Crayfish News

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The 23rd Biennial Symposium of the International Association of Astacology

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Figure 1. The IAA23 delegates in front of the State Chateau of Hluboká nad Vltavou, Czech Republic. Photo: Vit Kukolja

Astacologists from 28 countries gathered in the South Bohemia town of Hluboká nad Vltavou (in the Czech Republic) for the IAA's 23rd Biennial International Symposium on Freshwater Crayfish. The symposium ran from June 20-25th and was held in the magnificent Aleš South Bohemian Gallery of the State Chateau (i.e. Castle) of Hluboká nad Vltavou.

More than 130 delegates, plus some 15 accompanying persons, attended IAA23 making it the largest gathering of astacologists at an IAA meeting for many years. After a two year COVID-related delay (and 4 years since IAA22) it was excellent to see so many astacologists gather and present a series of high quality presentations, and reconnect in-person with friends and colleagues.

2022 marks 50 years since the IAA was founded with the first IAA Symposium in Hinterthal (Austria, 1972) and IAA23 was a fine venue to celebrate the 50th Birthday of our Association.

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President's Corner

Javier Dieguez-Uribeondo PhD
IAA President (Spain)

Dear Colleagues,

It is a great honor to be president of the International Association of Astacology. I would like to thank all of you for your support, and I am so pleased that members have expressed confidence in me for this responsibility.

I became a member of the IAA in 1992 when I attended, as a PhD student, the 9th IAA Symposium in Reading, UK, organized by David Holdich. At this meeting, I found an incredibly friendly and cooperative atmosphere where I met colleagues from all over the world and exchanged experiences. Today, I feel very proud that our society has maintained this atmosphere through all these years.

I would first like to thank our immediate past president, Lennart Edsman (tack så mycket, Lelle). Lennart has actively and enthusiastically served the IAA for many years, making all the meetings enjoyable and filled with never-ending conversations on crayfish. Many thanks as well to Tadashi Kawai, our new immediate past president, who devoted 4 years of his time as president (twice as long as his original appointment), for leading us through the difficult times of the pandemic and confinement. Tadashi has always been very active in the IAA and committed to its expansion and recruitment of new members from all over the world. I also want to thank and congratulate Pavel Kozak for the fantastic organization of the 23rd IAA Symposium that was recently held in České Budějovice, Czech Republic, particularly in the face of all the postponements, uncertainty, and difficulties. Pavel took the reins and faced the problems head-on, which allowed us to enjoy a wonderful meeting in a fantastic venue that was attended by more than 130 delegates who gave extraordinary presentations on crayfish from all fields. Also at this meeting, the IAA auction for the student funds collection broke a new record (thanks also to James Furse who almost lost his voice in action). Again, thank you Pavel and your crew for this successful meeting and to all who attended ("don't forget to drink", to recover from this intense dedication). Finally, I want to congratulate our new president-elect, Christopher Taylor, and new secretary, Pavel Kozak, on their new positions in the IAA, and to thank our board members (Mr. Juan Carlos Azofeifa Solano, Dr. Chris Bonvillain, Dr. Quinton Burnham, Dr. James Furse, Dr. Ivana Maguire, and Dr. Jacob Westhoff) and Secretariat Dr. James Stoeckel for their constant dedication.

The success of the 23rd IAA Symposium shows that we are alive and kicking. In fact, a new Regional IAA meeting to be held in Italy has already been proposed for 2023, and the new venue for our next symposium, IAA24, will have to be decided by September this year. Moreover, a new issue of *Crayfish News*, as you might have already noticed, was released thanks to the great dedication of Mr. Thomas Abeel and Managing Editor Dr. James Fetzner Jr. Looking to the future, I personally believe that it is very important that the IAA takes action to attract students and young scientists. Science communication and outreach approaches constantly and quickly change, and we must adapt to them. Above all, we should make an effort to support and promote future collaborations among crayfish researchers from all over the world. Crayfish are of crucial importance as model and key organisms in all fields of science including taxonomy, systematics, evolution, ecology, immunity, disease epidemiology, and genomics. The importance of crayfish research is ever-increasing in the face of current global scenarios including the biodiversity crisis (the sixth mass extinction), climate change, globalization, and the emergence of new global problems such as the spread and negative impact of invasive species and emerging diseases. The IAA serves as an important organization, now and into the future, that aims to provide to the public: (i) high-quality research to solve current problems, particularly those related to the increase in extinction of native crayfish species, and (ii) greater knowledge on the proper handling of species for commercial purposes.

Again, thanks to all IAA members, and let's keep enjoying crayfish!

Javier Dieguez Uribeondo PhD
Consejo Superior Investigaciones Cientificas (CSIC)
Madrid, Spain

The International Association of Astacology (IAA), founded in Hintertal, Austria in 1972, is dedicated to the study, conservation, and wise utilization of freshwater crayfish. Any individual or institution interested in furthering the study of astacology is eligible for membership. Service to members includes a quarterly newsletter (*Crayfish News*), a membership directory, biennial international symposia and publication of the journal *Freshwater Crayfish*.

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IAA Executive Board Members:

In addition to the IAA Officers and Past President, the Executive Board also includes **Jacob Westhoff** (USA), **Chris Bovillain** (USA), **Ivana Maguire** (Croatia), **James Furse** (Australia), **Quinton Burnham** (Australia) and **Felipe Ribeiro** (Brasil).

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Header photograph: Noble crayfish (*Astacus astacus)* © 2018 Karolina Śliwińska

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Two days of presentations were followed by an evening excursion to the Budweiser Budvar brewery in Ceske Budejovice. The Wednesday conference excursion was to the extensive research and culture facilities of the Faculty of Fisheries and Protection of Waters (of the University of South Bohemia) in Vodňany, followed by a truly memorable and long lunch (with local food and beer) followed by a tour of the Hluboká nad Vltavou Castle later that evening.

Presentations continued on Thursday, followed by the Symposium Banquet at the hotel Štekl, including another memorable meal (more local food and beer), plus music, dancing and the IAA Student Auction which raised well over €2500.00 for the IAA Student Travel Awards. Many thanks to everyone who kindly donated items to be auctioned in support of our students, but special thanks to Julian Reynolds and Premek Hamr who donated the two high-priced items of the auction, a copy of Huxley (1880) *The Crayfish*, and the rights to an original "Hamr" custom drawing of a crayfish.

Friday morning saw the presentations conclude, followed by lunch, the IAA23 General Assembly and Closing Ceremonies. Best Presentation was awarded to Martin Bláha (Czech Republic), best Student Presentation to Maud Laffitte (France), Highly Commended Student Presentation to Bailey O´Brian (USA), and Best Poster to Michaela Mojžíšová (Czech Republic).

In addition to the formal IAA awards, the Fennoscandian Poster Award (see below) was also won by Michaela Mojžišová, and the Scandinavian Prize by Marek Let (Czech Republic).

Saturday and Sunday saw a large number of delegates stay-on to participate in the post conference excursions to Šumava National Park and Český Krumlov before departing for home.

As usual the IAA made a series of Student Travel Awards (STA) available for IAA23 delegates and 10 STA awardees were able to join us at IAA23. It is always good to see new astacologists joining our meetings, and in this case it was fantastic to see so many outstanding young female astacologists winning STAs and attending.

IAA23 was a highly successful and truly memorable symposium, with a large number of high quality talks and posters, and a series of well-organized and highly enjoyable social events. Many thanks are due to the organizer Pavel Kozák and his team from the Faculty of Fisheries and Protection of Waters, plus the Scientific Committee. After the delays of coronavirus IAA23 was a perfect place to reconnect with old friends and colleagues and to meet new ones.

IAA23 Election Results

- Javier Diéguez-Uribeondo, President (Spain)
- Christopher A. Taylor, President-Elect (USA)
- Pavel Kozák, Secretary (Czech Republic)
- Tadashi Kawai, Immediate Past President (Japan)

The IAA Executive Board includes: Jacob Westhoff and Chris Bovillain (USA), Ivana Maguire (Croatia), James Furse and Quinton Burnham (Australia) and Felipe Ribeiro (Brasil).

IAA23 Reporters:

Christopher Taylor
Japo Jussila
Lennart Edsman
James Furse

The Fennoscandian Poster Award and Scandinavian Prize

The Fennoscandian Poster Award and Scandinavian Prize have existed in various forms in the IAA community for more than 14 years (e.g. see *Crayfish News* 30(3) 2008, the 'Scandinavian Cultural Award'), but the exact origin of these Awards are lost in the fog of decades of excellent IAA symposia and intensive discussions well into the early mornings. While their origins remain the stuff of IAA legend, the intent, meaning and criteria for winning these awards are clear.

The Fennoscandian poster award is judged and decided by the delegates from Fennoscandia, and highlights the following merits of the poster itself: makes one stop, makes one read, makes one read further and, finally, makes one to understand.

The Scandinavian prize a serious award with a Scandinavian, including Finnish, humane twist and has been bestowed several times on a distinguished list of well-merited delegates at IAA symposia. The Scandinavian prize is given for brilliant reading of the cultural nuances that become apparent during the various IAA symposia, and for displaying a clear understanding that there might be life outside the academic world of crayfish.

At IAA23 the Fennoscandian poster award was handed to Michaela Mojžišová, and the Scandinavian prize to Marek Let (both Czech Republic).

Anon informal IAA historian

Native or Not?

Background

What is a native species? For the Fennoscandian countries no species are older than approximately 10 000 years, since our part of the world was covered by some kilometres of ice before that. Anything living here has then either immigrated spontaneously or been introduced by man. Let's further explore this question of nativity, since arguments about if a species is native or alien have caused many controversies concerning whether resources and funds should be spent on conservation of this disputed species.

The faulty argument

During the 1980s and 1990s, some people in Sweden regarded native noble crayfish (*Astacus astacus*) as aliens. They meant that it was wrong to waste money on conservation of this alien species that from their point of view was no more native then the recently introduced signal crayfish (*Pacifastacus leniusculus*). They claimed that the noble crayfish was an alien species since it was not present in Sweden before the reign of King Johan III (Linnaeus 1746). It was supposed to first have been introduced from Germany by King Johan (Figure 1) in year 1574 (Pontoppidan 1775; Hobbs, Jass and Huner 1989). A letter to one of King Johan's governors mentions this import (Degerman and Ekman 2004). The Kings and rulers in Sweden had their kitchens run by cooks brought in from Germany and, among other things, the German cooks brought with them the message that crayfish were edible.

The true facts

This conclusion of alienism was however based on an erroneous translation from Latin of Linnaeus' work "Fauna Suecica" (1746). The correct translation of Linnaeus' Latin text actually reads that the noble crayfish where *uncommon* in Sweden and *not* that they were absent. It is interesting to note that Linnaeus (Figure 2) had a general aversion to all shellfish since he was allergic to them and regarded them as inedible.

In addition, noble crayfish were there before! King Johan's brother, King Erik XIV (Figure 3) had already 9 years earlier, in 1563, ordered one of his bailiffs to fish as many crayfish as possible from natural waters close to the castle in Nyköping. They were meant for a wedding feast at the Royal Castle in Stockholm (Degerman and Ekman 2004; Swahn 2004) - yet another proof that noble crayfish were already widely distributed in Sweden.

Further, during the reign of King Erik XIV, Olaus Magnus, the last Catholic Archbishop of Uppsala and at that time 1555, in exile in Italy, published "The History of the North-

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Figure 1. King Johan III

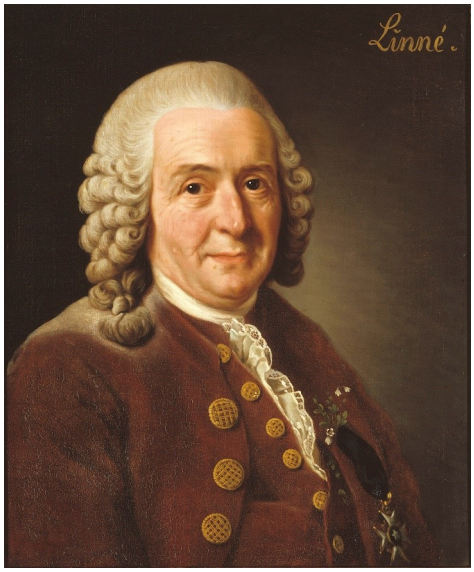

Figure 2. Carl Linnaeus

Figure 3. King Erik XIV

(Continued from page 4)

Figure 4. Foxes catching crayfish with their tail (Olaus Magnus 1555)

ern Peoples", his magnum opus. In it he explained to astonished contemporaries how Scandinavian foxes go about catching crayfish (Swahn 2004). This story may well be a saga or legend but it shows that Olaus Magnus was well aware of the existence of crayfish in Fennoscandian waters:

"To catch crayfish, the fox walks to and from along the shore with his tail dipped in the waters. Lured by this rare sight, the crayfish flock round the tail and thus having entangled themselves in the hairs, he soon pulls them up. I have myself among the rocks of Norway seen a fox which dipped its tail in the water between the rocks and pulled up several crayfish, which he then devoured." (Olaus Magnus 1555; Figure 4).

Moreover, even earlier than that, the polymathic bishop Peder Månsson in the diocese of Västerås, west of Stockholm, and sometimes called the first Swedish scientist, in 1522 in one of his books recommended the use of crayfish, dissolved in alcohol as a remedy against cholera (Swahn 2004).

Finally, recent genetic studies have shown that the noble crayfish arrived to Sweden after the last ice age when the Baltic region was covered with freshwater for several thousands of years and, furthermore, the climate was warmer and Sweden had a land bridge connection to the European continent (Edsman et al. 2001, Dannewitz et al. 2021).

Final words

From the overwhelming proofs presented above, we can learn the simple and basic fact that an introduction at one occasion in no way can be taken as a proof of a species being absent earlier, before that occasion (Swahn 2004). In some countries there is also a year set for pragmatic reasons, as a simple rule of thumb for when a species is naturalized and part of the fauna in the country. In Sweden that year is 1800 and in Finland it is 1850. Therefore, we can rest assured that the native noble crayfish is as native as it can be.

In the end of the day all this discussion doesn't really matter since any European species, like the noble crayfish, the white-clawed crayfish, and the stone crayfish, that is listed in the annexes to the Habitats Directive (Council Directive 92/43/EEC), forces EU member states to take all actions needed to keep and preserve the species and its habitat.

Lennart Edsman
Sweden
Japo Jussila
Finland
Ivana Maguire
Croatia
Javier Dieguez Uribeondo
Spain
Kathrin Theissinger
Germany

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Workshop on the Integration of Genomic and Geographic Information System data for wildlife conservation

We are happy to announce the International Workshop on the Integration of Genomic and Geographic Information System data for wildlife conservation (WIGGIS) organized by the Life CLAW project and to be held at the the Università Cattolica del S. Cuore in Piacenza (Italy) on September 15-16, 2022.

Life CLAW is an EU-funded project aiming at the improvement of the conservation status of the endangered crayfish *Austropotamobius pallipes* in the Italian North-Western Apennines through a long-term conservation programme (for the details see Crayfish News Volume 44 Issue 1: Page 9).

Within Life CLAW the dissemination activities represent a focal point. In this context, the WIGGIS international workshop will focus on the use of Geographic Information Systems (GIS) to integrate genomic information with environmental data allowing the investigation of species distribution, gene-environment associations, and the genetic basis of adaptation to particular geographic or climatic conditions, with the goal of improving awareness on the effectiveness of these approaches in describing complex evolutionary scenarios and for conservation purposes.

The WIGGIS workshop will highlight relevant new research on GIS and genomic data integrated modelling and will feature invited speakers, and oral and poster presentations by the attendees.

Plenary lectures, describing both the state of the art in the field and practical applications in the terrestrial and aquatic contexts are forecast, together with a session dedicated to past Life projects using genomic analyses.

Registration and abstract submission are open.

Thanks to the support of the Life EU programme, the participation to the WIGGIS Workshop is free of charge. The registration includes coffee breaks, social dinner and one lunch. Maximum number of participants is 100.

Please, visit the workshop website (wiggis.eu) for detailed information.

Looking forward to meeting you in Piacenza,

The WIGGIS workshop team

Wiggis

life claw

Life

NATURA 2000

The Crayfish Tale – An Educational Video

We have created an educational cartoon for past, present and future children and all those interested in the fascinating and complicated history of the freshwater crayfish in Europe. The cartoon is based on beautiful artwork and rhyming verses. *The Crayfish Tale* tells about the mistreatment of native crayfish by polluting and destroying their habitats in lakes and running waters, by introducing other competing alien species and furthermost by introducing the fatal, lethal, and mortal disease crayfish plague with these alien crayfish species. *The Crayfish Tale* also advices how we humans must behave from now on, in order not to finally lose these essential species and consequently the wellbeing of our freshwater ecosystem. If we start to look after our crayfish and waters, then the future will look after us. The fundamental lesson of *The Crayfish Tale* is that we all should carefully think before acting, while afterwards is usually too late.

Please find us on YouTube and give us a like (if you like it):
youtube.com/watch?v=oZLIaCJOwPo

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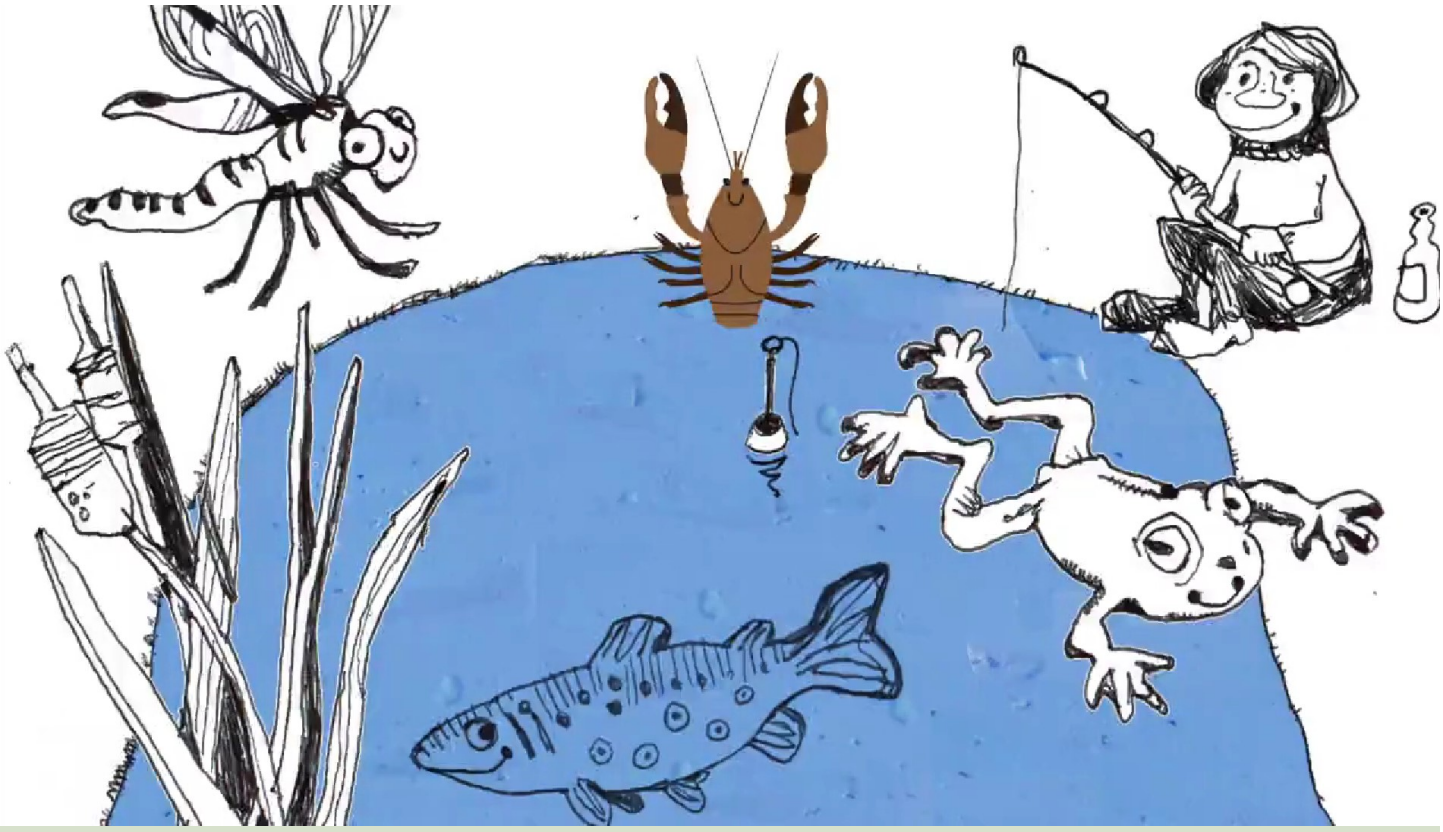
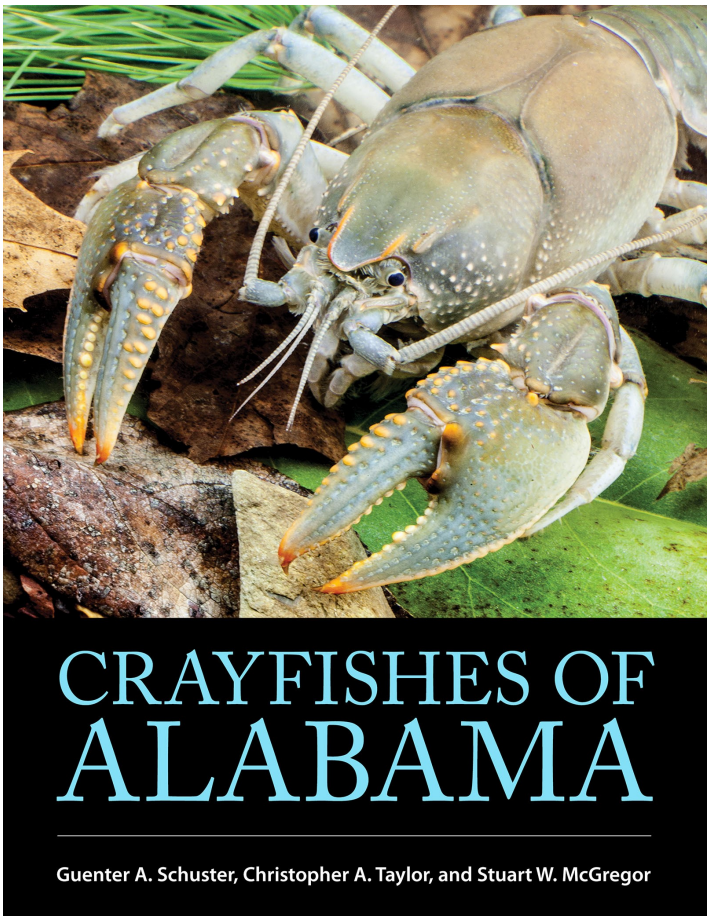


Crayfishes of Alabama

Crayfishes of Alabama is the first comprehensive reference work on the subject and provides the most up-todate information on the vast range of crayfishes known to reside in Alabama. The authors have collected specimens and data from the state's major and minor waterways and lakes, as well as specialized habitats such as burrows, caves, roadside ditches, marshes, swamps, and temporary autumnal ponds. This volume represents the most in-depth treatment of crayfishes found in the southeastern United States and offers detailed species accounts including descriptions of morphological characters, color, maximum size, comparative species, distribution and habitat, biology, crayfish associates, and conservation status. The species accounts are accentuated with color photographs, photographic morphological plates, and dot maps showing state and national distributions. A photographic key is provided to guide the identification of all 99 species.

For more info, please visit:
www.uapress.ua.edu/product/Crayfishes-of-Alabama,7767.aspx



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To view abstracts, etc., click on a reference to be taken to the journal website

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