CEPHALOPOD INTERNATIONAL ADVISORY COUNCIL

CONFERENCE 2015
PROGRAM

NOVEMBER 6-14
Hakodate, Japan
Recent Advances in Cephalopod Science

November 6-14, 2015
Hakodate, Japan
## Table of contents

Welcome messages ................................................................. 2
Organizers and sponsors ......................................................... 5
General information ............................................................... 6
Restaurants and bars near the Hakodate Kokusai Hotel .................. 7
Map of conference venue ......................................................... 10
Notes ................................................................. 11
Conference timetable ............................................................ 12
Pre-symposium workshops and mini-workshops ......................... 13

### Symposium program

November 10 ................................................................. 16
November 11 ................................................................. 19
November 12 ................................................................. 22
November 13 ................................................................. 23
November 14 ................................................................. 27

Posters ................................................................. 30

List of registrants ............................................................... 45

Index of presenters ............................................................ 58
Welcome to the 2015 CIAC Conference

On behalf of the Cephalopod International Advisory Council and Organizing Committee, it is my honor to welcome you to the beautiful and historic city of Hakodate for the 2015 CIAC conference.

The theme for this year’s conference - Recent Advances in Cephalopod Science – emphasizes the rapid progress and growing interest in the field of cephalopod research. Since the last CIAC meeting held in Japan 24 years ago, CIAC’s triennial conferences have become the most important international gathering of cephalopod scientists. This year’s program will comprise 106 oral presentations, including an opening talk by Dr. Roger Hanlon and three keynote talks, and more than 150 posters. Registrants will number more than 240 and come from 30 countries.

This year, I also look forward to welcoming a new generation of young scientists. The conference will be a great chance for you to meet and interact with a diverse array of leading scientists and educators. I am confident that your discussions will produce new ideas and point to future discoveries.

Enjoy the conference!

Yasunori Sakurai, PhD.
CIAC 2015 Conference Chair
Hokkaido University
Welcome from the Mayor of Hakodate

I warmly welcome the many cephalopod scientists from around the world to Hakodate for the 2015 CIAC conference.

Hakodate faces Tsugaru Strait, which connects the Pacific Ocean and Sea of Japan, and Funka Bay, and is blessed with a good harbor. It is also the location of important fisheries for the Japanese flying squid and spear squid, which support many local industries.

The fishery for Japanese flying squid opens every year on June 1, and in August, the city holds its annual summer festival called the Minato Matsuri, during which the citizens of Hakodate come together on two nights to perform the famous “squid dance”. Squid are so important to Hakodate that in 1989, they were designated the official “city fish”!

The city recognizes the importance of this gathering of researchers from around the world to discuss, present and exchange academic results. I am pleased that this information will also be shared with our citizens.

The night view from the top of Mount Hakodate is world famous, and the city was recently ranked by international tourists as the best sightseeing destination in Japan. Please be sure to try our fresh seafood and experience our local charm.

Lastly, I thank the organizers and sponsors of the conference, including Hokkaido University.

Mr. Toshiki Kudo
Mayor
City of Hakodate
Welcome from the Hakodate Chamber of Commerce

Hakodate is known in Japan as the "City of Squid". Annual landings total about 25,000 tons and are valued at about 6.5 billion yen (about US$54 million). The catches support many industries that produce products such as “saki-ika” (dried squid), “shiō-kan” (fermented squid guts pickled in salt), and “matsumaezuke” (a pickled dish native to southern Hokkaido). After processing the shipping value is 50 billion yen (about US$410 million). For many years, squid has been a traditional delicacy.

CIAC held its third general meeting in 1991 in Shimizu, Japan. Following the meeting, 10 researchers were invited to Hakodate for an international squid forum for local citizens. We are very honored that 24 years later, CIAC has returned to Hakodate for its conference and pleased that four experts will again give lectures to our local citizens.

The Hakodate chamber of commerce supports fisheries and marine products processing industries. Hakodate’s “city fish” is squid. And based on the “Hakodate International Fishery and Ocean City Plan”, the city is aiming to become an international ocean city.

At this symposium, squid and octopus researchers from 30 countries including the United States and Taiwan will present their research results on a wide range of topics such as classification of a cephalopods, ecology, behavior, occurrence, parasites, reproduction, culture, fishing resources, and stock assessment.

Opportunities for exchange like this are rare. People in industry and local citizens can learn from researchers and use this information to develop their industries and businesses. This will help Hakodate remain the “City of Squid” and become a truly international city.

Mr. Eiichi Matsumoto
President
Hakodate Chamber of Commerce
## Organizers and sponsors

### Organizers

**Conference Chair**  
Yasunori Sakurai

**Conference Vice-Chair**  
Tsunemi Kubodera

**Scientific Committee**  
Takashi Okutani (Honorary Chair)  
Tsunemi Kubodera (Chair)  
John Bower  
Ian Gleadall  
Yuzuru Ikeda  
Yoko Iwata  
Susumu Segawa  
Akihiko Yatsu

**Organizing Committee**  
Yasunori Sakurai (Chair)  
Hideaki Kidokoro  
Ryuta Nakajima  
Mitsuo Sakai  
Kotaro Tsuchiya  
Toshie Wakabayashi  
Jun Yamamoto  
Norio Yamashita

**Secretariat**  
John Bower  
Dharmamony Vijai

### Sponsors

- Hakodate Chamber of Commerce
- National Cooperative Association of Squid Processors
- Hakodate Fisheries Alliance Council
- Japan Squid Fisheries Association
- Hamade (Towa Denki Co., Ltd.)
- Minamikayabe Set-net Fishery Association
- Japan Overseas Fishing Association
- Research Institute of Marine Invertebrates
- Japanese Institute of Fisheries Infrastructure and Communities
- City of Hakodate
- The Hokusui Society Foundation
- Fujiwara, Inc.
- Gindako
- Hakodate Kankyo Eisei Co., Ltd.
- Hanabishi Hotel
- Hokkaido Trawl Fisheries Cooperative Federation
- Honda Cars – South Hokkaido
- Ishio Shokuin Co., Ltd.
- Oshima Fisheries Cooperative Association
- Tosho Building Service Co., Ltd.
- Federation of Japan Marine Product Processing Industry Cooperatives
- Japan Fishing Port Construction Association
- Nakamura Fishery Department (Todohokke)
General information

Conference venue:
Hakodate Kokusai Hotel  
5−10 Otemachi, Hakodate  
Phone: +81 (0)138 23 0591  

Foreign exchange near Hakodate Train Station:
1. Hokuyo Bank, Hakodate Chuo Branch  
Mon-Fri, 0900-1500  
Cash (US$, CA$, HK$, AU$, NZ$, EUR, KRW, CNY, CHF, GBP) → Yen  
T/C (US$, CA$, AU$, EUR, CNY, GBP, JPY) → Yen

2. Hakodate Central Post Office  
Mon-Fri, 0900-1600  
Cash (US$, CA $, AU$, EUR, KRW, CHF, GBP) → Yen

ATMs that accept international cards:
1. Hokkaido Bank / Juigai Branch  
Mon-Fri, 0900-1500  
Please ask at the counter. You must show your card and passport.

2. Post Office ATM @ Hakodate Train Station (2nd floor)  
Mon-Fri, 0900-1900  
Sat-Sun, 0900-1700  
Cards accepted: Visa, AMEX, Diners Club International, MasterCard, Union Pay, CITIBANK

3. 7-11 convenience stores  
Tel: 0120-937-711 (English service, 0800-2100)  
Open: 24 hours  
Cards accepted: Visa, PLUS, AMEX, Diners Club International, MasterCard, Maestro, Cirrus, JCB, Union Pay, DISCOVER  
http://www.sevenbank.co.jp/intlcard/index2.html

Postal service:

<table>
<thead>
<tr>
<th></th>
<th>Monday-Friday</th>
<th>Saturday</th>
<th>Sunday</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Post Office</td>
<td>Open 24 hours</td>
<td>Open 24 hours</td>
<td>Open 24 hours</td>
</tr>
<tr>
<td>1-6 Shinkawa-cho</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ekimae Post Office</td>
<td>0900-1700</td>
<td>Closed</td>
<td>Closed</td>
</tr>
<tr>
<td>7-18 Wakamatsu-cho</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Restaurants and bars near the Hakodate Kokusai Hotel

<table>
<thead>
<tr>
<th>Map ID</th>
<th>Name/Address</th>
<th>Hours</th>
<th>Credit card?</th>
<th>English menu?</th>
</tr>
</thead>
<tbody>
<tr>
<td>❉</td>
<td>Hakodate Kokusai Hotel 5-10 Ōtemachi</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>Cafe &amp; Deli MARUSEN 5-10 Ōtemachi</td>
<td>Next door to the venue hotel (50 m away). Take-out available. 0900-1100: Breakfast 1100-1800: Lunch and café (last order 1700)</td>
<td>OK</td>
<td>Yes</td>
</tr>
<tr>
<td>B</td>
<td>Hakodate Beer 5-22 Ōtemachi</td>
<td>Beer hall, continental cuisine 1100-1500, 1700-2200 Closed: Wed</td>
<td>OK</td>
<td>Yes</td>
</tr>
<tr>
<td>C</td>
<td>Café Harujon-himejon (Leaves) 3-8 Ōtemachi</td>
<td>Patisserie and café. Sweets. 1130-2300 Sun: 1130-2100</td>
<td>OK</td>
<td>No</td>
</tr>
<tr>
<td>D</td>
<td>Uoichitei 魚いち亭 27-6 Toyokawacho</td>
<td>Cafeteria on second floor of wholesale fish market. Bay view. 0700-1400 Closed: Sun, Wed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>Ajisai 12-7 Toyokawacho</td>
<td>Ramen, dumplings 1100-1630 1700-2200</td>
<td>OK</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Meimeitei 羊羊亭 12-8 Toyokawacho</td>
<td>Yakiniku, grilled mutton 1130-2200</td>
<td>OK</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Megumi Soup Curry 12-8 Toyokawacho</td>
<td>Soup curry 1130-2200</td>
<td>OK</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Kikuyo Shokudo 12-9 Toyokawacho</td>
<td>Seafood, seafood rice bowls. Try the kaisendon (海鮮丼), a sashimi rice bowl with salmon roe, scallops, and sea urchin. 1130-1500 1730-2300 Closed: Tue</td>
<td>OK</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Marukatsu Suisan 12-9 Toyokawacho</td>
<td>Kaiten (conveyor-belt) sushi 1130-1500 1630-2200</td>
<td>OK</td>
<td>Yes</td>
</tr>
<tr>
<td>F</td>
<td>Casa de Norte 12-6 Toyokawacho</td>
<td>Seafood, steak, western 1130-1430 1730-2200</td>
<td>OK</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>Kaifuurou 海風楼 12-6 Toyokawacho</td>
<td>Chinese 1130-1430 1730-2200</td>
<td>OK</td>
<td>No</td>
</tr>
<tr>
<td>G</td>
<td>Hakodate marukatsu suisan ikaikatei 函館まるかつ水産いか亭 12-12 Toyokawacho</td>
<td>Fresh seafood served morning to night. Seafood rice bowl is popular. Crab. 0730-1030 1130-1500 1630-2030 (last order:2000)</td>
<td>OK</td>
<td>No</td>
</tr>
<tr>
<td>H</td>
<td>Minato no Mori みなとの森 11-5 Toyokawacho</td>
<td>Café, some western cuisine, vegetarian friendly M-F: 1130-2130 S-S: 1100-2130</td>
<td>OK</td>
<td>English menu and some spoken.</td>
</tr>
<tr>
<td>I</td>
<td>Italian GoGo 13-20 Suehirocho</td>
<td>Pasta, pizza, dining bar 1200-2300</td>
<td>OK</td>
<td>No</td>
</tr>
<tr>
<td>J</td>
<td>Hakodate Beer Hall 函館ビヤホール 14-12 Suehirocho</td>
<td>Beer hall M-F: 1130 - 2200 S-S: 1100 - 2200</td>
<td>OK</td>
<td>Yes</td>
</tr>
<tr>
<td>Map ID</td>
<td>Name/Address</td>
<td>Hours</td>
<td>Credit card?</td>
<td>English menu?</td>
</tr>
<tr>
<td>--------</td>
<td>----------------------------------</td>
<td>------------------------------</td>
<td>--------------</td>
<td>--------------------------------</td>
</tr>
<tr>
<td>K</td>
<td>Lucky Pierrot (Two shops in Bay Area)</td>
<td>Burgers and curry</td>
<td>Sun-Fri: 1000-0030 Sat: 1000-0130</td>
<td>Some English on menu</td>
</tr>
<tr>
<td>L</td>
<td>Starbucks 24-6 Suehirocho</td>
<td>0800-2300</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>California Baby 23-15 Suehirocho</td>
<td>Café, western food, sandwiches.(famous for &quot;Cisco Rice&quot;) 1100-2300 Closed: Thu</td>
<td>OK</td>
<td>Yes</td>
</tr>
<tr>
<td>M</td>
<td>Café &amp; Deli ORIENTAL KITCHEN 23-15 Suehirocho</td>
<td>Noodles, curry. Located behind California Baby. 0930-1030 (Breakfast) 1030-1700 (Lunch) Closed: Wed</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>N</td>
<td>Hasegawa Store 23-5 Suehirocho</td>
<td>Convenience store, bento 0700-2200</td>
<td></td>
<td></td>
</tr>
<tr>
<td>O</td>
<td>La Concha 14-6 Suehirocho</td>
<td>Spanish Thu-Sat: 1700-2330 Sun: 1700-2300 Closed: Mon</td>
<td>No</td>
<td>Menu in Japanese and Spanish</td>
</tr>
<tr>
<td>P</td>
<td>Bon pan 16-1 Suehirocho</td>
<td>Bread shop 0700-1830 Closed: Sun</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Q</td>
<td>Café Pazar Bazar 17-19 Suehirocho</td>
<td>Café, shish kebab, curry, some vegetarian 1000-1700 Fri-Sat: 1000-2000</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>R</td>
<td>Seiryukan 7-3 Wakamatsucho</td>
<td>Ramen, rice bowl 1100-1700 Closed: Sun-Mon</td>
<td>OK</td>
<td>Yes</td>
</tr>
<tr>
<td>S</td>
<td>Kamome 8-8 Wakamatsucho</td>
<td>Ramen 0630-1500</td>
<td>No</td>
<td>No (but pictures)</td>
</tr>
<tr>
<td>T</td>
<td>GAYA 8-14 Wakamatsucho</td>
<td>Seafood, sushi, izakaya (tavern) 1100-1430 1700-2400</td>
<td>OK</td>
<td>Yes</td>
</tr>
<tr>
<td>U</td>
<td>Kurobei 8-23 Wakamatsucho</td>
<td>Yakitori (grilled chicken), izakaya (tavern) 1700- Closed: Sat-Sun</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>V</td>
<td>GyoSankO 19-3 Wakamatsucho</td>
<td>Izakaya 1630-0100</td>
<td>OK</td>
<td>Yes</td>
</tr>
<tr>
<td>V</td>
<td>Yuumin 19-1 Wakamatsucho</td>
<td>Ramen, dumplings 1100-2300</td>
<td></td>
<td>English drink menu only (friendly staff)</td>
</tr>
<tr>
<td>W</td>
<td>Café Evergreen 18-1 Wakamatsucho</td>
<td>Café, western food</td>
<td>OK</td>
<td>Some English on menu</td>
</tr>
<tr>
<td>X</td>
<td>Tsugaruya Shokudo 7-6 Matsukazecho</td>
<td>Good, cheap diner 1030-2000 Closed: Thu</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Y</td>
<td>Daimon Yokocho 7-5 Matsukazecho</td>
<td>26 small ‘retro’ style restaurants and bars. Many kinds of food. Most open 18:00-23:00 (some stay open later). Three open for lunch.</td>
<td>Most have English menus.</td>
<td></td>
</tr>
<tr>
<td>Z</td>
<td>Diner Calamaro 4-5 Matsukazecho</td>
<td>Western (steaks, pizza, pasta) 1730-2400 Closed: Mon</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Map ID</td>
<td>Name/Address</td>
<td>Hours</td>
<td>Credit card?</td>
<td>English menu?</td>
</tr>
<tr>
<td>-------</td>
<td>--------------</td>
<td>------------------------</td>
<td>--------------</td>
<td>---------------</td>
</tr>
<tr>
<td>Bars</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Yamashita Beer Bar 16-3 Suchirocho</td>
<td>Beer and cocktails 2000-0200 Closed: Sun</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>2</td>
<td>Mojito 18-22 Wakamatsucho</td>
<td>Rum bar, large choice of rums and cocktails 1900-0300 Closed: Tue</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>3</td>
<td>Sugi no ko 杉の子 8-5 Matsukazecho</td>
<td>Bar 1830-2300 Closed: Sun-Mon</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Jazz Spot LEAF 8-19 Matsukazecho</td>
<td>Jazz bar Café time: 1200-2000 Bar time: 1900-2400</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Y</td>
<td>Bar 109 7-5 Matsukazecho</td>
<td>Cozy cocktail bar 1800-0100 (last order: 0000)</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Tsubaki 4-5 Matsukazecho</td>
<td>Nondescript, but open late. 2000-0300</td>
<td>OK</td>
<td>No</td>
</tr>
<tr>
<td>6</td>
<td>Bar Jey's 17-11 Shinonomecho</td>
<td>300 types of cocktails 1900-0300</td>
<td>OK</td>
<td></td>
</tr>
</tbody>
</table>
Map of conference venue
(2nd floor)
Notes

Presentations
To allow the sessions to run smoothly, and in fairness to other speakers, all presentations are expected to adhere strictly to the time allocated. Speakers should designate at least 3 minutes for questions.

Speakers are asked to copy their presentations to the conference laptop well in advance of their talks. The laptop will be equipped with Windows and Microsoft PowerPoint.

Important Please rename your files: start time-name.ppt (e.g., 0830-Kubodera.ppt)

If complications occur due to incompatibilities between PCs and Macs, Mac owners may use their own laptops to make presentations.

Posters
Posters will be displayed in the room next to the main meeting room. Posters can be affixed anytime after 09:00 on November 10 and will remain on display throughout the meeting. The poster session will be held on November 11 during 1830-2030, when poster presenters are expected to be available to answer questions. Posters must be removed by 13:00 on November 14.

Internet access
Free WiFi access will be available at the workshop and symposium venues.

Social activities
Welcome reception November 10, 1900-2100
Poster session November 11, 1830-2030
Excursion November 12, 1300-1900
Sayonara Party (@ Hanabishi Hotel) November 13, 1900-2100

Lunch-time video
Angel Guerra will show a video titled “Goods and services of a marine protected area” on November 10, 11, 13, and 14 during 1300-1340 in the main symposium room.
## Conference timetable

<table>
<thead>
<tr>
<th>Day</th>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Friday, November 6</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0800-1700</td>
<td></td>
<td>Mini-workshop</td>
</tr>
<tr>
<td><strong>Saturday, November 7</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0800-1700</td>
<td></td>
<td>Mini-workshop</td>
</tr>
<tr>
<td><strong>Sunday, November 8</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0900-1700</td>
<td></td>
<td>Workshops</td>
</tr>
<tr>
<td><strong>Monday, November 9</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0900-1700</td>
<td></td>
<td>Workshops</td>
</tr>
<tr>
<td><strong>Tuesday, November 10</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0830-0845</td>
<td></td>
<td>Welcome addresses</td>
</tr>
<tr>
<td>0845-1630</td>
<td></td>
<td>Session 1: Behavior</td>
</tr>
<tr>
<td>1630-1730</td>
<td></td>
<td>Session 2: Biodiversity and conservation</td>
</tr>
<tr>
<td>1745-1845</td>
<td></td>
<td><em>Panel discussion</em>: An oral history of pioneers in cephalopod science: Where did we come from? What are we? Where are we going?</td>
</tr>
<tr>
<td>1900-2100</td>
<td></td>
<td>Welcome reception</td>
</tr>
<tr>
<td><strong>Wednesday, November 11</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0830-1215</td>
<td></td>
<td>Session 3: Reproduction</td>
</tr>
<tr>
<td>1400-1715</td>
<td></td>
<td>Session 4: Genetics and evolution</td>
</tr>
<tr>
<td>1730-1830</td>
<td></td>
<td><em>Panel discussion</em>: Online resources for cephalopod researchers</td>
</tr>
<tr>
<td>1830-2000</td>
<td></td>
<td>Poster session</td>
</tr>
<tr>
<td><strong>Thursday, November 12</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0830-1145</td>
<td></td>
<td>Session 5: Physiology</td>
</tr>
<tr>
<td>1300-1900</td>
<td></td>
<td>Excision</td>
</tr>
<tr>
<td><strong>Friday, November 13</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0830-1130</td>
<td></td>
<td>Session 6: Life history and roles in marine ecosystems</td>
</tr>
<tr>
<td>1130-1445</td>
<td></td>
<td>Session 7: Climate change</td>
</tr>
<tr>
<td>1445-1830</td>
<td></td>
<td>Session 8: Fisheries, stock assessment and management</td>
</tr>
<tr>
<td><strong>Saturday, November 14</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0830-1430</td>
<td></td>
<td>Session 9: Systematics and biogeography</td>
</tr>
<tr>
<td>1430-1500</td>
<td></td>
<td>Session 10: Culture and welfare</td>
</tr>
<tr>
<td>1500-1545</td>
<td></td>
<td>Workshop summaries</td>
</tr>
<tr>
<td>1615-1715</td>
<td></td>
<td>Closing ceremony and presentation of awards</td>
</tr>
<tr>
<td>1715-1730</td>
<td></td>
<td>Closing remarks</td>
</tr>
<tr>
<td>1900-2100</td>
<td></td>
<td>Sayonara Party</td>
</tr>
</tbody>
</table>
Pre-symposium workshops and mini-workshop

Before the symposium, there will be five workshops (November 8-9) and one mini-workshop (November 6-7). All will be held at the Hakodate Research Center for Fisheries and Oceans. Transportation will be provided between the workshop venue and the Hakodate Kokusai Hotel.

Workshop 1
Artificial fertilization and squid handling
Organizers: Yuzuru Ikeda, Roger Villanueva and Yasunori Sakurai

Since the late Gen Matsumoto first succeeded in keeping spear squid (Heterololigo bleekeri) in a closed system in the 1970s, great progress has been achieved in rearing techniques for squids and other cephalopods. One innovative technique is artificial fertilization, which has great potential to contribute to experimental culture and advance research on reproductive biology. In this workshop, we will examine the latest protocol for artificial fertilization using live Todarodes pacificus and its applicability to other species. We will also discuss the standard techniques used for cephalopod culture, which include tank and rearing systems, handling, anesthesia, tagging and experimental design for studying behavior. Furthermore, we will discuss and get consensus on how captive cephalopods should be cared for, namely animal welfare. Since this topic is
currently an important issue in zoology as well as the animal industry, we will pay attention on
the current animal welfare guidelines, food customs and historical backgrounds of each country.

Workshop 2
Biogeography and phylogeny
Organizers: Ian Gleadall, Jaruwat Nabhitabhata and Rigoberto Rosas Luis

The objectives of this workshop are:
(1) Assemble datasets for the distribution patterns of the major Recent cephalopod groups,
including inspection and analysis of recently acquired data on distribution patterns and ecology
to detect further changes that have occurred during the last few years (e.g., as a consequence of
global warming and periodic events such as El Niño).
(2) Categorize characters that have arisen recently (synapomorphic) versus common key
(synaplesiomorphic) characters.
(3) Undertake a new, comprehensive inspection (and, subsequently, construction) of cephalopod
phylogeny through combined analysis of datasets from various fields.
(4) Mark the evolutionary trends in the Cephalopoda, based on results of phylogenetic analysis
for each major group and interpretation of how these (may) have affected the evolution and
success of cephalopods.
(5) Based on objectives (1)-(4), propose an appropriate taxonomy for cephalopod group names
at higher level ranks (between Subclass Coleoidea and the various cephalopod order-group
names).

Workshop 3
Novel biomimetic models: materials, soft robots and artificial intelligence
Lead organizer: Letizia Zullo
Co-organizers: Kohei Nakajima and Shuichi Shigeno

The goal of this workshop is to give an overview of recently advanced biomimetic models,
design, and any theories or arts inspired by cephalopod molluscs or ceph-like objects.
Biomimetics, traditionally an interdisciplinary area of biology and engineering, has been rapidly
growing in recent years. Biological phenomena are inspiring innovations to harness unique
features of animal sensing, manipulation, locomotion, and intelligence. This workshop illustrates
both theoretical and practical artificial/robotic application inspired by cephalopod biology.
Through the exploration of the amazing biological characteristics of cephalopods, such as their
adaptive coloration, fast swimming, sharp vision, flexible arm movements, and giant brains, we
will show the ‘Why, What and How’ of cephalopod biomimetics.

Workshop 4
Physiology of reproduction
Organizers: Mara Bainy, Yoko Iwata and Natalie Moltschaniwskyj

The aim of this workshop is to provide direction for future research on the physiology of
reproduction of cephalopods. A key research area for better understanding the dynamics of
cephalopod reproduction is the endocrine control of reproduction. On the first day of the
workshop, participants will each discuss his or her current research on this topic and the
methodologies used, as well as show some results and discuss future prospects. Research areas
to be discussed will include gonadal development, spermatogenesis, oogenesis, signaling pathways, hormone receptors, and others. At the end of the second day, we will discuss submitting a review article using data obtained in the workshop.

**Workshop 5**  
**The role of cephalopods in global seafood supply chains**  
Lead organizer: Mitsuo Sakai  
Co-organizers: Katsuhiro Miki, Hideaki Kidokoro and John Bower

This workshop will examine cephalopod supply chains around the world focusing on the links from stocks and fisheries to ports, processors, distributors, marketers and consumers. Special attention will be paid to the role in this chain of small-scale and artisanal fisheries. We will also look at how changing demands are affecting investment in cephalopod fisheries. Participants will assemble data from different countries prior to the workshop, and present and discuss these data at the workshop with the goal of producing a review paper to be published following the conference.

**Mini-workshop**  
**A review of the Cephalopoda collections used by Madoka Sasaki**  
Organizer: Ian Gleadall

Madoka Sasaki (1883-1927) was a prominent Japanese researcher who wrote a monograph in English describing and illustrating many of the Recent cephalopod species of Japanese waters. Unfortunately, he died in his prime, age 44, while he was still in the first year of a 3-year sabbatical in Europe. He had already completed his monograph, sending the final manuscript back to Japan (Hokkaido University, Sapporo) in August, 1927. However, he had no opportunity to label the type specimens of the 33 new species and subspecies that he described in his monograph (based almost entirely on specimens deposited in Japan), so for many years these types went unidentified and were presumed lost. Recently, inspection of specimens in the collections of the museums of Hokkaido and Tokyo universities, along with earlier papers written by Sasaki, have revealed that many of the type specimens are still extant in these collections. In addition, voucher specimens of many of the other species described in Sasaki’s monograph are also still extant and mostly in good condition. The objective of this workshop is to facilitate detailed inspection of selected specimens from the Hokkaido and Tokyo University collections to improve our knowledge of the Cephalopoda.
Symposium program

Tuesday, 10 November 2015

0830  Welcome addresses

  ➢ Louise Allcock, CIAC President
  ➢ Yasunori Sakurai, CIAC 2015 Chair

Session 1: Behavior
Chair: Clyde Roper

0845  Roger T. Hanlon
Cephalopod behavior: Recent advances and future challenges
[Opening talk]

0915  Graziano Fiorito
Octopus behavioral biology: the last 30 years of research at the Stazione Zoologica Anton Dohrn

0930  Rui Rosa, Jesse T. Kelly, Mark Norman, Vanessa M. Lopes, José R. Paula, João Gonçalves and João P. Barreiros
Hijacking, hitchhiking and burglary behaviors of pelagic octopuses

0945  Benny Hochner, Ana Turchetti Mia, Naama Stern-Mentch, Nir Nesher and Tal Shomrat
Conservation and convergence in the neural organization of the cephalopod learning and memory system

1000  T. Gutnick, B. Hochner and M. J. Kuba
Facing the challenge, how the octopus can control its flexible arms and use them to extract sensory information

1015  Toshifumi Wada
Field observation of mating behavior in Abdopus sp. (Cephalopoda: Octopodidae), and its effect on arm loss

1030  Coffee/Tea break

Chair: Yuzuru Ikeda

1100  Kelley M. Voss and David Scheel
Behavior and personality of giant Pacific octopus (Enteroctopus dofleini) in simulated social contexts
1115 Jennifer Mather, Tatiana Leite and David Scheel
Is prey diversity predicted by diversity of habitat or personality for Octopus cyanea in Moorea, French Polynesia?

1130 Stephanie Bush, Chris Payne, Bret Grasse, Alicia Bitondo and Paul Clarkson
Behavioral ecology, reproductive biology, and public display of an undescribed cirrate octopus from the northeastern Pacific

1145 Jennifer Hofmeister, Kelley Voss and Connor White
Movement patterns of the California two spot octopus, Octopus bimaculatus, using acoustic telemetry

1200 Announcements & Group photo

1230 Lunch

Chair: Jennifer Mather

1400 Shingo Maegawa, Nobuyuki Ochi and Hiroshi Hosokawa
Analysis of characteristics of live preys evoking hunting behavior in pygmy squid, Idiosepius paradoxus

1415 Noriyosi Sato, Fumio Takeshita, Eiji Fujiwara and Takashi Kasugai
Use of ink for predation by Japanese pygmy squid (Idiosepius paradoxus)

1430 Erik Anderson, Andrew Herbener, Ellen Turner, Abigail Noll, Graham Allen, Philip Graybill and Mark Grosenbaugh (posthumously)
Time varying friction drag on the swimming squid, Doryteuthis pealeii, from flow visualization data

1445 Yuzuru Ikeda
Cephalopod intelligence, sociality and communication I) Prologue: Social recognition in squid

Chair: Graziano Fiorito

1500 Chikatoshi Sugimoto and Yuzuru Ikeda
Cephalopod intelligence, sociality and communication II) Social structure and dynamics of the oval squid (Sepioteuthis lessoniana) school

1515 Ryuta Nakajima, Kohei Okamoto and Yuzuru Ikeda
Cephalopod intelligence, sociality and communication VIII) epilogue: How close can I get? Observations of predatory strategies of the pharaoh cuttlefish, Sepia pharaonis in captivity
1530 Coffee/Tea break

Jean Alupay and Khalil Iskarous
Understanding bending and stiffening properties of the muscular hydrostat using the ‘arm slap’ of octopus, *Abdopus* sp.

1615 Kerry Perkins
Motion camouflage in relation to varying background and prey in *Sepia officinalis*

Session 2: Biodiversity and conservation
Chair: Graham Pierce

1630 Michael Vecchione
Twelve years of changes to the known cephalopod fauna of the western central Atlantic Ocean

1645 Henk-Jan T. Hoving, Stephanie Czudaj, Heino Fock, Alexandra Lischka and Uwe Piatkowski
Recent advances on the abundance and diversity of oceanic cephalopods from the eastern tropical Atlantic Ocean

1700 Stefanie Keller, Valerio Bartolino, Manuel Hidalgo, Isabella Bitetto, Loredana Casciaro, Danila Cuccu, Antonio Esteban, Cristina Garcia, Germana Garofalo, Marios Josephides, Angelique Jadaud, Evgenia Lefkaditou, Porzia Maiorano, Chiara Manfredi, Bojan Marceta, Enric Massuti, Reno Micallef, Panagiota Peristeraki, Giulio Relini, Paolo Sartor, Maria Teresa Spedicato, George Tserpes and Antoni Quetglas
Large-scale spatio-temporal pattern of Mediterranean cephalopod diversity

1715 Gregory Jeff Barord, Frederick Dooley, Andrew Dunstan, Richard Hamilton, Anthony Ilano, Karen Keister, Job Veloso and Peter Ward
Conservation status of *Nautilus* and *Allonautilus* in the South Pacific Ocean

1730 End of session

1745 Panel discussion: An oral history of pioneers in cephalopod science: Where did we come from? What are we? Where are we going?
Facilitator: Ryuta Nakajima
Panelists: Graziano Fiorito, Roger Hanlon, Tsunemi Kubodera, Jennifer Mather and Mike Vecchione

1845 End of symposium Day 1

1900-2100 Welcome reception
Session 3: Reproduction
Chair: José E.A.R. Marian

0830 Natalie Moltschaniwskyj
Cephalopod reproductive ecology: from individuals to populations
[Keynote talk]

0900 Chingis Nigmatullin
The phenomenon of monocyclic or semelparous ontogeny in coleoid cephalopods: terminology, definitions and variety of patterns

0915 Yoko Iwata, Noritaka Hirohashi, Yoshiro Watanabe, Paul Shaw and Warwick H.H. Sauer
Strategic sperm release from spermatophores in loliginid squids responding to sperm competition risk

0930 Noritaka Hirohashi and Yoko Iwata
Complex adaptive ejaculate traits in relation to alternative reproductive tactics in Heterololigo bleekeri

Chair: Alexander Arkhipkin

0945 Luiza O. Saad, Lígia H. Apostólico and José E. A. R. Marian
Fertilization mechanisms in the male-dimorphic squid Doryteuthis plei

1000 Lígia H. Apostólico and José E. A. R. Marian
Male dimorphic allometry in the squid Doryteuthis plei

1015 Matthew A. Birk and Brad A. Seibel
Observations of multiple pelagic egg masses from small-sized jumbo squid (Dosidicus gigas) in the Gulf of California

1030 Coffee/Tea break

1100 Oscar E. Juárez, Clara E. Galindo-Sánchez, Fernando Díaz, Denisse Re, Claudia Caamal-Monsreal and Carlos Rosas
New insights in reproductive regulation of Octopus maya inferred by RNA-Seq analysis of the optic lobe
Chair: Yoko Iwata

1115  **Joël Henry, Maxime Endress, Valérie Cornet, Benoît Bernay, Bruno Zanuttini, Erwan Corre, Gildas Le Corguillé and Céline Zatylny-Gaudin**  
Control of egg-laying in the cuttlefish *Sepia officinalis*: structural and functional characterization of regulatory peptides

1130  **Dongming Lin, Xinjun Chen and Yong Chen**  
Group-synchronous ovarian development in the Argentine shortfin squid *Illex argentinus* (Cephalopoda: Ommastrephidae)

1145  **Alexander Arkhipkin**  
Hermaphroditism in molluscs with the first case of finding a hermaphrodite specimen in cephalopods

1200  **Valérie Cornet, Joël Henry, Gildas Le Corguillé, Benoit Bernay, Erwan Corre and Céline Zatylny-Gaudin**  
Characterisation of a new family of egg case proteins in the cuttlefish: SepiaECPs

1215  **Announcements**

1230  **Lunch**

**Session 4: Genetics and evolution**
Chair: Ian Gleadall

1400  **Dirk Fuchs and Yasuhiro Iba**  
Coleoid gladiuses - homologies or homoplasies?

Deciphering the venom proteome of the Southern blue ring octopus (*Hapalochlaena maculosa*) and the southern sand octopus (*Octopus kaurna*)

Cephalopods and the evolution of metazoan genome architecture

1445  **Davin H.E. Setiamarga and Kazuyoshi Endo**  
Transcriptome and proteome analyses of the nautilus’ shell matrix proteins: Insights into their evolution in Mollusks
Chair: Dirk Fuchs

1500  Caroline B. Albertin and Clifton W. Ragsdale  
Insights from the transcriptome into the embryonic development of Octopus bimaculoides

1515  Samantha H. Cheng and Paul H. Barber  
Genome-wide single nucleotide polymorphisms reveal patterns of population structure in two widely co-occurring cryptic lineages of reef squid

1530  Coffee/Tea break

1600  Carlo Di Cristo, Giovanna Ponte and Graziano Fiorito  
Octopus vulgaris genome survey

1615  Alvaro Roura, Steve Doyle, Nathan Hall, Angel Guerra, Angel F. Gonzalez and Jan Strugnell  
The planktonic stage of Octopus vulgaris paralarvae in the Canary current Eastern boundary upwelling ecosystem: distribution, dispersal and diet

Chair: Jan Strugnell

1630  Gustavo Sanchez, Satoshi Tomano, Tetsuya Umino, Toshie Wakabayashi and Mitsuo Sakai  
Evaluation of the 5’ end of the 16S rRNA gene as a novel DNA barcode marker for the Cephalopoda

1645  Bronwyn Gillanders, Steven Myers, Stephen Donnellan, Damien Fordham, Thomas Prowse, Michael Steer and Skye Woodcock  
Population structure and geographic boundary of the Upper Spencer Gulf giant Australian cuttlefish

1700  A. Ogura, S. Shigeno and M. Yoshida  
The genome and transcriptome of Idiosepius paradoxus

1715  End of plenary sessions, Day 2

1730  Panel discussion: Online resources for cephalopod researchers  
Panelists: Roger Hanlon, Hassan Moustafid and Mike Vecchione

1830  Poster session

2030  End of Symposium Day 2
Thursday, 12 November 2015

Chair: Rui Rosa

0830  Tsunemi Kubodera  
Sperm whales and large mesopelagic squids – a talk in memory of Malcolm R. Clarke  
[Keynote talk]

Session 5: Physiology

0900  Shuichi Shigeno, Caroline B. Albertin, Rahul Parnaik and Clifton W. Ragsdale  
How the brain represents the body: neural circuitry and transcription factor codes in octopus

0915  Céline Zatylny-Gaudin, Valérie Cornet, Gildas Le Corguille, Erwan Corre and Joël Henry  
Cuttlefish venomics: The multiple roles of posterior salivary glands in Sepia officinalis

0930  Tsung-Han Liu, Chun-Yen Lin and Chuan-Chin Chiao  
Body pattern control in the optic lobe of oval squids Sepioteuthis lessoniana

0945  Katina Roumbedakis, Marina Nunes Alexandre, José Alfredo Puch,  
Claudia Caamal-Monsreal, Ariadna Sánchez, Maite Mascaro, Mauricio Laterça Martins and Carlos Rosas  
Short and long-term effects of anesthesia in Octopus maya (Cephalopoda: Octopodidae): Oxygen consumption, growth rate and hemolymph parameters

1000  Natalie Moltschaniwskyj, Madeline Felton, and Joseph Bidwell  
Establishing a link between personality and resting metabolic rates in the dumpling squid, Euprymna tasmanica

Chair: Shuichi Shigeno

1015  Yung-Che Tseng, Marian Y. Hu, Yu-Chi Chen, Po-Hsuan Sung and Jay-Ron Lee  
Recent advances in exploring of trans-epithelial proton and ammonia transport pathways in cephalopods

1030  Yu-Chi Chen, Pei-Hsuan Chou, Jay-Ron Lee and Yung-Che Tseng  
Exploring neurohypophysial sepiatocin functions in cuttlefish epithelium
Laurence Murillo, Thomas Lacoue-Labarthe, Richard Cosson, Karine Churlaud, Maud Brault-Favrou and Paco Bustamante
Oxidative stress in coastal and oceanic cephalopod from the Bay of Biscay in relation to their metal accumulation and detoxication capacities

Z. Yan Wang, Judit R Pungor, Caroline B. Albertin and Clifton W. Ragsdale
A Next-Generation approach to profiling the *Octopus bimaculoides* optic gland

Marta Solé, Marc Lenoir, Mercè Durfort, Manel López-Bejar, Antoni Lombarte and Michel André
Statocyst sensory epithelia ultrastructural analysis of cephalopods exposed to noise

Daohai Chen, Qiuling Zheng, Jing Wen, Yulin Sun, Juan Zhao and Wei Zhang
Preliminary study of cuttlefish seedlings (*Sepia lycidas* and *Sepia pharaonis*) cultivation technology in China
[Early presentation from the “Culture and welfare” session]

Excursion departure

Public lectures for citizens of Hakodate
- Yasunori Sakurai
- Michael Vecchione
- Roger T. Hanlon
- Ryuta Nakajima

Friday, 13 November 2015

Session 6: Life history and roles in marine ecosystems
Chair: Angel Guerra

0830  Erica Vidal
Early life-history of cephalopods: an ecological perspective on critical events
[Keynote talk]

0900  M.R. Lipinski
How to measure ecological importance in the marine systems (example: cephalopods)

0915  Rita Melo Franco-Santos and Erica A.G. Vidal
Tied hands: synchronism between beak development and feeding-related morphological changes in *Illex argentinus* paralarvae
Zhou Fang, Katherine Thompson, Jin Yue, Xinjun Chen and Yong Chen
Ontogenetic and stock variation of beak stable isotopes δ13C and δ15N of neon flying squid Ommastrephes bartramii (Cephalopoda: Oegopsida) in the North Pacific Ocean

Pandey Puneeta, Dharmamony Vijai, Hae-Kyun Yoo, Hajime Matsui and Yasunori Sakurai
Observations on the spawning behavior, egg masses and hatchlings of the Japanese flying squid Todarodes pacificus in a mesocosm tank

Chair: João Pereira

Amanda Beasley, Anna Scott, Peter Harrison and Karina Hall
Exploring methods to directly age cuttlefish via statolith increments

Tadanori Yamaguchi, Yuji Kawakami and Michiya Matsuyama
Hatching sites and migratory routes of the swordtip squid Uroteuthis edulis inferred from statolith analysis

Coffee/Tea break

Charuay Sukhsangchan, Paphassawan Sunthornket and Sonthaya Phuynoi
Morphological characteristics of paralarvae of cephalopods found in Thai waters

Toshiro Saruwatari, Takashi Yanagimoto, Koji Matsuzaki and Makoto Kuraishi
A preliminary study on life history of Opisthoteuthid octopuses in Suruga Bay, Japan

Session 7: Climate change
Chair: Warwick Sauer

Ocean warming, altered food webs and the global proliferation of cephalopods?

Alexey V. Golikov, Rushan M. Sabirov, Pavel A. Lubin, Denis V. Zakharov, Lis L. Jorgensen and Martin E. Blicher
Recent cephalopod fauna of the western part of the Arctic under the pressure of ongoing climate changes

Casey Zakroff, T. Aran Mooney and Colin Wirth
Swimming behavior of paralarval squid, Doryteuthis pealeii, raised under ocean acidification recorded with a novel 3D tracking system
1215  Miguel Baptista, Vanessa M. Lopes, José R. Paula, Tiago Repolho and Rui Rosa
Combined effects of ocean acidification and warming in the early ontogeny of the common octopus (Octopus vulgaris)

1230  Lunch

Chair: Bronwyn Gillanders

1400  J.M.W Githaiga-Mwicigi and D. Yemane
The South African ‘chokka’ squid (Loligo reynaudi): which environmental variables are important under a changing climate?

1415  Michael Navarro, P. Ed Parnell, Lisa Levin and Corey Garza
Essential embryo habitat of the market squid, Doryteuthis opalescens, including the first direct and continuous measurements of pH and O2

1430  Masayuki Sawamura
A hypothetical model of the effect of changing sea temperature on the migration of the Japanese flying squid Todarodes pacificus

Session 8: Fisheries, stock assessment and management
Chair: Teresa Borges

1445  Graham J. Pierce, L.C. Hastie, Vasilis Valavanis, Colin D. MacLeod
Jonathon Plotner, Beatriz A. Roel, Jim Ellis, Finlay Burns, M. Begoña Santos and Simon Greenstreet
Distribution and abundance of cephalopods in UK waters: long-term trends and environmental relationships

1500  Franck Malhomme, Edouard Duhem, Zoé Porcher, Ignacio Sobrino and Jean-Paul Robin
English Channel loliginid squid stocks: surplus production models used to estimate population biomass and stock status in a context of variable environment

1515  Karina C. Hall and Karen L. Astles
Ecological risk assessment methods relevant to cephalopods taken as byproduct in multi-species fisheries in New South Wales, Australia

1530  Owen C. Nichols, Jeremy R. King, Jonathan A. Hare and Steven X. Cadrin
Environmental effects on squid availability to a seasonal inshore fishery: Untangling drivers, mechanisms and scales
<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>1545</td>
<td>Operational prediction of the habitat suitability index (HSI) distribution for neon flying squid in central North Pacific by 4D-VAR ocean data assimilation system “SKUIDS”</td>
<td>Hiromichi Igarashi, Yoichi Ishikawa, Tsuyoshi Wakamatsu, Yusuke Tanaka, Masafumi Kamachi, Norihsa Usui, Mitsuo Sakai, Sei-ichi Saitoh and Yutaka Imamura</td>
</tr>
<tr>
<td>1600</td>
<td>Coffee/Tea break</td>
<td></td>
</tr>
</tbody>
</table>
Ángel F. González, Lorena Olmos-Pérez, Álvaro Roura and Ángel Guerra
Re-evaluating the ecological status of squid paralarvae by molecular tools in a seasonal upwelling system

1830 End of Symposium Day 4

---

Saturday, 14 November 2015

Session 9: Systematics and biogeography
Chair: C.C. Lu

0830 Kat Bolstad
Taxonomists’ work is never done: Updates in oegopsid systematics and zoogeography from New Zealand

0845 Roger Villanueva, Érica A.G. Vidal and Fernando A. Fernández-Álvarez
Early mode of life and hatchling size in cephalopods: influence on the species distributional ranges

0900 Giambattista Bello
Biogeography of the Sepiolinae (Cephalopoda: Sepiolidae)

0915 José C. Xavier, Ben Raymond, Huw Griffiths, David Thompson and Yves Cherel
Cephalopod fauna of Antarctic waters: combining new information from predators, nets and habitat suitability prediction models

Chair: Tsunemi Kubodera

0930 Amanda Reid and Jan Strugnell
A review of pygmy squid, Idiosepius (Cephalopoda: Idiosepiidae), with descriptions of a new species, and placement of southern Australian endemic I. notoides in a new genus

0945 Surangkana Tuanapaya and Jaruwat Nabhitabhata
Morphometry and morphological phylogeny of Sepia pharaonis Ehrenberg, 1831 complex (Cephalopoda: Sepiida) in Thai Waters

1000 Jaruwat Nabhitabhata and Surangkana Tuanapaya
Allopatric variation of Sepia pharaonis Ehrenberg, 1831 complex (Cephalopoda: Sepiida) in two oceans of Thai waters based on morphology and mitochondrial DNA sequences
1015 A. Lischka, U. Piatkowski and R. Hanel
Cephalopods of the Sargasso Sea: distribution patterns in relation to hydrographic conditions

1030 Coffee/Tea break

Chair: Uwe Pitakowski

1100 Kittichai Tongtherm, Jaruwat Nabhitabhata and Paladej Srisuk
New records and undescribed taxa of Triassic ammonoid Eutonomoceras (Ammonoidea: Ceratitida: Ceratitidae) and belemnoid cephalopods

1115 Jürgen Guerrero-Kommritz
Shallow water octopuses of the southern Caribbean, Tayrona sector

1130 Heather Judkins and Michael Vecchione
What have we learned about the cephalopod fauna of the Gulf of Mexico?
Initial results of the NOAA Offshore Nekton Sampling and Analysis Program

1145 Aaron Boyd Evans and Kathrin Bolstad
Recent advances in the family Cranchiidae from New Zealand and adjacent waters

Chair: Kotaro Tsuchiya

1200 Fernando Ángel Fernández-Álvarez, Pilar Sánchez, Elisabeth Cuesta-Torralvo, Alejandro Escánez, Catarina P. P. Martins, Erica A. G. Vidal and Roger Villanueva
The genus Ommastrephes d’Orbigny, 1834: a single species or more than one hidden behind a single name?

1215 Yuko Takigawa and Tetsuo Yoshino
Japanese source materials and knowledge used by Férussac & d’Orbigny to describe Japanese cephalopods in the 19th century

1230 Lunch

1400 Heather E. Braid and Kathrin S.R. Bolstad
Systematics of the whip-lash squid (Cephalopoda: Mastigoteuthidae)

1415 Jesse Tyler Kelly
Systematics of the Octopoteuthidae Berry, 1912 (Cephalopoda: Oegopsida)
Session 10: Culture and welfare  
Chair: Roger Villaneuva

1430  Ian G. Gleadall, Goh Nishitani, Masami Abe, Keiji Matsubara, Shunzo Morii, Nobuhiko Akiyama, Kinuko Ito, Leo J. Che and Masazumi Nishikawa  
Recent progress in culturing the East Asian common octopus

1445  Giovanna Ponte, Graziano Fiorito, João Pereira and Daniel Osorio  
The COST Action FA1301: A network for improvement of cephalopod welfare and husbandry in research, aquaculture and fisheries – CephsInAction

1500  Workshop summaries

1545  Coffee/Tea break

1615  Closing ceremony

1715  Closing remarks  
➢ Takashi Okutani  
➢ Kiyohiro Ishio (Vice-President, Hakodate Chamber of Commerce)

1735  End of Symposium

1830  Buses depart for Sayonara Party at the Hanabishi Hotel
Posters

Session: Behavior

P1  Toru Ao and Yuzuru Ikeda
Cephalopod intelligence, sociality and communication III) Individual recognition and sympathy in oval squid (*Sepioteuthis lessoniana*)

P2  Graziano Fiorito, Piero Amodio, Ilaria Zarrella and Giovanna Ponte
Being influenced from, and learning by conspecifics: the case of cephalopods

P3  Yuki Yonezawa, Chikatoshi Sugimoto, Tetsuya Umino and Yuzuru Ikeda
Ontogeny of schooling behavior in the squid *Sepioteuthis lessoniana* (Kuwa-ika type)

P4  Sumire Kawashima, Saki Yoshikawa, Kaishu Takei, Haruhiko Yasumuro and Yuzuru Ikeda
Cephalopod intelligence, sociality and communication VII) Operant conditioning in tropical octopus (*Abdopus aculeatus*)

P5  Masaki Kitaoka and John R. Bower
Prey selection and handling in North Pacific giant octopus (*Enteroctopus dofleini*) from Hokkaido

P6  Yi-Hsin Lee, Wen-Sung Chung and Justin Marshall
Complex visual ecology of the southern pygmy squid - good eyesight for docking, poor eyesight for hunting

P7  Chun-Yen Lin and Chuan-Chin Chiao
Ethogram of reproductive body patterns in the oval squid *Sepioteuthis lessoniana* (Cephalopoda: Teuthida) from northeastern Taiwan

P8  Hajime Matsui, Go Takayama, Kazuhito Kashiwaya, Hisashi Kaga and Yasunori Sakurai
Behavior of Japanese flying squid *Todarodes pacificus* to Light Emitting Plasma illumination

P9  Hajime Matsui, Go Takayama, Kazuhito Kashiwaya, Hisashi Kaga and Yasunori Sakurai
Behavioral response of spear squid *Heterololigo bleekeri* to fishing light

P10 Ryuta Nakajima, Kohei Okamoto and Yuzuru Ikeda
An ethogram of chromatic, postural and locomotor behaviors of the pharaoh cuttlefish, *Sepia pharaonis* from Okinawa Island, Ryukyu Archipelago, Japan

P11 Kazuya Narushima and Yuzuru Ikeda
Cephalopod intelligence, sociality and communication IV) Group dynamics of cuttlefish (*Sepia pharaonis*)
P12 Takahiro Nishibayashi, Janine Graman, Yuzuru Ikeda, Michael Kuba and Tamar Gutnick
Testing personality in cuttlefish (Sepia officinalis)

P13 Sarah Natasha de Mendonça and Ron O’Dor
Analysis of Sthenoteuthis oualaniensis flying behaviour from recorded video

P14 Kohei Okamoto, Akira Mori and Yuzuru Ikeda
Cephalopod intelligence, sociality and communication VI) Gradual exhibition of the defensive body patterns in cuttlefish (Sepia pharaonis), inferred by model and animated predators

P15 Kohei Okamoto, Akira Mori and Yuzuru Ikeda
Individual identification using body pattern in cuttlefish (Sepia pharaonis)

P16 Vanessa M. Lopes, José R. Paula, Matilde Costa and Rui Rosa
Behavioural patterns of recently settled octopuses under climate change

P17 Dharmamony Vijai, Pandey Puneeta, Hajime Matsui, Misaki Morooka and Yasunori Sakurai
The hunting efficiency of Japanese flying squid affects their prey’s schooling behavior

P18 Minoru Sano, Tadao Bando and Kazushi Miyashita
Effect of water temperature on seasonal migration of North Pacific giant octopus Enteroctopus dofleini in Soya/La Pérouse Strait

P19 Chikatoshi Sugimoto, Miho Inoue-Murayama and Yuzuru Ikeda
Genetic background for sociality of the oval squid (Sepioteuthis lessoniana)

P20 Chikatoshi Sugimoto, Shuhan Lei, Toru Ao, Xiumei Zhang and Yuzuru Ikeda
Ontogeny of visual ability in the oval squid (Sepioteuthis lessoniana)

P21 Dharmamony Vijai, Pandey Puneeta and Yasunori Sakurai
Head withdrawal reflex in squid paralarvae: A review and appraisal

P22 Kosuke Nagano, Dharmamony Vijai, Jun Yamamoto and Yasunori Sakurai
Movement patterns of giant Pacific octopus Enteroctopus dofleini in a shallow coast

P23 Tsang-I Yang and Chuan-Chin Chiao
Number sense and prey capture strategy in pharaoh cuttlefish Sepia pharaonis
(Cephalopoda: Sepiida)

P24 Haruhiko Yasumuro and Yuzuru Ikeda
Cephalopod intelligence, sociality and communication V) Effect of environmental enrichment in the behavior of cuttlefish Sepia pharaonis
Sho Abe, Haruhiko Yasumuro and Yuzuru Ikeda
Ontogeny of learning and memory in the cuttlefish *Sepia pharaonis*

Session: Biodiversity and conservation

Gillian Allen, Jasmine Headlam, Morag Taite, Iain Barrett, Gillian Lyons and Louise Allcock
IUCN red list assessment of the conservation status of cephalopod species

Zih-Heng You, Jing-Yu Chen and Chih-Shin Chen
Seasonal variation in species composition of cuttlefish in Yilan Bay, northeast Taiwan

Chuan-Wen Ho, Hsing-Juh Lin and Chung-Cheng Lu
A new octopus species, *Octopus longitubus* (Cephalopoda: Octopodidae) from Taiwan

Elizabeth Shea, Heather Judkins, Michelle D. Staudinger, Valerie Hartigan, Annie Lindgren and Michael Vecchione
Cephalopod biodiversity in the vicinity of Bear Seamount, western North Atlantic

Rui Rosa, Carlos Vale and Joana Raimundo
Trace element concentrations in the top predator jumbo squid (*Dosidicus gigas*) from the Gulf of California

Inês C. Rosa, Vanessa M. Lopes, Joana Raimundo, Ana Couto, Catarina Santos, Rui Cereja, Ricardo Calado, Miguel Caetano and Rui Rosa
Cuttlefish capsule: An effective shield against contaminants in the wild

Taxonomic list of species of cephalopods in the Tamaulipas coast in the Gulf of Mexico, Mexico

Session: Climate change

Matthew A. Birk, Erin L. McLean and Brad A. Seibel
Effects of increased CO₂ on squid metabolism and hypoxia tolerance

Ariadna Sanchez, Fernando Díaz, Gabriela Rodríguez-Fuentes, Karen Ortega, Maite Mascaro, Stephanie Bernal, Estefany López, Claudia Caamal-Monsreal, Clara Galindo, Oscar Juárez, Denisse Re and Carlos Rosas
Embryonic development of tropical octopus (*Octopus maya*) under ocean warming
P35  Ying-Jey Guh, Marian Y. Hu, Jay-Ron Lee, Yu-Chi Chen, Po-Hsuan Sung, Chang-Jen Huang and Yung-Che Tseng
Functional evolution of branchial acid-base regulation in squid (Sepioteuthis lessoniana) for sensitivity in times of CO2-induced seawater acidification

P36  Hideaki Kidokoro, Yousuke Igeta, Sachiko Abe, Hideo Takahara and Tatsuro Watanabe
Impact of climate change on the distribution and the site of fishing ground of the Japanese common squid Todarodes pacificus in the Sea of Japan

P37  Vanessa M. Lopes, Filipa Faleiro, Miguel Baptista, Marta S. Pimentel, José R. Paula, Ana Couto, Narcisa Bandarra, Patricia Anacleto, António Marques and Rui Rosa
Amino and fatty acid dynamics of octopus (Octopus vulgaris) early life stages under ocean warming

P38  Vanessa M. Lopes, Ana R. Lopes, Matilde Costa, José R. Paula and Rui Rosa
Physiology of recently-settled octopuses in a changing ocean

P39  Nobuaki Nanjo and Akira Kozuka
Relationship between regime shifts and the spawning pattern of Watasenia scintillans (Cephalopoda: Oegopsida), southwestern Sea of Japan

P40  Geetha Sasikumar, K. S. Mohamed, K. G. Mini and K. K. Sajikumar
Temperature as a plausible determinant of variability in Indian squid, Uroteuthis (Photololigo) duvaucelii stocks

P41  Wei Yu, Qian Yi, Xinjun Chen and Yong Chen
Variability of habitat suitability of jumbo flying squid (Dosidicus gigas) in the Southeast Pacific Ocean off Peru in relation to climate change

Session: Culture and Welfare

P42  Graziano Fiorito
Guidelines for the Care and Welfare of Cephalopods in Research: A consensus based on an initiative by CephRes, FELASA and the Boyd Group

P43  Rita Melo Franco-Santos, Catalina Perales-Raya, Eduardo Almansa, Marleen De Troch and Diego Garrido
Beak microstructure analysis as a tool to identify potential rearing stress for Octopus vulgaris paralarvae
P44 Diego Garrido, Juan Carlos Navarro, Catalina Perales-Raya, Manuel Nande, 
Virginia Martín, José Iglesias, Aurora Bartolomé, Alvaro Roura, Inmaculada 
Varó, Juan José Otero, Angel González, Covadonga Rodríguez and Eduardo 
Almansa
Fatty acids composition and age estimation of wild Octopus vulgaris paralarvae

P45 Alvaro Roura, Steve Doyle, Nathan Hall and Jan Strugnell
Intestinal flora of wild Octopus vulgaris paralarvae and their zooplankton prey: a 
metagenomic search of “probiotics” for use in aquaculture

P46 Xiaodong Zheng Yongsheng Liu, Xiangzhi Lin, Jianming Yang, Yaosen Qian, 
Peiliang Wang, Zhaosheng Liu and Qikang Bo
Studies on the large scale artificial rearing of octopods in Chinese waters

Session: Fisheries, stock assessment and management

P47 Augusto C. Crespi-Abril, Nicolás Ortiz, Ramiro Braga and Mara Bains
The use of landmark-based geometric morphometrics to study bodyshape variations in 
Doryteuthis sanpaulensis (Cephalopoda: Loliginidae) from Brazilian and Argentinean waters

P48 T.C Borges and J. Sendão
Species composition and discard rates of cephalopods from the commercial fishery in 
the south of Portugal (Algarve)

P49 T.C Borges, P. Calixto and J. Sendão
The behaviour of the common octopus (Octopus vulgaris) towards fishing traps

P50 John R. Bower, Misato Wago and Kyosei Noro
A review of the fishery for the North Pacific giant octopus (Enteroctopus dofleini) in Japan

P51 Miguel Cabanellas-Reboredo and Ángel Guerra
Potential role of recreational fishery on the dynamic population of the European 
squid

P52 Chih-Shin Chen and Jing-Yu Chen
Spatial dynamics of two Ommastrephes bartramii cohorts in the North Pacific

P53 Chih-Shin Chen and Jing-Yu Chen
Spatiotemporal variation of the Humboldt squid (Dosidicus gigas) stock in the East Pacific

P54 Yu-Jie Hsu, Cheng-Hsin Liao and Chih-Shin Chen
Stock assessment of swordtip squid (Uroteuthis edulis) in the southern East China Sea
P55  **Alexey V. Golikov, Rushan M. Sabirov and Pavel A. Lubin**
First estimation of biomass and abundance of Rossia palpebrosa (Sepiolida) and Gonatus fabricii (Teuthida) in the Barents Sea

P56  **Lorena Olmos Pérez and Ángel González**
*Octopus vulgaris* paralarvae vertical distribution in a fluctuating upwelling-downwelling system

P57  **Yoshiki Kato, Mitsuo Sakai, Toshie Wakabayashi and Taro Ichii**
Relationship between stock levels of the autumn-spawning cohort of the neon flying squid (*Ommastrephes bartramii*) and oceanic environmental parameters in the spawning area in North Pacific

P58  **Roberto C. Lamayo, Gloria G. Delan, Ma. Helian A. Lamayo, Presentacion V. Bontia and Hector C. Abdon**
Catch distribution and biological characteristics of the diamondback squid *Thysanoteuthis rhombus* in the northeast Cebu Island, central Philippines

P59  **Ryuichi Matsukura, Tetsuya Ohtani and Tetsuya Nishikawa**
Identification of the firefly squid *Watasenia scintillans* by the quantitative echosounder in the southwestern Japan Sea

P60  **Enrique Morales-Bojórquez and José Luis Pacheco-Bedoya**
Jumbo squid *Dosidicus gigas*: A new fishery in Ecuador

P61  **Owen C. Nichols and Steven X. Cadrin**
Localized depletion of an important forage species (*Doryteuthis pealeii*): perceptions, processes, and policies

P62  **Chingis Nigmatullin**
The current status of world cephalopod fishery

P63  **Chingis Nigmatullin**
The long-term dynamics of abundance and biomass of the Argentine squid *Illex argentinus* in the Southwest Atlantic

P64  **Chingis Nigmatullin and Alexander Arkhipkin**
Historic periods and current status of *Illex argentinus* fishery, one of the world largest squid resources

P65  **Suguru Okamoto, Norio Yamashita and Toshiki Kaga**
Difference in catchability of the winter-spawning stock of Japanese flying squid *Todarodes pacificus* among the Japanese coastal fishing grounds

P66  **João Pereira, Silvia Lourenço and Carlos P. Sonderblohm**
Octopus do not yield under growing pressure. Octopus fisheries in Portugal in the 20th century and what they can yield in the 21st
Rafael Schroeder and José Angel Alvarez Perez
Spatio-temporal variability in growth of Illex argentinus in relation to the environmental gradients experienced in the north extreme of distribution

Luis Silva, Sérgio Marcelino José, Afonso Munducu, Arone Salença and Guadalupe Martin
The artisanal fishery for Octopus cyanea in Cabo Delgado, North Mozambique (Indian Ocean)

Luis Silva, Ana Juárez and Miguel Cojan
Cephalopod discard estimates from the hydraulic dredges fleet operating in the Gulf of Cádiz (SW Spain)

Ignacio Sobrino
Assessment of octopus (Octopus vulgaris) in the Gulf of Cadiz using environmental parameters

Akira Taguchi and John R. Bower
Relationship between sea surface temperature and catch fluctuations of the North Pacific giant octopus (Enteroctopus dofleini) off Wakkanai in northern Hokkaido, Japan

Kosuke Takahashi, Junihi Abo, Kazuhiro Sadayasu, Go Takayama, Minato Taniguchi, Mitsutaka Hiran and Hideyuki Yamashita
A comparison of metal halide and LED lamps with Japanese common squid Todarodes pacificus catches in jigging fisheries

Satoshi Tomano, Gustavo Sanchez and Tetsuya Umino
Geographical distribution and spawning depth of Sepioteuthis sp. 1 and sp. 2 in southwest Japan

Carmen Yamashiro, Marco Espino and Octavio Morón
Dosidicus gigas fishery and the environmental variability in the Humboldt Current System

Takashi Yanagimoto, Toshie Wakabayashi and Yasunori Sakurai
Species identification of squids caught by bottom trawl in the Northwest Pacific Seamount on July 2014

Session: Genetics and evolution

Wen-Sung Chung and Justin Marshall
Comparative visual ecology of cephalopod from different habitats

Jesse Tyler Kelly and Heather E. Braid
Phylogenetics and new species of the lepidoteuthid families (Lepidoteuthidae, Octopoteuthidae, Pholidoteuthidae)
P78 Kate N. Thomas, Craig R. McClain and Sönke Johnsen
The evolution and morphological diversification of bioluminescence in oegopsid squids

P79 Inger Winkelmann, Tom Gilbert and Jan Strugnell
Exploring the global population of the giant squid, Architeuthis dux (Steenstrup, 1957), using RADseq genetic markers

P80 Kang-Ning Shen, Jeng-Jia Ye, Ya-Hsien Wang and Chia-Hui Wang
Multiplex COI haplotype-specific PCR for rapid molecular identification of Sepioteuthis cf. lessoniana and its application to population structure analysis in Taiwan

P81 Rubin Cheng, Xiaodong Zheng, Yuanjuan Ma, Xiaoying Zhang and Qi Li
What the complete mitochondrial genomes can do in the identification and evolution studies on octopods?

Session: Life history

P82 Michaël Gras and Alexander I. Arkhipkin
Effect of population density and water temperature on growth and maturation in squid Illex argentinus

P83 Tzu-Yun Ching, Chia-Hui Wang and Chih-Shin Chen
Variation in life history traits and statolith trace elements of seasonal cohorts of Sepioteuthis lessoniana around North Taiwan

P84 Norbert Cyran, Janek von Byern, Yannick Staedler, Jürg Schönenberger and Waltraud Klepal
Hatching glands in cephalopods – A comparative study

P85 Stefanie Keller, Lucia Rueda, Diego Alvarez-Berastegui, Enric Massuti and Antoni Quetglas
Contrasting responses to harvesting and environment of fast and slow life history species

P86 Hwa Hyun Lee, Suam Kim and Chul Park
Vertical distribution of common squid (Todarodes pacificus) paralarvae in the northern East China Sea

Distribution and relative abundance of common squid Doryteuthis pealeii (LeSuer, 1821) along the coast of Tamaulipas in the Gulf of Mexico, Mexico
Verónica Duque-Nogal, Alba Jurado-Ruzafa and Catalina Perales-Raya
Cephalopods in Central East Atlantic: past and current studies by the IEO-Tenerife team

Carrie Erickson, Clyde F.E. Roper and Michael Vecchione
Distribution of paralarval squids in the Florida Current

K.K. Sajikumar, Gishnu Mohan P.S. Alloyscious, Geetha Sasikumar and K.S. Mohamed
Comparison of growth rates between different cohorts of Little Indian Squid (Loligo hardwickii) based on statolith analysis from Southwest coast of India

Ignacio Sobrino, Luis Silva and Graham J. Pierce
Bio-ecology of horned octopus Eledone cirrhosa (Lamarck, 1798) and Musky octopus Eledone moschata (Lamarck, 1798) in the Gulf of Cadiz

Hideo Takahara, Hideki Kidokoro and Yasunori Sakurai
Impact of habitat temperature on the lifespan of Japanese common squid Todarodes pacificus: The life span may shorten to a half year in a warm condition

Kazuhisa Uchikawa, Tsuneo Goto and Hideaki Kidokoro
Is morphology related to trophic niche? : Multivariate growth allometry and diet of the paralarvae and juvenile Japanese common squid Todarodes pacificus

Dharmamony Vijai, Mitsuo Sakai, Pandey Puneeta and Yasunori Sakurai
Atlas of neon flying squid embryonic and paralarval development

Toshie Wakabayashi, Osamu Hoson, Yoshiki Kato and Mitsuo Sakai
Distribution and abundance of cephalopod paralarvae in North Pacific during 2013 autumn

Session: Physiology

Elton P. Colares, Antonio S.V. Junior and Mara C.R.S. Bainy
Micro-anatomical description of the reproductive system of males Doryteuthis sanpaulensis (Cephalopoda: Loliginidae)

Claudia Caamal-Monsreal, Iker Uriarte, Ana Farias, Fernando Díaz, Adolfo Sánchez, Denisse Re and Carlos Rosas
Effects of temperature on embryo development and metabolism of O. maya

Alberto Olivares, Oscar Zúñiga, Sergio Rodríguez, Claudia Caamal-Monsreal, Ariadna Sánchez, Cristina Pascual, Pedro Gallardo and Carlos Rosas
Timing of digestion, absorption and assimilation of octopus species living in tropical (Octopus maya) and sub-tropical-temperate (O. minuscule) ecosystems
Valérie Cornet, Baptiste Houyvet, Joël Henry, Gildas Le Corguillé, Erwan Corre and Céline Zatylny-Gaudin
The Toll/NF-κB pathway: a key to beneficial bacterial symbiosis in cuttlefish reproductive glands

Raquel Fernández-Gago, Martin Heß, Heidemarie Gensler and Francisco Rocha
3D reconstruction of the digestive system in newly hatched Octopus vulgaris Cuvier, 1797 paralarvae

Motoki Koizumi, Shuichi Shigeno, and Nobuaki K. Tanaka
Three-dimensional brain atlas of pygmy squid, Idiosepius paradoxus

Thomas Lacoue-Labarthe, Simon Pouil, François Oberhänslï, Jean-Louis Teyssïé, Paco Bustamante and Marc Metian
Effects of metabolic inhibitors on metal accumulation in juvenile of cuttlefish Sepia officinalis

Mitsunaga Narushima, Yasunori Sakurai, Yuji Sekiyama, Ai Yokoyama, Takumi Yamamoto, Kenji Kondo, Naoya Omasa, Kennedy Okeyo, Haruhito Tsuji, Hideo Takahara, Hiroyuki Morishita, Hidehiko Yoshimatsu, Takuya Iida, Isao Koshima and Masao Washizu
Giant axon in vivo research model of cephalopod (Heterololigo bleekeri)

Age and growth models of squid Dorithentis pealeii (Lesueur, 1821) in the Gulf of Mexico, Mexico

Susumu Segawa
Oxygen consumption rates of several juvenile neritic cephalopod species

Po-Hsuan Sung, Marian Y. Hu, Dirk Weihrauch, Jiun-Hong Chen, Pung-Pung Hwang and Yung-Che Tseng
Comparative study of ammonia regulation in cephalopods (Octopus vulgaris and Sepioteuthis lessoniana) by using perfused gills

Katja Trübenbach, Gonçalo Costa, Carlos Cordeiro and Rui Rosa
Hypoxia-driven protein regulation in muscle mantle tissue of juvenile jumbo squids

Katja Trübenbach, Carlos Cordeiro, José Xavier, Kathrin Bolstad and Rui Rosa
Unraveling the life strategies of krakens: A proteomic approach
Session: Processing and marketing

P109  Marcela Ivanovic, Saul Gaviola, Maria I. Bertolotti and Gabriel Rossi
Analysis of the catches and exports of the Argentine squid *Illex argentinus* during the 2005-2012 period

P110  Katsuhiko Miki, Toshie Wakabayashi and Mitsuo Sakai
Change of distribution and utilization of jumbo flying squid in Japan

Session: Reproduction

P111  Kohsuke Adachi, Mao Yabumoto, Haekyun Yoo, Katsuji Morioka, Yuzuru Ikeda, Yukio Ueta and Yasunori Sakurai
Salt soluble component from the oviducal gland induces chorionic expansion in the ova of the Japanese common squid *Todarodes pacificus*

P112  Céline Zatylny-Gaudin, Valérie Cornet, Alexandre Leduc, Bruno Zanuttini, Erwan Corre, Gildas Le Corguillé, Benoît Bernay, Alexandra Kraut and Joël Henry
Characterization of the neuropeptidome of the cuttlefish *Sepia officinalis*: identification of neuropeptides and neurohormones involved in the regulation of egg-laying

P113  Maxime Endress, Jérémy Enault, Valérie Cornet, Céline Zatylny-Gaudin, Benoît Bernay and Joël Henry
Sex pheromones of the cuttlefish *Sepia officinalis*: identification, structure and functions

P114  Hajime Kitano, Naoki Nagano, Keishi Sakaguchi and Michiya Matsuyama
Changes in the mRNA expression of gonadotropin-releasing hormone and its receptor during sexual maturation of the swordtip squid *Uroteuthis edulis*

P115  Ma. Helian A. Lamayo, Gloria G. Delan, Roberto C. Lamayo, Presentacion V. Bonita and Hector C. Abdon
Reproductive biology of the diamondback squid *Thysanoteuthis rhombus* in Camotes Sea Central Philippines

P116  Mong-Fong Lee, Jing-Duan Huang and Tsu-Yin Ching
Cellular characteristics of the nidamental glands of the mature female pharaoh cuttlefish, *Sepia pharaonis* (Cephalopoda: Sepiidae)

P117  Chingis Nigmatullin, Rushan Sabirov, Uwe Piatkowski and Yulia Filippova
First data on female and male reproductive system structure in the Antarctic squid *Psychroteuthis glacialis* (Cephalopoda: Psychroteuthidae)
Katina Roumbedakis, Nathaly Casanova, Maite Mascaro, Carlos Rosas, Maurício Laterça Martins and Cristina Pascual
Health status of post spawning Octopus maya (Cephalopoda: Octopodidae) females from Yucatán Peninsula, México

Session: Roles in marine ecosystems

Tatsuya Isoda, Tsutomu Tamura, Kenji Konishi, Hiroshi Ohizumi and Tsunemi Kubodera
Feeding habits of sperm whales ( Physeter macrocephalus ) in the western North Pacific in spring and summer of the years 2000-2013

Thomas Lacoue-Labarthe, Mariam Weyand, Elodie Réveillac and Paco Bustamante
Variations of trace elements concentrations in juvenile of the cuttlefish Sepia officinalis along the French coasts of the Bay of Biscay

Pedro M. Alvito, Rui Rosa, Richard Phillips, Yves Cherel, Filipe R. Ceia, Miguel Guerreiro, José Seco, Alexandra Baeta, Rui P. Vieira and José C. Xavier
Cephalopods from South Georgia Antarctic waters during the Austral Winter: information from top predators

Miguel Guerreiro, Richard Phillips, Yves Cherel, Filipe R. Ceia, Pedro Alvito, Rui Rosa and José C. Xavier
Cephalopod fauna of Antarctic waters: Habitat and trophic ecology from stable isotope analyses

José Seco, Gustavo Daneri, Filipe R. Ceia, Rui Pedro Vieira, Simeon L. Hill and José C. Xavier
Distribution of short-finned squid Illex argentinus (Cephalopoda: Ommastrephidae) inferred from the diets of Southern Ocean albatrosses using stable isotope analyses

Session: Systematics and biogeography

Morag Taite, Michael Vecchione, Sheena Fennell and Louise Allcock
Larval and juvenile cephalopods from the North Atlantic

Heather E. Braid
Ecological implications of taxonomy: Asperoteuthis lui Salcedo-Vargas, 1999 (Cephalopoda, Chiroteuthidae) as an important prey item

Fernando Ángel Fernández-Álvarez, Pilar Sánchez, Catarina P. P. Martins, Elisabeth Cuesta-Toralvo and Roger Villanueva
Biodiversity assessment of Mediterranean Sepiolidae by DNA barcoding
P127 Julian Finn
Systematics of the blue-ringd octopuses (Octopodidae: Hapalochlaena) of Australia and the Indo-West Pacific

P128 Julian Finn and Chung-Cheng Lu
Assessing purported anti-tropical distributions of Australian blue-ringd octopuses (Octopodidae: Hapalochlaena)

P129 Adriana Rodríguez and Jürgen Guerrero-Kommritz
Soft-bottom octopuses of the shallow-waters on Taganga Bay, Tayrona Sector, Southern Caribbean

P130 Toshiki Kaga, Suguru Okamoto and Norio Yamashita
Modelling the spatial distribution pattern of Japanese flying squid Todarodes pacificus during northward migration in the Pacific Ocean

P131 Nikolaos Fotiadis and Evgenia Lefkaditou
Variation of body morphometrics associated to the selection of male ventral arm transformed to hectocotylus in Illex coindetii from the eastern Mediterranean Sea

P132 Catalina Perales-Ray and Mark Sutton
A Phylogeny of fossil and living neocoleoid Cephalopods

P133 Uwe Piatkowski and Holger Ossenbrügger
Oceanic cephalopods collected in the eastern Atlantic Ocean by deep tows with the MOCNESS

P134 Alvaro Roura, Michael Amor, Dirk Steinke and Angel Guerra
Cephalopod paralarvae of Northeast Atlantic (CEPAR): a barcoding project to uncover cephalopod diversity from plankton samples

P135 Tomoko Kamada and Kotaro Tsuchiya
Genus Pyroteuthis in Northwest Pacific (Oegopsida: Pyroteuthidae)

P136 Toshifumi Wada and Osamu Masuda
Cephalopod fauna off southwestern Sea of Japan along San’in district, Japan

Session: Other topics

P137 Paco Bustamante, Miguel Gómez Batista, Aniel Guillen-Arruebarruena, Thomas Lacoue-Labarthe, Michel Warnau and Carlos M. Alonso Hernandez
Variation of 210-polonium in the cephalopod community from the Bay of Biscay
P138 Rita Melo Franco-Santos, Felipe Briceño, Silvia Lourenço, Augusto Crespi, Stefanie Keller and Rigoberto Rosas
The Young Cephalopod Researchers (YCR) group: Origin, activities, and expectations for the future

P139 Tomohiro Iida and Noritaka Hirohashi
How squid sperm determine directional changes in a pH gradient

P140 Yasushi Ito, Masafumi Yoshino, Takuya Matsumoto and Yasunori Sakurai
Innovation of artificial spawning zones on the seabed in Japan

P141 Takashi Kasugai and Noriyosi Sato
Notes on the longtime transportation of the Japanese pygmy squid Idiosepius paradoxus (Cephalopoda: Idiosepiidae)

P142 Tsunemi Kubodera, Toshifumi Wada, Masahito Higuchi and Akiko Yatabe

P143 Chingis Nigmatullin and Louise Allcock
The historic study of recent cephalopod investigations: a topical and multiple-faceted problem that demands development

P144 João Pereira, Giovanna Ponte and Graziano Fiorito
Are research vessels laboratories on water? What challenges face fisheries research under animal welfare regulation?

P145 Uwe Piatkowski, Ajit V. Vartak and Ton van Eijden
Recent cephalopods on postal stamps: diversity and global distribution

P146 Satoquo Seino, Nobuyuki Azuma and Yasunori Sakurai
Exploring shared natural and cultural changes in coastal communities along squid migratory routes by the Tsushima Current Kaimin Network

P147 Akira Nagano, Masayuki Tahara, Aiko Kondou, Miku Hirose, Shinpei Nagano and Yasunori Sakurai
The effects and subjects with the cooperation among industry, government and universities in region – The advancement of Hakodate squid industrial cluster

P148 James Peyla, Michael J. Sweeney, Clyde F.E. Roper and Michael Vecchione
The Sasaki cephalopod collection at the US National Museum of Natural History

P149 Chia-Hui Wang and Zhi-Zheng Hsu
Hatching cohort discrimination of swordtip squid (Uroteuthis edulis) off northeastern Taiwan in statolith structure and chemical signatures
P150 **Chia-Hui Wang and Tzu-Hua Wang**  
Seasonal and ontogenetic differences in ecological tracer of *Urotenthis edulis* from the water off Northeastern Taiwan

P151 **Hajime Yonamine, Kaede Higa, Asuka Kishimoto, Hina Genba, Suzuka Agarie and Renta Miyagi**  
Application of tropical octopus to education in Japanese agricultural high school

P152 **Heather Ylitalo-Ward, Iria Fernandez-Silva, Rob Toonen, Tom Oliver**  
Multiple paternity in *Octopus oliveri* (Berry, 1914) (Cephalopoda: Octopodidae) revealed through behavioral and genetic analysis
List of registrants
(as of November 5)

Argentina

Marcela Ivanovic
Instituto Nacional de Investigación Desarrollo Pesquero
ivanovic@inidep.edu.ar

Australia

Amanda Beasley
Southern Cross University, National Marine Science Centre
a.beasley.10@student.scu.edu.au

Wen-Sung Chung
University of Queensland
w.chung1@uq.edu.au

Zoe Doubleday
University of Adelaide
zoe.doubleday@adelaide.edu.au

Julian Finn
Museum Victoria
jfinn@museum.vic.gov.au

Bronwyn Gillanders
University of Adelaide
bronwyn.gillanders@adelaide.edu.au

Karina Hall
NSW Department of Primary Industries
karina.hall@dpi.nsw.gov.au

Yi-Hsin Lee
The University of Queensland
leeyihsin@gmail.com

Mairi Lu
National Chung Hsing University
mairilu@hotmail.com

Natalie Moltschaniwskyj
University of Newcastle
natalie.moltschaniwskyj@newcastle.edu.au

Mandy Reid
Australian Museum
mandy.reid@austrmus.gov.au

Alvaro Roura
La Trobe University
a.rouralabiaga@latrobe.edu.au

Jan Strugnell
La Trobe University
J.Strugnell@latrobe.edu.au

Austria

Janek von Byern
University of Vienna
vbyern@freenet.de

Brazil

Ligia Apostolico
Universidade de Sao Paulo
ligia.haselmann@ib.usp.br

Mara Bany
Universidade Federal do Rio Grande – FURG
marabainy@hotmail.com

José Marian
University of São Paulo
jemarian@ib.usp.br

Katina Roumbedakis
Federal University of Santa Catarina
katina.roumbedakis@gmail.com
Ricardo Salomone  
Universidade federal de santa catarina  
riccalopes@gmail.com

Rafael Schroeder  
Universidade do Vale do Itajai  
schroederichthys@gmail.com

Erica Vidal  
University of Parana  
ericavidal2000@yahoo.com.br

Canada

Jennifer Mather  
University of Lethbridge  
mather@uleth.ca

Janet O’Dor  
Dalhousie University  
odorjr@gmail.com

Ron O’Dor  
Dalhousie University  
ron.odor@dal.ca

China

Daohai Chen  
Lingnan Normal University  
daohaichen2002@163.com

Xinjun Chen  
Shanghai Ocean University  
xjchen@shou.edu.cn

Yong Chen  
Shanghai Ocean University  
cheny@shou.edu.cn

Zhou Fang  
Shanghai Ocean University  
150368646@qq.com

Lihua Jiang  
Zhejiang Ocean University  
florencejiang@126.com

Dongming Lin  
Shanghai Ocean University  
dmlin@shou.edu.cn

Jing Wen  
Lingnan Normal University  
jw82123@126.com

Wei Yu  
Shanghai Ocean University  
yuwei806326@163.com

Juan Zhao  
Lingnan Normal University  
jinxe@163.com

Colombia

Jürgen Guerrero Kommritz  
Fundabas Foundation  
greledone@hotmail.com

Denmark

Inger Winkelmann  
Natural History Museum of Denmark  
inger.winkelmann@gmail.com

Falkland Islands

Alexander Arkhipkin  
Falkland Islands Fisheries Department  
aarkhipkin@fisheries.gov.fk
France

Paco Bustamante
University of La Rochelle
pbustama@univ-lr.fr

Valérie Cornet
University of Caen
valerie.cornet@unicaen.fr

Joël Henry
University of Caen
joel.henry@unicaen.fr

Thomas Lacoue-Labarthe
Université La Rochelle – CNRS
tlacoul@univ-lr.fr

Jean-Paul Robin
Université de Caen Normandie, UMR-BORÉA
jean-paul.robin@unicaen.fr

Koueta Siméoni
Université de Caen Normandie
noussithe.koueta@unicaen.fr

Céline Zatlyn-Gaudin
University of Caen
celine.gaudin@unicaen.fr

Germany

Rita Franco-Santos
Alfred Wegener Institute
ritinhamf@hotmail.com

Michael Kuba
Max Planck Institute for Brain Research
michi.kuba@mac.com

Alexandra Lischka
GEOMAR Kiel
alischka@geomar.de

Uwe Piatkowski
GEOMAR Helmholtz Centre for Ocean Research Kiel
upiatkowski@geomar.de

Greece

Evgenia Lefkaditou
Institute of Marine Biological Resources and Inland Waters, Hellenic Centre for Marine Research
teuthis@hcmr.gr

India

K.K. Sajikumar
Central Marine Fisheries Research Institute
kksajikumar@yahoo.co.in

Ireland

Louise Allcock
NUI Galway
louise.allcock@nuigalway.ie

Israel

Benny Hochner
Hebrew University of Jerusalem
benny.hochner@mail.huji.ac.il

Italy

Giambattista Bello
Arion
giamb.bello@gmail.com

Carlo Di Cristo
University of Sannio
dicristo@unisannio.it
Graziano Fiorito  
Stazione Zoologica Anton Dohrn  
graziano.fiorito@szn.it

Gioanna Ponte  
Association for Cephalopod Research – CephRes  
g_ponte@cephalopodresearch.org

Letizia Zullo  
Istituto Italiano di Tecnologia  
letizia.zullo@iit.it

Japan

Kohsuke Adachi  
Kochi University  
kohsuke.adachi@kochi-u.ac.jp

Suzuka Agarie  
Okinawa Prefectural Hokubu Agricultural High School  
nokonokonoha_0822@ezweb.ne.jp

Sangu An  
Hokkaido University  
sangu1018@eis.hokudai.ac.jp

Toru Ao  
University of the Ryukyus  
cyclonebluejoker@yahoo.co.jp

Keishu Asada  
kytescall@gmail.com

John Bower  
Hokkaido University  
akaika@fish.hokudai.ac.jp

Leo Che  
Tohoku University  
chansey4me@yahoo.com

Dirk Fuchs  
Hokkaido University  
dfuchs@mail.sci.hokudai.ac.jp

Hina Genba  
Okinawa Prefectural Hokubu Agricultural High School  
syounai.kitou@icloud.com

Ian Gleadall  
Tohoku University  
octopus@bios.tohoku.ac.jp

Janine Gramann  
Okinawa Institute of Science and Technology  
janine.gramann@brain.mpg.de

Kaede Higa  
Okinawa Prefectural Hokubu Agricultural High School  
nax.xxx3536@icloud.com

Takanori Hirata  
Hokkaido University  
horsfield-114@eis.hokudai.ac.jp

Noritaka Hirohashi  
Shimane University  
hiro@life.shimane-u.ac.jp

Yasuhiro Iba  
Hokkaido University  
iba@mail.sci.hokudai.ac.jp

Hiromichi Igarashi  
JAMSTEC/CEIST  
higarashi@jamstec.go.jp

Yuika Igarashi  
Niho University  
sepia_latimanus@icloud.com

Tomohiro Iida  
Shimane University  
itoitenlatomohiro@yahoo.co.jp

Yuzuru Ikeda  
University of the Ryukyus  
ikeda@sci.u-ryukyu.ac.jp
**Tatsuya Isoda**  
The Institute of Cetacean Research  
isoda@cetacean.jp

**Yasushi Ito**  
Japanese Institute of Technology on Fishing  
Ports, Grounds and Communities  
y_ito@jific.or.jp

**Yoko Iwata**  
The University of Tokyo  
iwayou@aori.u-tokyo.ac.jp

**Toshiki Kaga**  
Hokkaido National Research Institute  
tkaga@fra.affrc.go.jp

**Takashi Kasugai**  
Port of Nagoya Public Aquarium  
t-kasugai@nagoyaminato.or.jp

**Yoshiki Kato**  
Tohoku National Research Institute  
kyoshiki@affrc.go.jp

**Sumire Kawashima**  
University of the Ryukyus  
amazon.kawashima@gmail.com

**Hideaki Kidokoro**  
Japan Sea National Fisheries Research Institute  
kidokoro@fra.affrc.go.jp

**Asuka Kishimoto**  
Okinawa Prefectural Hokubu Agricultural High School  
tatns7diu0gt1atgv@docomo.ne.jp

**Hajime Kitano**  
Fisheries Research Institute of Karatsu,  
Kyushu University  
h-kitano@agr.kyushu-u.ac.jp

**Masaki Kitaoaka**  
Hokkaido University  
macky29316@eis.hokudai.ac.jp

**Motoki Koizumi**  
Hokkaido University  
mtk_kizm@mail.sci.hokudai.ac.jp

**Ryousuke Komi**  
Tokyo Sea Life Park  
ryousuke_komi@tzps.or.jp

**Tsunemi Kubodera**  
National Museum of Nature and Science  
kubodera@kahaku.go.jp

**Shigeru Kuroda**  
Hokkaido University  
shigeru.kuroda@es.hokudai.ac.jp

**Kanyapa Lertittiwech**  
Hokkaido University  
kanyapa.ler@gmail.com

**Shingo Maegawa**  
Kyoto University  
shingo@i.kyoto-u.ac.jp

**Hajime Matsui**  
Hokkaido University  
mtihjm.silverlining@fish.hokudai.ac.jp

**Ryuichi Matsukura**  
Japan Sea National Fisheries Research Institute  
matukura@affrc.go.jp

**Katsuhiro Miki**  
National Research Institute of Fisheries Science  
kmiki@affrc.go.jp

**Takumi Mitani**  
National Research Institute of Fisheries Science, Fisheries Research Agency  
kibou1@affrc.go.jp

**Kosuke Nagano**  
Hokkaido University  
hemuri810@yahoo.co.jp
Tokihiro Nagashima  
Kochi University  
tkhr1031_0409@yahoo.co.jp

Ryousuke Nakagawa  
Hokkaido University  
r-typer@eis.hokudai.ac.jp

Kohei Nakajima  
Kyoto University  
k_nakajima@acs.i.kyoto-u.ac.jp

Keisuke Nakamoto  
Hokkaido University  
nkmt-1212@eis.hokudai.ac.jp

Nobuaki Nanjo  
Toyama Prefectural Agricultural, Forestry and Fisheries Research Center  
nobuaki.nanjo@pref.toyama.lg.jp

Kazuya Narushima  
University of the Ryukyus  
k.n.baum61@gmail.com

Mitsunaga Narushima  
The University of Tokyo  
sancho123jp@yahoo.co.jp

Takahiro Nishibayashi  
University of the Ryukyus  
takahiro24884@gmail.com

Atsushi Ogura  
Nagahama Institute of Bioscience and Technology  
aogu@whelix.info

Kohei Okamoto  
Kyoto University  
kohei.o@ethol.zool.kyoto-u.ac.jp

Suguru Okamoto  
Hokkaido National Fisheries Research Institute  
suoka@affrc.go.jp

Takashi Okutani  
okutani@kir.biglobe.ne.jp

Pandey Puneeta  
Hokkaido University  
puneeta@eis.hokudai.ac.jp

Yoshika Ryo  
Keio Girls Senior High School  
GesoGeso1102@softbank.ne.jp

Kaoru Sadayasu  
ksadayasu@gmail.com

Kazuhiro Sadayasu  
Marine Fisheries Research and Development Center (JAMARC), Fisheries Research Agency  
sadayasu@affrc.go.jp

Mitsuo Sakai  
Tohoku National Fisheries Research Institute  
sakaimit@affrc.go.jp

Yasunori Sakurai  
Hokkaido University  
sakurai@fish.hokudai.ac.jp

Yoshiko Sakurai  
sakurai@fish.hokudai.ac.jp

Gustavo Sanchez  
Hiroshima University  
gus.sanchez.s89@gmail.com

Minoru Sano  
Wakkanai Fisheries Research Institute  
sano-minoru@hro.or.jp

Toshiro Saruwatari  
Atmosphere and Ocean Research Institute, The University of Tokyo  
tsaruwat@aori.u-tokyo.ac.jp
Masayuki Sawamura
Hakodate Fisheries Institute
sawamura-masayuki@hro.or.jp

Susumu Segawa
Tokyo University of Agriculture
ss205348@bioindustry.nodai.ac.jp

Takafumi Seki
Hokkaido University
s8tkfumi4@yahoo.co.jp

Davin Setiamarga
National Institute of Technology, Wakayama College
dsetiamarga00@gmail.com

Shuichi Shigeno
Japan Agency for Marine-Earth Science and Technology (JAMSTEC)
sushigeno@jamstec.go.jp

Oleg Simakov
Okinawa Institute of Science and Technology
oleg.simakov@oist.jp

Chikatoshi Sugimoto
University of the Ryukyus
scwl0611@yahoo.co.jp

Akira Taguchi
Hokkaido University
akiaikosummer@gmail.com

Hideo Takahara
Japan Sea National Fisheries Research Institute
hidedazo@affrc.go.jp

Kosuke Takahashi
Fisheries Research Agency
takahashiko@jamarc.go.jp

Go Takayama
National Research Institute of Fisheries Engineering, Fisheries Research Agency
golgo13@affrc.go.jp

Yuko Takigawa
Kagawa University
sakanafriend@yahoo.co.jp

Nobuaki Tanaka
Hokkaido University
nktanaka@cris.hokudai.ac.jp

Satoshi Tomano
Hiroshima University
satoshi.tomano@gmail.com

Kotaro Tsuchiya
Tokyo University of Marine Science and Technology
kotaro@kaiyodai.ac.jp

Kazuhisa Uchikawa
Japan Sea National Fisheries Research Institute
stomyct@affrc.go.jp

Dharmamony Vijai
Tohoku National Fisheries Research Institute
keralavijai@yahoo.co.in

Toshifumi Wada
University of Hyogo
wada@hitohaku.jp

Toshie Wakabayashi
National Fisheries University, Japan
twakaba@fish-u.ac.jp

Tadanori Yamaguchi
Saga Prefectural Genkai Fisheries R&D Center
yamaguchi-tadanori@pref.saga.lg.jp
Jun Yamamoto
Hokkaido University
yamaj@fish.hokudai.ac.jp

Norio Yamashita
Hokkaido National Research Institute
noriyama@fra.affrc.go.jp

Takashi Yanagimoto
National Research Institute of Fisheries Science
yanagimo@affrc.go.jp

Haruhiko Yasumuro
University of the Ryukyus
hal_y0223@hotmail.co.jp

Akihiko Yatsu
Hokkaido National Fisheries Research Institute
yatsua@affrc.go.jp

Hajime Yonamine
Okinawa Prefectural Hokubu Agricultural High School
yonamiha@open.ed.jp

Veronica Morales
CIBNOR
mzarate04@cibnor.mx

Enrique Morales-Bojórquez
Centro de Investigaciones Biológicas del Noroeste SC
emorales@cibnor.mx

César Salinas
CIBNOR
csalinas@cibnor.mx

New Zealand

Kat Bolstad
Auckland University of Technology
kbolstad@aut.ac.nz

Heather Braid
Auckland University of Technology
heather.braid@gmail.com

Aaron Evans
Auckland University of Technology
aevans@aut.ac.nz

Jesse Kelly
Auckland University of Technology
jekelly@aut.ac.nz

Peru

Carmen Yamashiro
Instituto del Mar del Perú – IMARPE
cyamashiro@imarpe.gob.pe

Philippines

Ma. Helian Lamayo
Cebu Technological University
mahelian@yahoo.com
Roberto Lamayo  
Cebu Technological University  
nonoylamayo@yahoo.com

Portugal

Miguel Baptista  
University of Lisbon  
Msbaptista@gmail.com

Teresa Borges  
University of Algarve  
tborges@ualg.pt

Vanessa Lopes  
MARE - Marine Environmental Sciences Centre  
vslopes@fc.ul.pt

Joao Pereira  
IPMA  
jpereira@ipma.pt

Rui Rosa  
MARE – Lab Mar Guia  
rrosa@fc.ul.pt

Jose Xavier  
Marine and Environmental Sciences Centre (MARE)  
jccx@cantab.net

Republic of Korea

Hwa Hyun Lee  
Pukyong National University  
proximal07@hanmail.net

Haekyoun Yoo  
National Fisheries Research and Development Institute  
sealeader77@gmail.com

Russia

Alexey Golikov  
Kazan Federal University  
golikov_ksu@mail.ru

Chingiz Nigmatullin  
Atlantic Research Institute of Marine Fisheries and Oceanography  
chingiznigmatullin@rambler.ru

South Africa

Jean Githaiga-Mwicigi  
Department of Agriculture, Forestry and Fisheries  
JeanGM@daff.gov.za

Marek Lipinski  
Rhodes University  
M.Lipinski@ru.ac.za

Warwick Sauer  
Rhodes University  
w.sauer@ru.ac.za

Spain

Fernando Fernández-Álvarez  
Institut de Ciencies del Mar (CSIC)  
f.a.fernandez.alvarez@gmail.com

Raquel Fernandez Gago  
Vigo University  
raquelfernandezgago@gmail.com

Ángel González  
Instituto de Investigaciones Marinas  
afg@iim.csic.es

Angel Guerra  
Instituto de Investigaciones Marinas (CSIC)  
angelguerra@iim.csic.es
Stefanie Keller  
Instituto Español de Oceanografía  
stefanie.keller@ba.ieo.es

Javier Lijó-Ramos  
Vigo University  
javilidorneiro@gmail.com

Catalina Perales-Rayas  
Instituto Español de Oceanografía  
catalina.perales@ca.ieo.es

Miguel Reboredo  
IMEDEA-CSIC  
miguel.cabanellas@uib.es

Pilar Sanchez  
Institut de Ciencies del Mar (CSIC)  
pilar@icm.csic.es

María Begoña Santos Vazquez  
Instituto Español de Oceanografía  
m.b.santos@vi.ieo.es

Luis Silva  
Instituto Español de Oceanografía  
luis.silva@cd.ieo.es

Ignacio Sobrino  
Instituto Español de Oceanografía  
ignacio.sobrino@cd.ieo.es

Marta Solé  
Polytechnic University of Catalonia  
marta.sole@upc.edu

Roger Villanueva  
Institut de Ciencies del Mar (CSIC)  
roger@icm.csic.es

Chih-Chin Chen  
National Taiwan Ocean University  
ccchen@mail.ntou.edu.tw

Jing-Yu Chen  
National Taiwan Ocean University  
M97370003@gmail.com

Yu-Chi Chen  
National Taiwan Normal University  
chnyuch@gmail.com

Tzu-Yun Ching  
National Taiwan Ocean University  
star790402@hotmail.com

Ying-Jey Guh  
Institute of Biological Chemistry, Academia Sinica  
yingjeyguh@gmail.com

Chuan-Wen Ho  
National Chung-Hsing University  
chuanwen.ho@gmail.com

Jing-Duan Huang  
National Taiwan Ocean University  
jdheme@gmail.com

Jay-Ron Lee  
Institute of Cellular and Organismic Biology, Academia Sinica  
ljr3645@msn.com

Shen-Fong Lee  
National Penghu University of Science and Technology  
mongfong@gms.npu.edu.tw

Shin-Yu Lee  
National Taiwan University  
irislee1106@gmail.com

Yao-Chen Lee  
National Tsing Hua University  
hchspheonix@gmail.com
Chun-Yen Lin  
National Tsing Hua University  
cephalopodnick@gmail.com

Tsung-Han Liu  
National Tsing Hua University  
jthliu0716@gmail.com

Chung-Cheng Lu  
National Chung Hsing University  
aussieteuthis@gmail.com

Kang-Ning Shen  
National Taiwan Ocean University  
shenkangning@yahoo.com.tw

Bing-Hong Shih  
National Tsing Hua University  
mitch0258@gmail.com

Po-Hsuan Sung  
National Taiwan University  
jimmy-tw@hotmail.com

Yung-Che Tseng  
National Taiwan Normal University  
yct@ntnu.edu.tw

Chia-Hui Wang  
National Taiwan Ocean University  
chwang99@mail.ntou.edu.tw

Guan-Chung Wu  
National Taiwan Ocean University  
gcwu@mail.ntou.edu.tw

Tsang-I Yang  
National Tsing Hua University  
yvonne7722@yahoo.com.tw

Jeng-Jia Ye  
National Taiwan Ocean University  
human3314@hotmail.com

Thailand

Jaruwat Nabhitabhata  
Prince of Songkla University  
jaruwat.n5@gmail.com

Charuay Sukhsangchan  
Kasetsart University  
charuay44@hotmail.com

Kittichai Tongtherm  
Prince of Songkla University  
ktbsb_chu@hotmail.com

Surangkana Tuanapaya  
Prince of Songkla University  
surangkana.tua@gmail.com

United Kingdom

Kerry Perkins  
University of Sussex/Sea Life  
kerry.perkins@merlinentertainments.biz

Graham Pierce  
University of Aberdeen  
g.j.pierce@abdn.ac.uk

Noriyoshi Sato  
Aberystwyth University  
norico3000@gmail.com

United States

Caroline Albertin  
University of Chicago  
calbertin@uchicago.edu

Jean Alupay  
University of Southern California  
alupay@usc.edu
Erik Anderson  
Grove City College & WHOI  
eanderson@whoi.edu

Gregory Barord  
City University of New York – Graduate Center and Brooklyn College  
gbarord@gradcenter.cuny.edu

Matthew Birk  
University of Rhode Island  
matthewbirk@gmail.com

Stephanie Bush  
Monterey Bay Aquarium Research Institute/Monterey Bay Aquarium  
stephalopod@gmail.com

Samantha Cheng  
University of California-Los Angeles  
scheng87@gmail.com

Bret Grasse  
Monterey Bay Aquarium  
bgrasse@mbayaq.org

Roger Hanlon  
Marine Biological Laboratory  
rhanlon@mbl.edu

Jenny Hofmeister  
University of California-Berkeley  
jenkkhof@gmail.com

Heather Judkins  
University of South Florida St. Petersburg  
Judkins@mail.usf.edu

Hassan Moustahfid  
NOAA/ US IOOS  
hassan.moustahfid@noaa.gov

Ryuta Nakajima  
University of Minnesota Duluth  
lazymonk22@gmail.com

Michael Navarro  
California State University Monterey Bay  
minavarro@csumb.edu

Owen Nichols  
University of Massachusetts – Dartmouth  
onichols@umassd.edu

Judit Pungor  
University of Oregon  
jpungor@gmail.com

Clyde Roper  
Smithsonian Institution  
gsquidinc@verizon.net

Ingrid Roper  
Smithsonian Institution  
gsquidink@yahoo.com

Michael Seki  
U.S. Dept. of Commerce/NOAA Fisheries/PIFSC  
michael.seki@noaa.gov

Wendy Seki  
Wendy.K.Seki@hawaii.gov

Kate Thomas  
Duke University  
kate.thomas@duke.edu

Michael Vecchione  
NOAA/NMFS/National Systematics Laboratory  
Michael.Vecchione@noaa.gov

Susan Vecchione  
vecchione3@verizon.net

Kelley Voss  
Alaska Pacific University  
kvoss@alaskapacific.edu

Z Yan Wang  
University of Chicago  
zyw@uchicago.edu
Heather Ylitalo-Ward
University of Hawaii at Manoa
hylitalo@gmail.com

Phyllis Young
University of Hawaii at Manoa
dickphyllisyoung@gmail.com

Richard Young
University of Hawaii at Manoa
dickphyllisyoung@gmail.com

Casey Zakroff
Woods Hole Oceanographic Institution
czakroff@whoi.edu
Index of presenters
(Oral in bold)

A

Adachi, Kohsuke 40
Albertin, Caroline B. 21
Allcock, Louise 32, 41
Alupay, Jean 18
Anderson, Erik 17
Ao, Toru 30
Apostólico, Lígia H. 19
Arkipkin, Alexander 20, 37

B

Bainy, Mara 34, 38
Baptista, Miguel 25
Barord, Gregory Jeff 18
Beasley, Amanda 24
Bello, Jean 18
Birk, Matthew A. 19, 32
Bolstad, Kat 27
Borges, T.C. 34, 34
Bower, John R. 34
Braid, Heather E. 28, 41
Bush, Stephanie 17
Bustamante, Paco 42

C

Caamal-Monsreal, Claudia 32, 38, 38
Cabanellas-Reboredo, Miguel 34
Chen, Chih-Shin 34, 34, 34
Chen, Daohai 23
Chen, Jing-Yu 32
Chen, Yu-Chi 22
Cheng, Samantha H. 21
Ching, Tzu-Yun 37
Chung, Wen-Sung 36
Cornet, Valérie 20, 39
Cyran, Norbert 37

D

Di Cristo, Carlo 21

Doubleday, Zoë 24

E

Evans, Aaron Boyd 28

F

Fang, Zhou 24
Fernández-Álvarez, Fernando Ángel 28, 41
Fernández-Gago, Raquel 39
Finn, Julian 42, 42
Fiorito, Graziano 16, 30, 33
Franco-Santos, Rita Melo 23, 33, 43
Fuchs, Dirk 20

G

Gillanders, Bronwyn 21
Githaiga-Mwicigi, J.M.W 25
Gleadall, Ian G. 29
Golikov, Alexey V. 24, 35
González, Ángel 27, 35
Guerra, Angel 26
Guerrero-Kommritz, Jürgen 28, 42
Guh, Ying-Jey 33

H

Hall, Karina C. 25
Hanlon, Roger T. 16
Henry, Joël 20, 40, 40
Hirohashi, Noritaka 19
Ho, Chuan-Wen 32
Hochner, Benny 16
Hofmeister, Jennifer 17

I

Igarashi, Hiromichi 26
Iida, Tomohiro 43
Ikeda, Yuzuru 17, 30
Isoda, Tatsuya 41
Ito, Yasushi 43
Ivanovic, Marcela 40
Iwata, Yoko 19

J
Juárez, Oscar E. 19
Judkins, Heather 28, 32

K
Kaga, Toshiki 42
Kasugai, Takashi 43
Kato, Yoshiki 35
Kawashima, Sumire 30
Keller, Stefanie 18, 37
Kelly, Jesse Tyler 28, 36
Kidokoro, Hideaki 33
Kitano, Hajime 40
Kitaoaka, Masaki 30
Koizumi, Motoki 39
Kuba, M. J. 16
Kubodera, Tsunemi 22, 43

L
Lacoue-Labarthe, Thomas 23, 39, 41
Lamayo, Ma. Helian A. 40
Lamayo, Roberto C. 35
Lee, Hwa Hyun 37
Lee, Mong-Fong 40
Lee, Yi-Hsin 30
Lefkaditou, Evgenia 42
Lin, Chun-Yen 30
Lin, Dongming 20
Lipinski, M.R. 23
Lischka, A. 28
Liu, Tsung-Han 22
Lopes, Vanessa M. 33, 33

M
Maegawa, Shingo 17
Marian, José E. A. R. 19
Mather, Jennifer 17
Matsui, Hajime 30, 30
Matsukura, Ryuichi 35

Miki, Katsuhiro 40
Moltschaniwskyj, Natalie 19, 22
Morales-Bojórquez, Enrique 35
Morales-Zárate, M.V. 38

N
Nabhitabhata, Jaruwat 27
Nakajima, Ryuta 17, 30
Nanjo, Nobuaki 33
Narushima, Kazuya 30
Narushima, Mitsunaga 39
Navarro, Michael 25
Nichols, Owen C. 25, 35
Nigmatullin, Chingis 19, 35, 35, 40, 43
Nishibayashi, Takahiro 31

O
O’Dor, Ron 31
Ogura, A. 21
Okamoto, Kohei 31, 31
Okamoto, Suguru 35

P
Paula, José R. 31
Perales-Raya, Catalina 26, 34, 38, 42
Pereira, João 26, 35, 43
Perkins, Kerry 18
Piatkowski, Uwe 18, 42, 43
Pierce, Graham J. 25
Ponte, Giovanna 29
Puneeta, Pandey 24, 31

R
Reid, Amanda 27
Robin, Jean-Paul 25
Roper, Clyde F. E. 38
Rosa, Rui 16, 32, 32
Roumbedakis, Katina 22, 41
Roura, Alvaro 21, 34, 42
S
Sadayasu, Kazuhiro 26
Sajikumar, K. K. 26, 33, 38
Sakurai, Yasunori 43, 43
Salinas-Zavala, C. A. 32, 39
Sanchez, Gustavo 21
Sano, Minoru 31
Saruwatari, Toshiro 24
Sato, Noriyosi 17
Sawamura, Masayuki 25
Schroeder, Rafael 26, 36
Segawa, Susumu 39
Setiamarga, Davin H.E. 20
Shigeno, Shuichi 22
Silva, Luis 36, 36
Simakov, O. 20
Sobrino, Ignacio 36, 38
Solé, Marta 23
Strugnell, J.M. 20
Sugimoto, Chikatoshi 17, 31, 31
Sukhsangchan, Charuay 24
Sung, Po-Hsuan 39

T
Taguchi, Akira 36
Takahara, Hideo 38
Takahashi, Kosuke 36
Takayama, Go 26
Takigawa, Yuko 28
Thomas, Kate N. 37
Tomano, Satoshi 36
Tongtherm, Kittichai 28
Trübenbach, Katja 39, 39
Tseng, Yung-Che 22
Tsuchiya, Kotaro 42
Tuanapaya, Surangkana 27

U
Uchikawa, Kazuhisa 38

V
Vecchione, Michael 18, 43
Vidal, Erica 23
Vijai, Dharmamony 31, 31, 38
Villanueva, Roger 27
Voss, Kelley M. 16

W
Wada, Toshifumi 16, 42
Wakabayashi, Toshie 38
Wang, Chia-Hui 43, 44
Wang, Z. Yan 23
Winkelmann, Inger 37

X
Xavier, José C. 27, 41, 41

Y
Yamaguchi, Tadanori 24
Yamashiro, Carmen 36
Yanagimoto, Takashi 36
Yang, Tsang-I 31
Yasumuro, Haruhiko 31, 32
Ye, Jeng-Jia 37
Ylitalo-Ward, Heather 44
Yonamine, Hajime 44
Yu, Wei 33

Z
Zakroff, Casey 24
Zatylny-Gaudin, Céline 22
Zheng, Xiaodong 34, 37
Front cover art by YOKO & TOKO
Back cover photograph by Masaru Iwasaki
(The Hokkaido Shimbun Press)
*Todarodes pacificus* and the egg mass
photograph by, Y. Sakurai
CIAC 2015 Hakodate, © All rights Reserved, 2015