

## PROGRAM

### 21<sup>st</sup> Symposium of the International Association of Astacology Real Jardín Botánico, 4-13 September, Madrid, Spain 2016

#### Sunday 4

- 09.00: 17:30 **Workshop: Conservation Plans for Endangered Species Facing the Threat of Emerging Diseases and Invasive Species** <http://iaa21rjb.es/workshop/>  
Lecture Hall, Real Jardín Botánico
- 18.00: 20:00 **Registration and Poster Set Up**  
**INOFFICIAL GATHERING** sponsored by Caramelos “El Caserio” and “Cerveza Alegría”  
Bonsai Greenhouse, Real Jardín Botánico

#### Monday 5

- 08:00- 09:45 **Registration and Poster Set Up**  
Bonsai Greenhouse, Real Jardín Botánico
- 09:45-10.00 **Address of Welcome**  
Lecture Hall, Real Jardín Botánico
- SUSAN B. ADAMS  
President IAA
- JESÚS MUÑOZ  
Director Real Jardín Botánico-CSIC, Madrid, Spain
- 10.00-10.30 **Welcome Speech**  
**Crayfish in Spain: past, present and future**  
JAVIER DIÉGUEZ-URIBEONDO  
IAA21 organizer, Real Jardín Botánico-CSIC, Madrid, Spain
- 10:30-11:00 COFFEE AND POSTERS**  
Bonsai Greenhouse Real Jardín Botánico
- 11:00-12:15 **STURE ABRAHAMSON MEMORIAL CONFERENCE**  
**Melanization: an evolutionary conserved innate immune system**  
KENNETH SÖDERHÄLL  
Uppsala University, Sweden
- 12:30 LUNCH**  
Comedor Delegación del Ministerio Cultura, Parque del Retiro (15 min walk)
- CRAYFISH DISEASES SESSION**  
Lecture Hall, Real Jardín Botánico
- 14:00-14:30 KEY NOTE**  
**Natural born killers: the Oomycetes as important pathogens of animals**  
GORDON BEAKES  
Newcastle University, UK

Chair: JENNY MAKKONEN

- 14:30-14:50 **Crayfish plague in Spain: origin and epidemiology**  
LAURA MARTÍN-TORRIJOS, Rezinciuc S, Kokko H, and J Diéguez-Urbeondo  
Real Jardín Botánico-CSIC, Madrid, Spain
- 14:50-15:10 **Pitfalls in the application of molecular methods for the diagnosis of crayfish plague**  
SATU VILJAMAA-DIRKS, Heinikainen S, Riva R, and S Pelkonen  
The Finnish Food Safety Authority Evira, OIE, Finland
- 15:10-15:30 **The crayfish plague pathogen, *Aphanomyces astaci*: pathways, vectors and potential consequences of its spread in the introduced ranges**  
AGATA MRUGALA, Kozubíková-Balcarová E, Chucholl C, Kawaii T, Kouba A, Svoboda J, Veselý L, Viljamaa-Dirks S, and A Petrusek  
Charles University in Prague, Czech Republic
- 15:30-15:50 **Host-pathogen network analysis of Saprolegniales: host preference and specificity of *Aphanomyces astaci***  
JOSE V SANDOVAL SIERRA, and J Diéguez-Urbeondo  
Real Jardín Botánico-CSIC, Madrid, Spain
- 15:50 **COFFEE AND POSTERS**  
Bonsai Greenhouse, Real Jardín Botánico

Chair: SATU VILJAMAA-DIRKS

- 16:20-16:40 **Scenarios for *Aphanomyces astaci* adaptations to native and alien crayfish host in Europe**  
JAPPO JUSSILA, Kortet R, Vainikka A, Kokko H, and J Makkonen  
University of Eastern Finland, Kuopio, Finland
- 16:40-17.00 **Crayfish plague in Japan**  
Martin-Torrijos L, Sandoval-Sierra J, Makkonen J, Jussila J, Kokko H, Kawai T, and JAVIER DIÉGUEZ URIBEONDO,  
Real Jardín Botánico-CSIC, Madrid, Spain
- 17.00-17:20 **A survey of various wild crayfish populations in Germany and Austria reveals new insights into the spread and diversity of *Aphanomyces astaci***  
JÖRN PANTELEIT, Keller NS, Jussila J, Kokko H, Makkonen J, Schulz R, Theissinger K, and A Schrimpf  
University Koblenz-Landau, Landau, Germany
- 17.20-17.40 **Identification of an *Austropotamobius pallipes* population with higher resistant to the crayfish plague pathogen, *Aphanomyces astaci***  
LAURA MARTIN-TORRIJOS and J Diéguez-Urbeondo  
Real Jardín Botánico-CSIC, Madrid, Spain
- 18.00 **IAA Executive Board Meeting**  
Sala de Juntas, Real Jardín Botánico

## Tuesday 6

### CRAYFISH OMICS and eDNA SESSION

Lecture Hall, Real Jardín Botánico

#### 09.00- 09.40 KEY NOTE

**Parametric models to trace the spatiotemporal evolution of populations and lineages**

ISABEL SANMARTÍN

Real Jardín Botánico-CSIC, Madrid, Spain

Chair: HARRI KOKKO

#### 09:40-10:00 **The complete genome sequence of the marbled crayfish**

FRANK J LYKO

Cancer Research Center, Im Neuenheimer Feld 580, 69120 Heidelberg, Germany

#### 10:00-10:20 **The transcriptome of noble crayfish *Astacus astacus* – an excellent tool and a reference for further gene expression studies**

Theissinger K, Falckenhayn C, Blande D, Toljamo A, Gutekunst J, JENNY MAKKONEN, Jussila J, Lyko F, Schrimpf A, Schulz R, and H Kokko

The University of Eastern Finland, Kuopio, Finland

#### 10:20-10:40 **Genomics-informed development of molecular markers for genotyping the crayfish plague pathogen *Aphanomyces astaci***

DIANA MINARDI, Studholme DJ, van der Giezen M, and B Oidtmann

University of Exeter, Exeter, UK

#### 10:40-11:10 COFFEE AND POSTERS

Bonsai Greenhouse, Real Jardín Botánico

Chair: TRUDE VRÅLSTAD

#### 11:10-11:30 **The annotation of two *Aphanomyces* mitochondrial genomes from *A. astaci* and *A. invadans***

Makkonen J<sup>1</sup>, Vesterbacka A<sup>1</sup>, Martin F<sup>1</sup>, Jussila J<sup>1</sup>, Diéguez-Urbeondo J<sup>2</sup>, Kortet R<sup>1</sup>, and HARRI KOKKO<sup>1</sup>

<sup>1</sup>The University of Eastern Finland, Kuopio, Finland

<sup>2</sup>Real Jardín Botánico CSIC, Madrid, Spain

#### 11:30-11:50 **How do invasive species cope with different environmental conditions? A proteomic study of two alien crayfish: *Procambarus clarkii* and *Procambarus fallax f. virginialis*.**

FRANCISCO J. OFICIALDEGUI, Roessink I, Biron D, Boyero L, Clavero M, Peeters ETHM, and MI Sánchez

Estación Biológica de Doñana-CSIC, Sevilla, Spain

#### 11:50-12:10 **Comparing classic crayfish cage surveillance with eDNA water monitoring during an on-going crayfish plague outbreak in Norway**

DAVID STRAND, Johnsen SI, Rusch J, Knudsen SW, Agersnap S, Larsen W, Rask-Møller P, and T Vrålstad

Norwegian Veterinary Institute, Oslo, Norway

#### 12:30-13:30 LUNCH

Comedor Delegación del Ministerio Cultura, Parque del Retiro

## CRAYFISH BIOLOGY & PHYSIOLOGY SESSION

Chair: PAVEL KOZÁK

- 14:00-14:20 **Physiological responses of freshwater crayfish (*Cherax albidus* Clark 1936) when exposed to various salinities of ocean water and inland saline water**  
ANTHONY J COLE, Fotedar R, and TC Hoang  
Curtin University, Perth, Australia
- 14:20-14:40 **Survival, recovery and cardiac activity of three crayfish invaders under sub-zero temperature**  
Yazicioglu B, KUKLINA IRYNA, Buřič M, Císař P, and P Kozák  
University of South Bohemia in České Budějovice, Vodňany, Czech Republic
- 15:00-15:20 **The mineral content of *Cherax quadricarinatus* in Southeast Queensland and Northeastern New South Wales**  
LEYTON J. TIERNEY, Wild CH, and JM Furse  
Griffith University, Queensland, Australia
- 15:20-15:40 **Return to crayfish high school: long-term monitoring of crayfish populations at the UCC outdoor school 2011 to 2016**  
PREMEK HAMR and E Wong  
Upper Canada College, Toronto, Canada
- 15:40-16:00 **Crayfish role in a canyon-shaped reservoir: case study from the Nýrsko, Czech Republic**  
VESELÝ L<sup>1</sup>, Bláha M<sup>1</sup>, Buřič M<sup>1</sup>, Fořt M<sup>1</sup>, Pešek V<sup>1</sup>, Kozák P<sup>1</sup>, Ruokonen TJ<sup>2</sup>, Ercoli F<sup>2</sup>, and A Kouba<sup>1</sup>  
<sup>1</sup>University of South Bohemia in České Budějovice, Vodňany, Czech Republic  
<sup>2</sup>University of Jyväskylä, FI-40014, Finland
- 16:00 **COFFEE AND POSTERS**  
Bonsai Greenhouse, Real Jardín Botánico

## Wednesday 7

### CRAYFISH BIOLOGY & ECOLOGY SESSION

Lecture Hall, Real Jardín Botánico

- 09:00-09:40 **KEY NOTE**  
**Crayfishes and companions across the tree of life**  
PABLO VARGAS  
Real Jardín Botánico-CSIC, Madrid, Spain

Chair: JAMES FURSE

- 09:40- 10:00 **Crayfish ecological diversity and conservation across a synthetic phylogeny**  
KEITH CRANDALL  
The George Washington University, Ashburn, VA, US
- 10:00-10:20 **Low local crayfish diversity and high species turnover in lowland streams may be influenced by a few widely distributed crayfish species**  
WILLIAM R. BUDNICK, Harlan AR, Pasco TF, Kelso WE, and MD Kaller  
Louisiana State University, Baton Rouge, US

10:20-10:40 **Range expansion of the signal crayfish (*Pacifastacus leniusculus*) in a recently invaded region in Croatia and potential for its control**  
SANDRA HUDINA, Galić N, Kutleša P, Duplić A, and I Maguire  
University of Zagreb, Croatia

**10.40-11.00 COFFEE AND POSTERS**  
Bonsai Greenhouse, Real Jardín Botánico

Chair: LENNART EDSMAN

11:00-11:20 **Do you suffer from a lack of historic crayfish data?**  
SUSAN B ADAMS  
USDA Forest Service, Oxford, Mississippi, USA

11:20-11:40 **The first evidence of co-occurrence between native crab and crayfish in Italy**  
ELENA TRICARICO, Cianferoni F, Stasolla G, Inghilesi AF, Zoccola A, Innocenti G, and G Mazza  
University of Florence, Firenze, Italy

11:40-12:00 **Investigation of a localized decline in freshwater crayfish *Paranephrops planifrons* in the upper Waikato River, New Zealand**  
SUSAN J CLEARWATER, Quinn JM, and IA Kusabs  
NIWA, National Institute of Water & Atmospheric Research, Hamilton, New Zealand 3251  
University of South Bohemia in České Budějovice, Vodňany, Czech Republic

**12.30-13.30 LUNCH**  
Comedor Delegación del Ministerio Cultura, Parque del Retiro

Chair: ALVARO ANTÓN

14:00-14:20 **The effects of the invasive weed Singapore daisy on the native Australian freshwater crayfish *Tenuibranchiurus glypticus* Riek**  
JAMES M. FURSE, Houston AJ, and CH Wild  
Griffith University, Queensland, Australia

14:20-14:40 **White-clawed crayfish (*Austropotamobius italicus*, Faxon) effects on macroinvertebrate communities from Mediterranean limestone mountain streams**  
JUAN ANTONIO ARCE, Alonso F, Camacho A, and E Rico  
Junta de Comunidades de Castilla-La Mancha. Cuenca, Spain

14:40-15:00 **Uptake and transfer of microcystins in noble crayfish in Lake Steinsfjorden, a cyanobacterial (Planktothrix) dominated lake**  
JOHANNES RUSCH, Strand D, Haande S, Ballot A, Løvberg KE, Samdal IA, Miles CO, and T Vrålstad  
Norwegian Veterinary Institute, Oslo, Norway

15:00-15:20 **Could crayfish care about safety of beer? - A long way from the research to the practical use**  
KOZÁK PAVEL, Kuklina I, Kouba A, Voldřich M, Dědič R, Janoušek J, Aliaksandr P, and P Císař  
University of South Bohemia in České Budějovice, Vodňany, Czech Republic

**15:20 GENERAL ASSEMBLY**  
Lecture Hall, Real Jardín Botánico

**17.00 COFFEE & NATIONS BUFFET followed by IAA AUCTION**

Auctioneer: Gordon Beakes  
Bonsai Greenhouse, Real Jardín Botánico

**THURSDAY 8**

**CRAYFISH AQUACULTURE AND FISHERIES SESSION**

Lecture Hall, Real Jardín Botánico

Chair: ELENA TRICARICO

**09:10-09:30 Predicting harvest of the non-native signal crayfish in Swedish lakes – a role for changing climate?**

LENNART EDSMAN, Bohman P, Sandström A, Nystrom P, Stenberg M, Hertonsson P, and J Johansson  
SLU, Institute of Freshwater Research, Drottningholm, Sweden

**09:30-09:50 Influence of a relationship between selected trace elements and natural productivity on growth and yield of marron in a commercial farm**

SMITA S TULSANKAR and R Fotedar  
Curtin University, Perth, Australia

**09:50-10:10 Polyphenols as feed additives: a new tool to prevent diseases in farmed crayfish?**

PAOLUCCI MARINA, Parrillo L, Scioscia E, Coccia E, Siano F, Pagliarulo C, Volpe MG, Jussila J, Makkonen J, and E Varricchio  
University of Sannio, Benevento, Italy

**10:10-10:30 Harvesting New Zealand Freshwater Crayfish (*Paranephrops zealandicus*) – five years of harvest data and the implications for population dynamics and stock management**

JOHN HOLLOWES  
Ernslaw One Ltd., Mosgiel, New Zealand

**10:30-11:00 COFFEE AND POSTERS**

Bonsai Greenhouse, Real Jardín Botánico

Chair: MARINA PAOLUCCI

**11:00-11:20 The use of a traditional māori harvesting method, the tau kōura, for monitoring of freshwater crayfish (*kōura*, *Paranephrops planifrons*) populations in the Te Arawa lakes, New Zealand**

IAN A KUSABS  
Tūwharetoa Māori Trust Board, Rotorua, New Zealand

**11:20-11:40 New advances in astacid juvenile feeding research: development of practical diets**

JOSÉ M CARRAL, Fuertes JB, Celada JD, and M Sáez-Royuela  
Universidad de León, 24071 León, Spain

**11:40-12:00 Identify factors influencing the variability of survivorship of juvenile redclaw crayfish *Cherax quadricarinatus***

DAMIAN RIGG  
James Cook University, College of Marine and Environmental Sciences, Macgregor Road Smithfield, Queensland, Australia, 4878

**12:30-13:30 LUNCH**

Comedor Delegación del Ministerio Cultura, Parque del Retiro

**CONSERVATION SESSION**

Chair: CATHERINE SOUTY-GROSSET

**14:00-14:30 KEY NOTE**

**Crayfish conservation in the: strategies and lessons learnt**

LEOPOLD FÜREDER

University of Innsbruck, Austria

**14:30-14:50 People's perception of crayfish**

BRAM KOESE

Naturalis Biodiversity Center, Leiden, The Netherlands

**14:50-15:10 Effects of flood-control impoundments on community assemblage of stream crayfish**

ZANETHIA C. BARNETT

USDA Forest Service - Southern Research Station, Oxford, Mississippi, USA

**15:10-15:30 The conservation of the white-clawed crayfish, *Austropotamobius pallipes* in South West England**

JEN NIGHTINGALE

Bristol Zoological Society, Bristol, UK

**15:30-15:50 Conserving white-clawed crayfish *Austropotamobius pallipes* in an upland catchment in Yorkshire, a case-study**

STEPHANIE PEAY

AECOM and University of Leeds, Leeds, UK

**15.50- 16.20 COFFEE AND POSTERS**

Bonsai Greenhouse, Real Jardín Botánico

**16:20-16:40 The future of endangered *Austropotamobius torrentium* (Schrank 1803) in the light of protected areas and habitat fragmentation: a case study from the Carpathians**

LUCIAN PÂRVULESCU, Iorgu EI, Satmari A, Zaharia C, Drăguț L, Krapal AM, Popa OP, and LO Popa

West University of Timisoara, Timisoara, Romania

**16:40-17:00 Environmental education and awareness, fundamental tool in the conservation of the native crayfish**

NÚRIA VALLS, Llamas S, and O Comas

Associació de Defensa i Estudi de la Fauna i Flora Autòctona (ADEFFA), Barcelona

**17.00-17.10 An educational video produced as part of an awareness raising campaign of LIFE+ CrayMate project.**

JAPPO JUSSILA J

University of Eastern Finland, Kuopio, Finland

**17.15 COFFEE and Poster Removal**

Bonsai Greenhouse, Real Jardín Botánico

**21.00 BANQUET AND FAREWELL**

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