PROGRAM

21st Symposium of the International Association of Astacology
Sunday 4

Lecture Hall, Real Jardín Botánico

18.00: 20:00  Registration and Poster Set Up
INOFFICIAL GATHERING sponsored by Caramelos "El Caserio" and "Cerveza Alegria" 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

JESUS MUÑOZ
Director Real Jardín Botánico-CSIC, Madrid, Spain

10.00 - 10.30  Welcome Speech
Crayfish in Spain: past, present and future
JAVIER DIEGUEZ-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 ABRAHAMSSON 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-Uribeondo  
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**  
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 SANOVAL SIERRA, and J Diéguez-Uribeondo  
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 Schrimpfr  
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-Uribeondo  
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
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 J¹, Vesterbacka A¹, Martin F², Jussila J¹, Diéguez-Uribeondo J², Kortet R¹, and HARRI KOKKO¹
¹The University of Eastern Finland, Kuopio, Finland
²Real 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. virginalis.
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
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, Čisař 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  
VESELY L¹, Bláha M¹, Buřič M¹, Fořt M¹, Pešek V¹, Kozák P¹, Ruokonen TJ², Ercoli P², and A Koub¹  
¹University of South Bohemia in České Budějovice, Vodňany, Czech Republic  
²University 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: LEENNART EDMSAN  
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, Lovberg 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
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?
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 G, 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 HOLLOWS
Ernslaw One Ltd., Mosgiel, New Zealand
10:30-11:00 COFFEE AND POSTERS

Bonsai Greenhouse, Real Jardín Botánico

Chair: MARINA PAOLOUCCI

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
JOSE 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**

9-13th SEPTEMBER CRAYFISH FIELD EXCURSION GRANADA-SEVILLA