
12:15-12:30	<b>Košir</b>	The North-American signal crayfish in the Drava river basin in Slovenia: latest spread and the first eDNA results
12:30-12:45	<b>Faller</b>	Limited efficiency of trapping on the prevention of the upstream migration of the invasive spiny-cheek crayfish
12:45-13:00	<b>Koese</b>	Crab cut, what about crayfish?
13:00-14:00	Lunch	

**session Ecology & Biology**

chair Kozák

14:00-14:15	<b>Swedberg</b>	From streams, swamps, sloughs and roadside ditches: The places you will go while sampling the rare crayfishes of Texas, USA
14:15-14:30	<b>Magoulick</b>	Influence of flow regime and drought on seasonal population dynamics of co-occurring stream crayfish species
14:30-14:45	<b>Khan Tanya</b>	Seasonal microhabitat use by Brawleys Fork crayfish, <i>Cambarus williami</i> , a Species of Conservation Concern
14:45-15:00	<b>Klefoth</b>	Winter behaviour of adult noble crayfish ( <i>Astacus astacus</i> ) under natural conditions
15:00-15:15	<b>Graham</b>	The evolution of conspicuous coloration in crayfish
15:15-15:30	<b>Torrance</b>	Seeing the spectrum: investigating color vision in freshwater crayfish
15:30-16:00	Coffee break – poster session	<b>Posters 8, 10, 12, 14, 16, 18, 20</b>

**session Ecology & Biology**

chair Klobučar

16:00-16:15	<b>Huber</b>	An overview of the knowledge about juvenile stages of the South American genus <i>Parastacus</i> Huxley, 1879 (Malacostraca, Decapoda, Parastacidae)
16:15-16:30	<b>Klefoth</b>	Winter mortality and growth of juvenile noble crayfish ( <i>Astacus astacus</i> ) under realistic environmental conditions – implications for conservation management
16:30-16:45	<b>Grubb</b>	No, I'm Dirty Dan! Comparative methods to explore disagreement within the <i>Faxonius erichsonianus</i> species complex
16:45-17:00	<b>Barnes</b>	Crayfish are like onions: Peeling back the layers on the burrowing behaviors of red swamp crayfish ( <i>Procambarus clarkii</i> )
17:00-17:15	<b>Bonvillain</b>	Effects of environmental hypoxia on red swamp crayfish <i>Procambarus clarkii</i> population characteristics and fecundity in the Atchafalaya River Basin, Louisiana
17:15-17:30	<b>Breithaupt</b>	The role of biogenic amines in anti-predator behaviour of crayfish
>17:30	<b>Board meeting</b>	
20:00	<b>Pub quiz - Teniski tereni</b>	

**Wednesday, September 18, 2024**

9:30	Departure
12:00-15:00	Plitvice Lakes National Park
~16:00	Late lunch
~19:00	Return to Zagreb

**Thursday, September 19, 2024**

9:00-9:30	<b>Plenary lecture: Martín-Torrijos</b>	Crayfish in crisis: exploring pathogens and diseases in a challenging world
<b>session Diseases &amp; Pathogens</b>	chair Bielen	
9:30-9:45	<b>Ortega López</b>	Exploring the Evolution of <i>Aphanomyces</i> : Were ancestral Oomycetes such effective parasites?
9:45-10:00	<b>Jemmi</b>	Filling the gap: Starting to decrypt the genetic diversity of <i>Aphanomyces astaci</i> in Switzerland
10:00-10:15	<b>Pisano</b>	Eco - Epidemiology of <i>Aphanomyces astaci</i> in Switzerland
10:15-10:30	<b>Mojžišová</b>	<i>Aphanomyces astaci</i> in Cambarid crayfish from the native range of <i>Faxonius limosus</i> : in search of the elusive genotype group E
10:30-11:00	Coffee break - poster session	<b>Posters 22, 24, 26, 28, 30, 32, 34</b>
<b>session Diseases &amp; Pathogens</b>	chair Theissinger	
11:00-11:15	<b>Martínez-Ríos</b>	Protocols for studying <i>Aphanomyces astaci</i> and its host interaction
11:15-11:30	<b>Tripp</b>	Effects of season and stress on prevalence of White Spot Syndrome Virus in <i>Procambarus clarkii</i>
11:30-11:45	<b>Hudina</b>	Crayfish pet trade as a gateway for the introduction of known and novel viruses into Europe
11:45-12:00	<b>Boštjančić</b>	Immune stimulation of the noble crayfish as a tool to study <i>Aphanomyces astaci</i> recognition
12:00-12:15	<b>Bielen</b>	Deciphering the mechanisms underlying the inhibition of <i>Aphanomyces astaci</i> by pseudomonads
12:15-12:30	<b>Zimmerman</b>	P2X as a solution to crayfish plague
12:30-13:30	Lunch	
<b>session Ecology &amp; Biology</b>	chair Petrušek	
13:30-13:45	<b>Danilović</b>	Trophic insights of the invasive signal crayfish in Croatian freshwaters employing stable isotope analysis
13:45-14:00	<b>Ghia</b>	Better alone than in bad company: trophic ecology of co-occurring invasive and native crayfish
14:00-14:15	<b>Iqbal</b>	Can artificial light pollution affect the metabolic rate of <i>Procambarus clarkii</i> and <i>Pacifastacus leniusculus</i> ?
14:15-14:30	<b>Kaur</b>	Efficacy of administration routes in crayfish: Comparative analysis of subcutaneous and intrapericardial techniques using fluorescein dye
14:30-14:45	<b>Rodgers</b>	Energetic cost of burrowing in red swamp crayfish
14:45-15:00	<b>Fogelman</b>	Filling in physiology knowledge gaps: Use of enzyme activity to quantify thermal ecology and evaluate differences in primary and tertiary burrowing crayfish
15:00-15:30	Coffee break	
<b>session Conservation &amp; Management</b>	chair Colli	
15:30-15:45	<b>Jia</b>	Impact of land use on the presence/absence of an endangered freshwater crayfish species at local population scale on Hokkaido Island
15:45-16:00	<b>Ion</b>	Reassessing crayfish conservation: collaborative updates of <i>Austropotamobius</i> species IUCN status
16:00-16:15	<b>Diéguez-Uribeondo</b>	The strategy for the conservation of the native crayfish of Spain

16:15-16:30	<b>Acs</b>	Conservation and management strategies of the endemic idle crayfish ( <i>Austropotamobius bihariensis</i> Pârvulescu, 2019): Lessons from long-term monitoring
16:30-16:45	<b>Forni</b>	The conservation status of the native crayfish <i>Austropotamobius palipes</i> complex in the Foreste Casentinesi National Park (Central Italy)
16:45-17:00	<b>Edsman</b>	Why are the crayfish too small for the crayfish party?
19:00	<b>Official dinner</b>	

### Friday, September 20, 2024

9:00-9:30	<b>Plenary lecture: Temunović</b>	Application of species distribution modelling in freshwater crayfish conservation
	<b>session Conservation and Management</b>	chair Burnham
9:30-9:45	<b>Quebedeaux</b>	Evaluating response efforts to red swamp crayfish in Michigan, USA
9:45-10:00	<b>Vermeulen</b>	Craywatch, a citizen science project towards a better understanding of the distribution of invasive alien crayfish in Flanders: set up and initial results
10:00-10:15	<b>Krieg</b>	Misconceptions in the conservation of crayfish – what could we do better?
10:15-10:30	<b>Matijević</b>	Significance of the “Žumberak – Samoborsko gorje” Nature Park area for the conservation of the stone crayfish populations
10:30-10:45	<b>Furse</b>	Challenges in Australian Astacology: Common name confusion and much, much more. A cautionary tale
10:45-11:00	<b>Kawai</b>	Taxonomic revision of extant and fossil European Astacidae: A paleontological, molecular, and morphological approach
11:00-11:15	<b>Faller</b>	Proper interpretation of negative findings is crucial for the objective long-term monitoring of the crayfish populations
11:15-11:45	Coffee break	
11:45-12:15	<b>IAA24 General Assembly, different announcements and Closing Ceremonies</b>	
	<b>Farewell drink(s)</b>	

## Posters

*Surnames in italic indicate student presenters*

No.	Surname	Title
1	<b>Basso</b>	Molecular diagnostic method for detection of <i>Nosema austropotamobii</i> (Microsporidia) in white-clawed crayfish
2	<b>Bohman</b>	Tracking signal crayfish during the cold season in Lake Vättern with acoustic telemetry
3	<b>Bruno</b>	Updated distribution and characterization of crayfish plague and microsporidiosis affecting <i>Austropotamobius pallipes</i> complex in Trentino (Northeast Italy)
4	<b>Bruno</b>	There can be only one: the two-year spread of <i>Procambarus clarkii</i> in a <i>Faxonius limosus</i> infested small perialpine lake in Trentino (Northeast Italy)
5	<b>Đuretanović</b>	Freshwater crayfish in Serbia: Update on the distribution
6	<b>Faith-Ell</b>	The Swedish hydrogen gas and crayfish project
7	<b>Fea</b>	Evaluation of the oral route of transmission of porcelain disease in signal crayfish under controlled conditions
8	<b>Fetzner</b>	A preliminary analysis of genetic diversity in the <i>Cambarus bartonii</i> species complex from the Northeastern USA
9	<b>Freemen</b>	Life history of the Pontchartrain painted crayfish <i>Faxonius hobbsi</i> , a species of greatest conservation need in Louisiana
10	<b>Jelić</b>	Urban life of the stone crayfish ( <i>Austropotamobius torrentium</i> ) in the city of Zagreb
11	<b>Gottstein</b>	Are deep karst springs along the Vrljika River in Croatia long-term protected refuges for white-clawed crayfish?
12	<b>Kouba</b>	Bioaccumulation kinetics of antihistamine diphenhydramine in signal crayfish
13	<b>Maex</b>	Craywatch: citizen scientists to the rescue
14	<b>Maguire</b>	Is there a future for the white-clawed crayfish in Istria?
15	<b>Zorić</b>	Morphological variability among populations of <i>Austropotamobius torrentium</i> (Schrank, 1803) from central Balkan
16	<b>Marguč</b>	Control of invasive spiny - cheek crayfish ( <i>Faxonius limosus</i> ) population in gravel pits near Ptuj, Slovenia
17	<b>Mrzelj</b>	Narrow – clawed crayfish ( <i>Pontastacus leptodactylus</i> ) in Slovenia
18	<b>Paolini</b>	Persistence of <i>Aphanomyces astaci</i> in white-clawed crayfish populations in Friuli-Venezia Giulia region (Northeast Italy)
19	<b>Pavić</b>	An opportunistic pathogen <i>Aphanomyces laevis</i> (Oomycota) is a host of new bunya-like virus
20	<b>Petretto</b>	Genomic characterisation of the white-clawed crayfish ( <i>Austropotamobius pallipes</i> complex) in Italy: biodiversity assessment and support for conservation strategies
21	<b>Riascos-Flores</b>	Developing multiplex assays for crayfish detection using eDNA and ddPCR
22	<b>Zorić</b>	A contribution to the knowledge of the <i>Branchiobdella</i> species of the Balkan region
23	<b>Nikolić</b>	Morphological variability in introduced spiny-cheek crayfish <i>Faxonius limosus</i> (Rafinesque, 1817) occupying different habitat zones in Serbia
24	<b>Scheers</b>	Predation of invasive crayfish by diving beetles, a suitable aspect in nature based solutions?
25	<b>Schmidt-Posthaus</b>	Detection of novel RNA viruses in wild noble crayfish ( <i>Astacus astacus</i> ) and signal crayfish ( <i>Pacifastacus leniusculus</i> ) in Switzerland
26	<b>Steen</b>	Exploring the native benthic fish burbot ( <i>Lota lota</i> ) and catfish ( <i>Silurus glanis</i> ) as biological control agents against the invasive marbled crayfish ( <i>Procambarus virginalis</i> ).
27	<b>Špoljarić</b>	More than 20 years of freshwater crayfish research in the UNESCO site Plitvice Lakes National Park
28	<b>Weiperth</b>	“New kids on the block”: crab introductions in European inland waters

29	<b>Barlow</b>	North Yorkshire crayfish forum: Collaboration for conservation
30	<b>Konno</b>	Co-evolutionary history of Japanese crayfish and ectosymbiotic branchiobdellidans from a molecular phylogeny perspective
31	<b>Iqbal</b>	Traditional model animals verses crayfish: driving revolutionary research.
32	<b>Lorenzoni</b>	Reproductive biology of <i>Pacifastacus leniusculus</i> in a small tributary of Clitunno River (Tiber River basin, Central Italy)
33	<b>Lorenzoni</b>	New record of <i>Astacus astacus</i> population in Brcanj stream (Bosnia-Herzegovina): age-class distribution and length-weight relationship
34	<b>Pisano</b>	Optimisation of a non-lethal field-based sampling method for the detection of <i>Aphanomyces astaci</i>
35	<b>Rusnak</b>	Conservation assessment of <i>Cambarus monongalensis</i> and <i>Lacunicambarus thomai</i> in Pennsylvania

	16.9.	16.9.	17.9.	17.9.	19.9.
<b>Coffee break</b>	<b>10:30-11:00</b>	<b>15:00-15:30</b>	<b>10:45-11:15</b>	<b>15:30-16:00</b>	<b>10:30-11:00</b>
<b>Presenters next to posters number</b>	1, 3, 5, 7, 9, 11, 13	15, 17, 19, 21, 23, 25, 27	2, 4, 6, 29, 31, 33, 35	8, 10, 12, 14, 16, 18, 20	22, 24, 26, 28, 30, 32, 34