

## ICPS CONFERENCE 2023 – HIMEJI, JAPAN

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Keywords: Japan, ICPS conference, 2023

Received: 6 August 2023

<https://doi.org/10.55360/cpn524.kk223>

Abstract: Summary of the 13<sup>th</sup> ICPS World Conference held 26-28 May 2023 in Himeji, Japan.

The 13<sup>th</sup> ICPS World Conference was held on 26-28 May 2023 at Himeji Citizens' Hall. We chose Himeji because of the vicinity of the Hyogo Prefectural Flower Center (HPFC) of which the amazing CP collection was discussed by Naoki Tanabe in the previous ICPS Conference held in California in 2018. Also, there is Himeji Castle, a World Heritage Site, so many accommodation facilities are available.

This conference was sponsored by the Japanese Carnivorous Plant Society (JCPS) with support by the Kansai CPS, the Tokai CPS, and the Hiroshima CPS. The conference, originally planned in May 2020, has been postponed 3 times (!) due to the COVID-19 pandemic. Thanks to the significant calming down of COVID since the fall of 2022, we were finally able to hold the conference with participation of more than 110 people from Japan and 13 overseas countries.

A total of 18 lectures were given in English and Japanese taking 50-60 minutes each because of using 2 languages. As all of the speakers on Day-1 were Japanese researchers (including one US-based), they kindly agreed to self-interpret. On Day-2 and Day-3, we invited two professional interpreters for consecutive interpretation. Thus, more Japanese hobbyists were able to participate in the conference and listen to valuable lectures. The particularly noteworthy was that 2 school students of Tatsuno High School gave the presentation bilingually; the professional interpreter helped only the Q&A part.



Conference participants in front of Himeji Citizens Hall.



Left: Audience of the conference. Right: Lecture by the students of Tatsuno High School. Photos by Naoki Tanabe.

There were 4 remote lectures using Zoom: Jan Schlauer and Andreas Fleischmann from Germany on Day-2 and Drew Martinez from the US and Greg Bourke from Australia on Day-3. These remote lectures were conducted smoothly without any noticeable issues.

Themes of the lectures were, in descending order, mechanism of prey trapping (signal transmission, roles of chemicals, evolution of carnivory), chemical components in plants (naphthoquinone in *Drosera*, phenolic compounds in *N. khasiana* and sugars/metals in *Nepenthes* extrafloral nectar), conservation of native habitats (sundews in southern Hyogo, *Sarracenia* in Alabama), field trip reports of native habitats (CPs in eastern Australia, *Pinguicula* in Mexico), ecology and morphology (*D. tokaiensis*, *Darlingtonia*), sundew-insect symbiosis, and the effects of environmental pollution. Two lectures also explained about simplified aseptic cultivation methods for carnivorous plants without using an autoclave and a laminar flow cabinet but using calcium hypochlorite (Lecture #6 Kawauchi) or slightly acidic electrolyzed water (Lecture #13 Tsubosaka).



Left: Conference dinner at Hotel Monterey. Right: View of Himeji Castle from the banquet room. Photos by Naoki Tanabe.

On 26 May evening, the conference dinner was held with about 100 people at the banquet room of Hotel Monterey Himeji, from which the lit-up Himeji Castle can be observed. The participants enjoyed the buffet-style foods and demonstrations of *nigiri-sushi* and *tempura* with *sake* and Japanese wines. As an entertainment of the dinner, a short magic show was performed by Naoki Tanabe during the dinner.

Plant show and sale event was also held in the same building from 1:00 p.m. on 26 May through 3:00 p.m. on 28 May. Selected plants such as *Nepenthes*, *Sarracenia*, *Pinguicula*, *Aldrovanda*, and *Roridula* were brought and exhibited by the botanical garden, CP societies, and nurseries. Variety of plants, T-shirts, CP designed figures/ornaments, etc. were on sale. Before the opening at 1 p.m. on 26 May, a line of more than 30 people was formed and significantly above 200 people visited during the two-and-a-half-day sale period.



Left: Preparation of sale booth. Photo by Ako Minami. Right: Bustling sales booths. Photo by Naoki Tanabe.

There were 3 post-conference events. On 29 May, 74 people joined the day trip to the Tegarayama Conservatory Botanical Garden in Himeji City and the Hyogo Prefectural Flower Center (HPFC) in Kasai City, ca. 50-min. drive from Himeji station.

On 30 May, there was a local field trip to 2 habitats in Kato City and Taka Town in Hyogo Prefecture with participation of 45 people. Observed plants were *D. lunata*, *D. tokaiensis*, *D. spatulata*, *D. rotundifolia*, and a few *Utricularia*.

The very last event was the field trip to the habitat of *Pinguicula ramosa*, Japan endemic species, in Nikko, Tochigi Prefecture on 31 May.

I would like to express big thanks to Prof. Hasebe, who strongly supported us from the preparation stage to the conference lectures from academic view point, Mr. Doi of HPFC, who cooperated for the HPFC tour and the exhibition/sale, Mr. Asai of the Tegarayama Conservatory Botanical Garden for the heart-warming tour, and Ms. Hasegawa of the Himeji Convention & Visitors Bureau for securing the venue and helping the subsidy from Himeji City.

### Lectures in the 13<sup>th</sup> ICPS World Conference – Himeji, Japan

1. Mitsuyasu Hasebe - National Institute for Basic Biology, Okazaki, Aichi, Japan  
Molecular mechanisms of evolution in botanical carnivory and introduction of carnivorous plant in the wild habitats.
2. Hiraku Suda - Biochemistry and Molecular Biology, Saitama University, Saitama, Japan  
The sensory system of the Venus flytrap: Glowing flycatchers reveal molecular dynamics.
3. Shoji Segami - National Institute of Basic Biology, Okazaki, Aichi, Japan  
Analysis of electrical signals running through the tentacles of the sundew *Drosera rotundifolia*.

4. Takahiro Katogi, Yoshikazu Hoshi - School of Biology, Tokai University, Kumamoto, Japan  
A study of glandular trichome densities on the leaves of Japanese endemic species *Drosera tokaiensis* and its related species.
5. Emmi Kurosawa - University of Massachusetts, Boston, MA, USA  
Vegetarian or Meat Lover!? Water quality may affect carnivory in aquatic *Utricularia* spp. in Australia.
6. Takumi Kawauchi - Agriculture and Life Science, University of Tokyo, Tokyo, Japan  
Introduction of simplified aseptic cultivation technique for carnivorous plants and report on endophytic microorganisms in *Sarracenia*.
7. Andrej Pavlovič - Dept. of Biophysics, Faculty of Science, Palacký University, Olomouc, Czech  
Phylogeny of jasmonate signaling in carnivorous plants.
8. David Armitage - Integrative Community Ecology Unit, Okinawa Institute of Science and Technology Graduate University, Japan  
Charmed by the cobra: research on the ecology of *Darlingtonia californica*.
9. Gokul B. S. - Phytochemistry & Phytopharmacology Div., J. Nehru Tropical Botanic Garden & Research Institute, Kerala, India  
Isolation and biological activity studies of two phenolic compounds from the Indian pitcher plant *Nepenthes khasiana*.
10. Anil John J. - Phytochemistry & Phytopharmacology Div., J. Nehru Tropical Botanic Garden & Research Institute, Kerala, India  
Chemical composition of extrafloral nectar in *Nepenthes khasiana* pitchers.
11. Jan Schlauer - University of Tuebingen, Tübingen, Germany [Remote Lecture]  
Spider leg sundews of Japan – Chemistry, morphology and Identification.
12. Andreas Fleishmann - GeoBio Center, University of Munich, Munich, Germany [Remote Lecture]  
Insects associated with *Drosera*.
13. R. Tsubosaka, S. Kawashima, K. Fujiwara - Nature Science Club, Tatsuno High School, Hyogo, Japan  
Carnivorous plants in southern Hyogo Prefecture - Activities of high school students to protect local biodiversity.
14. Drew Martinez - Carnivero' Nurseries & Gardening Store, Austin, TX, USA [Remote Lecture]  
Technological advances in carnivorous plant horticulture.
15. Greg Bourke - Blue Mountains Botanic Garden, Sydney, Australia [Remote Lecture]  
Carnivorous plants in South-Eastern Australia.
16. Carl Procko - Plant Molecular & Cellular Biology, Salk Institute, La Jolla, CA, USA  
Molecular evolution of prey touch responses in carnivorous *Droseraceae* plants.
17. Carson Trexler - ICPS Director of Conservation & Research, Portland, OR, USA  
The ICPS support of imperiled *Sarracenia* habitat conservation in Alabama in 2023.
18. Daisuke Matsue - Hakone Botanical Garden of Wetlands, Hakone-machi, Kanagawa, Japan  
Field trip report of *Pinguicula* habitats in Mexico.