

STAGES



Newsletter of the
Early Life History Section
of the American Fisheries Society

Volume 39, Number 2

Audrey J. Geffen & Cindy J.G. van Damme, Editors

June 2018

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ELHS Back Then

5 years ago: First consideration to setup ELHS student travel fund

10 years ago: First LFC flag and auction of the flag for J.H.S. Blaxter award

15 years ago: Section establishes Elbert H. Ahlstrom Career Achievement Award

25 years ago: Jeff Govoni appointed to chair a committee to establish formal rules and procedures for the Sally L. Richardson award

30 years ago: First raffle to raise money for Sally L. Richardson award prize was held at the 12th LFC at the University of Michigan

Deadline for material to be included in the next issue of Stages:

**September 15,
2018**

Student Award Winners

The winner of the Sally L. Richardson Award for best oral presentation at the LFC 2018 was Andrew Corso (right), from the Virginia Institute of Marine Science, USA for his presentation "A time-series analysis of the larval fish assemblage of the Western Antarctic Peninsula." The winner of the John H. S. Blaxter Award was Carolin Müller from the Leibniz Centre for Tropical Marine Research, Bremen, Germany for her poster "Growing up in a plastic ocean - the impact of microplastic uptake in juvenile seabream." (see image page 2)



Andrew Corso, recipient of the ELHS's Sally L Richardson Best Paper Award, presented by Tony Miskiewicz.

Congratulations to these talented young scientists! §

President's Message



Dear friends and colleagues,

I suppose all good things must come to an end. This is my last "President's Message" for STAGES, and brings to a close a long run of service on the ELHS Executive Committee, including my terms as Secretary, President, and the respective "-Elect" positions for those offices. I cannot express enough what an honor it has been to serve in this capacity, and how fortunate I have been to work with such dedicated friends and colleagues. I want to especially thank Dominique Robert, who has served with me as the ELHS's Secretary; I am very grateful for his contributions to the ELHS, and his friendship as we worked together over the last few years. And I guess "once an ExCom member, always an ExCom member", because Dominique and I have been able to seek advice from former officers like Myron Peck, Fred Scharf, Catriona Clemmesen, and others who graciously gave their time to assist, and for that we are thankful. And one last 'thanks' to Katey Marancik, for always providing helpful critiques on my early drafts of these messages!

Thinking back, I was fortunate to take over the ELHS in very good standing, both in terms of its financial stability and the level of involvement by many of its core members, and I

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News from the Regions



Pacific Rim Region

Akinori Takasuka

Nemo won't find home in an acidified ocean

The blog of the Australian Museum has an interesting story "Nemo won't find home in an acidified ocean" on the website (<https://australianmuseum.net.au/blogpost/amri-news/nemo-wont-find-home-in-an-acidified-ocean>). This blog introduces a recently published review paper by Dr. Jeff Leis (AMRI Senior Fellow). This review paper evaluates the available publications on the effects of acidification on senses and behaviors relevant to dispersal of fish early life-history stages. The blog picks up key elements of the paper in a comprehensive way, which appeals to a broader readership. The blog of the Australian Museum is full of a variety of interesting stories on biology and ecology.

Reference

Leis, J. M. (2018). Paradigm Lost: Ocean acidification will overturn the concept of larval-fish biophysical dispersal. *Frontiers in Marine Science*, 5(47): 1–9. <https://doi.org/10.3389/fmars.2018.00047> §

The 1st Brazilian Ichthyoplankton Symposium

The 1st Brazilian Ichthyoplankton Symposium will be held in conjunction with the 23rd Brazilian Ichthyology Meeting in Belém, Pará State, Brazil.

In several past issues of STAGES, I have introduced the studies and activities on the early life biology of fish by the Instituto Oceanográfico, Universidade de São Paulo. For example, I reported a workshop to launch a collaborative framework between the Universidade de São Paulo and the Japan Fisheries Research and Education Agency in the last issue (Volume 39, Number

1) of STAGES. Now, I'm looking forward to attending this symposium, which will be a good opportunity of learning the studies on ichthyoplankton in Brazil.

Dr. Jana M. del Favero, who completed her PhD thesis at the Universidade de São Paulo and is now based on the Instituto Nacional de Pesquisas Espaciais, and her colleagues will organize the 1st Brazilian ichthyoplankton symposium. Please check the "Upcoming events" section for details.

§

Fisheries Science Series Book

As the 3rd Fisheries Science Series Book, "Fish Population Dynamics, Monitoring, and Management: Sustainable Fisheries in the Eternal Ocean" edited by Ichiro Aoki, Takashi Yamakawa, and Akinori Takasuka has been published from Springer in May 2018. This book explores how we can solve the urgent problem of optimizing the use of variable, uncertain but finite fisheries resources while maintaining sustainability from a marine ecosystem conservation perspective. It offers readers a broad understanding of

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Carolyn Müller, recipient of the ELHS's John H. S. Blaxter Best Poster Award, presented by Lee Fuiman.

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**HELP KEEP
STAGES INTERESTING...**
Send us a report of your
research activities.

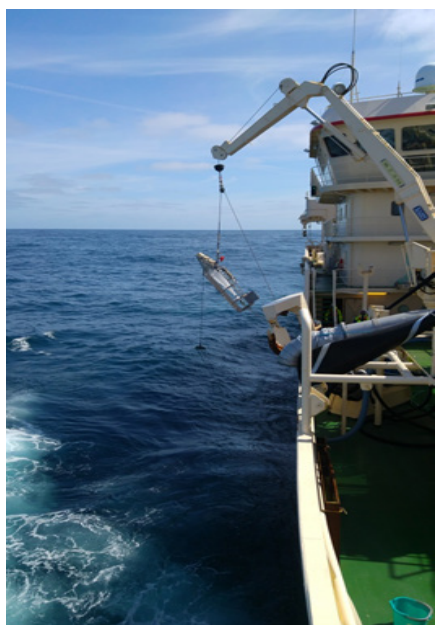


European region

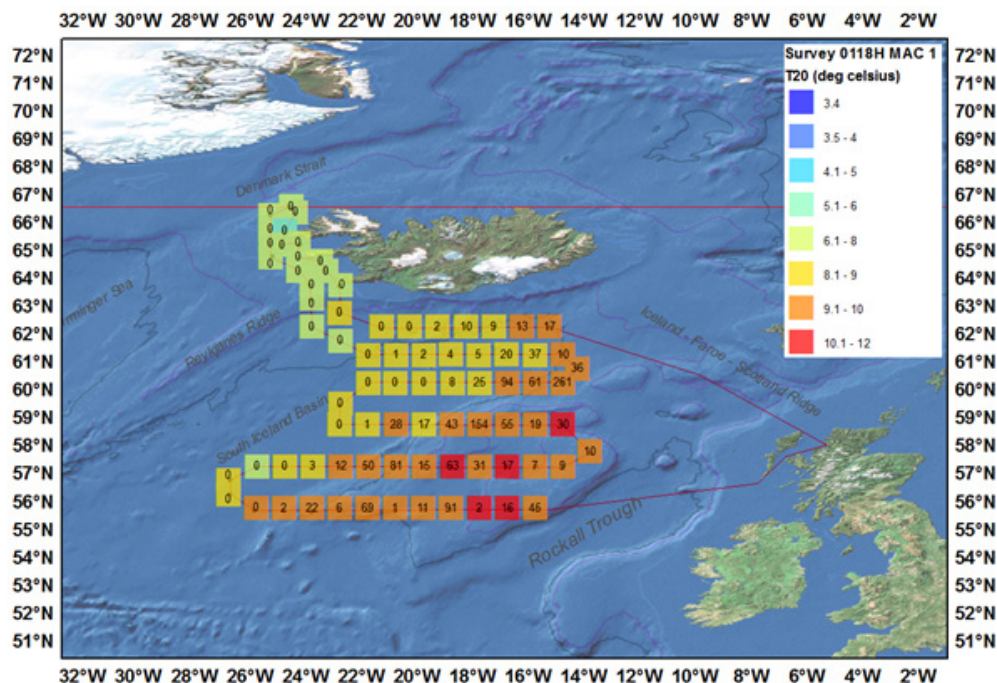
Hubert Keckeis

Exploring the mackerel spawning boundary in the North Atlantic

Since 2007 the triennial mackerel and horse mackerel egg survey (MEGS) has been observing and reporting on the offshore westwards and northwards expansion of mackerel spawning with the proportion of spawning (albeit small) increasing with every subsequent survey. The results of the most recent survey in 2016 were a game changer as for the first time in the surveys 40 year history the largest spawning concentrations had moved from the traditional spawning hotspots around the Porcupine Bank and Celtic Sea/Biscay area and instead were now spread out over a large swathe of open ocean, well off the continental shelf to the west and northwest of Scotland. A review of the MEGS survey coverage submitted to the mackerel benchmark in 2017 recommended as part of a series of measures, carrying out exploratory egg surveys within the Northern boundary regions in the 2



Deploying the Gulf 7 plankton sampler on Hatton Bank.



Survey 0118H – Survey track and numbers of stage 1 mackerel egg (nos/m2), location of Arctic circle denoted by red line.

years prior to the next triennial survey in 2019. The timing for these surveys was set at May/June as since this expansion began in 2007 this is the temporal period when the geographical footprint of the mackerel spawning area is at its greatest. 2017 saw Ireland conduct the first of these exploratory surveys aboard the charter vessel Girl Stephanie that as part of a broader remit of objectives in this region completed a single westerly transect that in the end fell just short of securing a western zero boundary at 57.75N 23.75W.

Scotland completed a similar survey in 2018 using the Scottish pelagic trawler Altaire between 22nd May and 6th June. The objective, simply to map and define the mackerel spawning activity in the northwestern region, including Rockall and Hatton Bank, pushing further west until a zero boundary was established. This would be completed by deploying the Gulf 7 plankton sampler on a series of transects tracking east to west and vice versa heading steadily North up towards the Icelandic Shelf. How far west Altaire would be required to survey in pursuit of this boundary would have a predictable impact on the final survey plan that would inevitably dictate the Northern extent of the survey. Altaire departed from Ullapool in NW Scotland

on the 22nd May at just after midday in near perfect weather conditions and after performing 2 sets of flowmeter calibrations continued South through the Minch before heading West into the Atlantic and onwards towards Rockall Bank and the location of the first station. Looking after the science onboard, there was very much an international flavour to the survey with MEGS specialists from Scotland, the Netherlands, Ireland and also Germany. Calm conditions were experienced during most of the survey and progress was excellent. The most southerly transect at 55.75N was completed in just over a day and a half with the zero boundary finally being reached at 25.75W which was well beyond Hatton Bank and in fact over and into the South Iceland Basin (see figure??). A similar pattern continued further North with the zero boundary tracking in a northeasterly direction and running parallel with the edge of Hatton Bank. Although some freshly spawned (stage 1) mackerel eggs were observed over the colder and deeper waters of the South Iceland Basin it was clear that the majority of spawning activity was taking place on the banks themselves. This pattern continued into the northern reaches of the South Iceland basin where it eventually butts up against the

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North Central region

Ed Roseman

New Cooperative Research of Larval Fishes in the St. Marys River, Great Lakes

A new cooperative ichthyoplankton study began in spring 2018 in the St. Marys River, the Great Lakes connecting channel between Lake Superior and Lake Huron. Scientists from the U.S. Geological Survey Great Lakes Science Center, U.S. Fish and Wildlife Service Alpena Fish and Wildlife Conservation Office, U.S.

Army Corps of Engineers, and Lake Superior State University are sampling ichthyoplankton above and below the Sault Rapids to measure the diversity and abundance in the area and how modifications to river flow might influence reproductive success. This area of the St. Marys River is home to the Soo Locks that have provided safe passage for shipping in the Great Lakes for over 160 years. The area is also industrialized with multiple hydro-electric generating stations, steel mills, and maritime facilities located along the river.

The St. Marys River rapids supports spawning and egg incubation for a wealth of native fishes such as lake trout, lake whitefish, cisco, suckers, walleye, and lake sturgeon. A host of introduced salmonids also make use of the area. In recent years, the rapids has become

infested with *Didymosphenia* making sampling for larval fishes a challenge due to net clogging and added tedium to sorting samples.

The science team has implemented a sampling design to measure larval fish abundance above and below the locks and compensating works to estimate production in the rapids area. They are using active and passive nets to sample larvae and have also deployed egg mats to explore for evidence of spawning. Sampling began in early May 2018 while ice was still flowing down the river. Fish larvae observed in samples to date include deepwater sculpin, burbot, *Coregonine* larvae, salmonid parr, Catostomids, and rainbow smelt. Sampling will continue into early fall of 2018 and will be repeated for a total of 3 years. §

Pacific region ...cont'd from p. 2

the current methods and theory for sustainable exploitation of fisheries resources and introduces recent findings and technological developments.

The book comprises three parts. Part 1: Dynamics of Fish Stocks in Marine Ecosystems; Part II: Monitoring Systems; Part III: Management Models. In the last "Perspective" section, the editors will summarize all the chapters to present their perspectives toward sustainable fisheries in the eternal ocean. This book deals with many examples from Japan, but the editors consider that the contents will be reference materials for scientists in various regions of the world. The book includes topics of early life biology of fish in many chapters. Please check the "Publications" section for details.

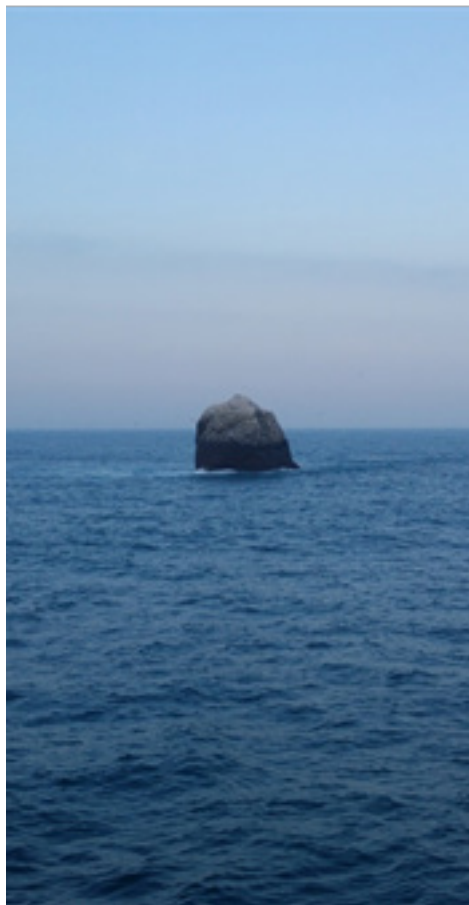
Reference

Aoki, I., Yamakawa, T., Takasuka, A. (eds.) Fish Population Dynamics, Monitoring, and Management: Sustainable Fisheries in the Eternal Ocean. Fisheries Science Series. Springer, Tokyo. <https://doi.org/10.1007/978-4-431-56621-2>

Europe ...cont'd from p. 3

Icelandic shelf. Predictably, with egg numbers increasing, together with the temperature at 20 metres towards the eastern end of the transects located on the fringes of the shallower and also warmer Iceland – Faroe – Scotland Ridge. From there Altaire proceeded west and then North, first across the mid Atlantic Ridge at Reykjanes on the 1st June and before surveying up the west coast of Iceland until eventually crossing into the Arctic Circle, deploying the Gulf Sampler at 66.57N and 24.52W. Whilst surveying up the western side of Iceland calm and clear conditions were experienced and this provided opportunities for whale watching with observations of blue and humpback whale as well as Orca being made. Disappointingly, the following day the weather became very cold with thick fog so there was no chance for any scenery shots although we knew that stunning coastline views were close by. The water temperature at 20m north of the Reykjanes ridge was around 8 degrees Celsius and this cooled further to just over 6 degrees by the time Altaire crossed into the Arctic Circle on the 2nd June and unsurprisingly there were zero mackerel eggs and it was only one Altaire was midway along the last survey transect south of Iceland at 62.25N that mackerel eggs started

turning up once again in plankton samples. The last Gulf deployment (no.83) was completed at midday on



Passing Rockall during evening flypast with perfect conditions.

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North East Region

Katey Marancik

Bringing natural history collections back to life

Natural history collections, including larval fish specimens, are unique repositories of life on Earth. These invaluable collections document characteristics in time and space, and can offer insight into baseline conditions and evolutionary processes that shaped today's populations. As a result, archived specimens provide a unique opportunity to 'travel back in time' and understand how the ecology and evolution of important species have changed over time.

As part of a collaborative project, researchers at Rutgers University (Malin Pinsky, Jennifer Hoey and Mike DiLorenzo), the Rutgers University Marine Field Station (RUMFS; Ken Able) and the University of North Carolina – Chapel Hill (Joel Fodrie), have assembled a collection of over 400 larval summer flounder (*Paralichthys dentatus*) from existing collections spanning estuaries from New Jersey to South Carolina over several decades. The bulk of the specimens were collected between

1989-2012 from long-term ichthyoplankton surveys occurring at RUMFS (New Jersey) and the NOAA Beaufort Laboratory (North Carolina). In addition, access to smaller collections from Delaware, Virginia and South Carolina were graciously granted. We are using a variety of tools, including genomic sequencing, otolith microchemistry, and image analysis to understand 1) the stability of summer flounder population structure, 2) population connectivity and dispersal across time and space, and 3) how regional larval development and size at ingress has changed over time.

Deciding how to use archived larval specimens is a little bit like an organ donation; different parts of the specimen can be used for different functions, allowing a single individual to contribute to multiple analyses to answer different questions.

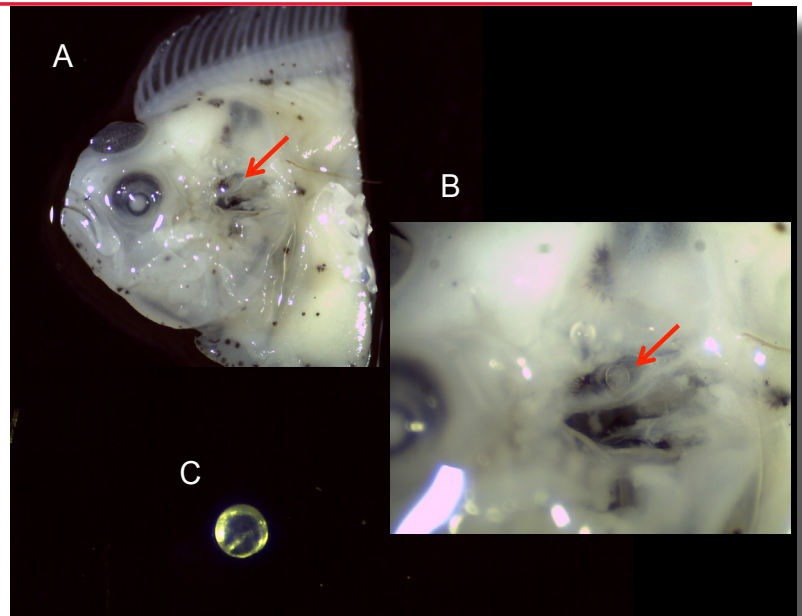


Figure 2. A larval summer flounder A) being prepared for otolith extraction, B) inset showing an otolith, and C) extracted otolith.

Photographs of the collection allow us to take length measurements and monitor the development of individuals based on the location of their eyes. Sometimes we see interesting cases, like this Cyclops individual (Fig. 1)! The otoliths (Fig. 2; mind you, they are minuscule!) can be ablated with a laser to understand the environmental microchemistry that each individual experienced. When an otolith is ablated, trace elements are vaporized and then quantified. This can tell us if individuals are coming from a water body with a similar elemental signature, or not, allowing insight into population connectivity. Finally, we can extract DNA from the tissue of individuals and identify places in the genome where there are single base pair differences, called single nucleotide polymorphisms (SNPs). With hundreds to thousands of these variable sites, we can start to understand population structure, and if it has remained stable over time. Based on how common these SNPs are, we can also get an idea of how much dispersal has been going on between different parts of the species' range. By using a variety of tools and techniques on archived summer flounder collections, we are working to understand how summer flounder have changed in the recent past to better aid in effective management strategies and the continued conservation of this important species. §



Figure 1. An unusual one-eyed larval summer flounder.

Europe

...cont'd from p. 4

freshly spawned stage 1 eggs. The highest density of stage 1 mackerel eggs recorded during the survey came from station 48 which was located North of Hatton Bank at 60.25N 14.75W. Mackerel eggs were located in 49 of the 79 stations sampled. Virtually mackerel eggs were recorded on stations where the

offshore banks yielding significant numbers of mackerel eggs whereas the colder water over the South Iceland Basin and also northwards towards the Reykjanes Ridge being sufficiently cool as to provide a natural physical boundary that yields few or no mackerel eggs. Interestingly on the sampled stations where there was also sampling undertaken last year during the Irish exploratory survey that therefore made it possible to compare directly, a significant difference in the surface temperatures was observed with the temperatures at 20 metres



MEGS scientists braving the cold in the Arctic Circle (left to right, Brendan O'Hea - MI Galway, Cindy van Damme – WUR Ijmuiden (front), Finlay Burns – MSS, Jens Ulleweitt – TI Hamburg).



Returning back into Loch Broom enroute to Ullapool.

Monday 4th June and once onboard Altaire charted a course for Ullapool and were alongside by 1930 on the 5th June.

There were 83 deployments in total with 4 flowmeter calibration runs and a further 79 plankton deployments. These yielded 2803 mackerel eggs of all stages, of which 1623 were

temperature at 20 metres was less than 8.5 degrees Celsius which is consistent with what we already know about the spawning behaviour of mackerel. The survey was



Snaefellsjokull - glacier-capped volcano on the Snaefellsnes peninsula, West Iceland.

successful in delineating fully a hard spawning boundary in the northwest albeit it required the vessel to survey out to nearly 27 degrees west in order to secure it. It was also successful as regards describing the bigger picture in that area, specifically with regards to the temperature profile within that region with the warmer temperatures observed on the flanks of the

being typically 1- 1.5 degrees Celsius colder when compared to those from 2017. The data collected as well as the conclusions drawn from the results of this survey will be extremely useful and will inform the planning process for the forthcoming triennial MEGS survey in 2019.

A massive thank you to all of the crew on the MFV Altaire for all the help, advice and assistance provided during the survey which was invaluable and ultimately ensured the overall success of the survey.

-- Finlay Burns, Marine Scotland Science §

Pres. message ...cont'd from p. 1

think it remains this way today. Our members always rise to the occasion to financially support the Sally Richardson Award and John Blaxter Award for best student presentations at the Larval Fish Conference. And, the dues paid by ELHS full and affiliate members cover most annual expenses, leaving

us with a similar budget balance each year. Like most past Presidents, I reached out to the membership for more engagement in ELHS activities, such as electing officers, contributing content to STAGES, attending the LFC, etc. Our ELHS is only as strong as the combined contributions of its membership, so I ask that everyone

please join the action when our new officers make similar requests.

So that's all in the rear-view mirror. As I step down, what do I see going forward?

...continued on p. 9

Larval Fish Course 2018 at the marine station of the Muséum nation d'Histoire naturelle (MNHN) in Concarneau, France

Fish larvae represent an important component of zooplankton. A comprehensive view on the biology, taxonomy, and identification of larval fishes is the basic framework and crucial when working with plancton, teleosts in general and any group of larval fishes in specific. For the first time in Europe, we offer an international lecture and laboratory course providing a comprehensive view on those three disciplines, the biology, taxonomy, and identification of early life stages of fishes.

This larval fish course will be held at the marine station of the Muséum nation d'Histoire naturelle in Concarneau this September. It will cover lectures and labs on pre-identified larval material from the Eastern North Atlantic and labs on our unsorted and unidentified museums larval fish collection from the Indo-Pacific. We aim to sort and catalog the latter collection and therewith provide a unique training for participants in how to sort, identify and curate such an unsorted sample. Further, the course will include lectures on the following topics "What do larvae feed on, and how do they feed, match-mismatch theory", "Physical processes, environmental factors", "Age and growth", "Cohorts, recruitment", "Climate change", "Sampling and preservation methods", "Fish egg identification, key identification features, relevant literature and available resources", "Computer identification keys", and, of course, lectures and labs on larval fish identification (about 50 fish families! for further details visit <https://sites.google.com/view/larval-fish-course/syllabus>).

The course is spearheaded by the collection curator of the MNHN Nalani Schnell and Cyril Gallut and featured by five experts in larval fish taxonomy and ecology from across the globe: Catriona Clemmesen (GEOMAR, Germany), Cindy Van Damme (Wageningen Marine Research, Netherlands), Peter Konstantinidis (Oregon State University, USA), G. David Johnson (Smithsonian Institution, USA), Ai Nonaka (Smithsonian Institution, USA).

For further information and registration please visit <https://sites.google.com/view/larval-fish-course/> or contact Nalani Schnell (nalani.schnell@mnhn.fr).

Places are limited to 15 participants, course registration fee is 850 € per person.

Registration closes 31st July 2018



Larval Fish Course

17th-28th September 2018, Concarneau, France



STATION MARINE
DE CONCARNEAU

We offer an international lecture and laboratory course at the marine station in Concarneau, France, based on samples from the Eastern North Atlantic and Pacific Ocean.

We provide:

- 1) Labs on larval fish identification (~50 fish families)
- 2) Lectures on key identification features, systematics and ecology
- 3) Lectures on sampling and preservation methods

Lectures and labs will be delivered by **Catriona Clemmesen** (GEOMAR, Germany), **Cindy Van Damme** (Wageningen Marine Research, Netherlands), **Peter Konstantinidis** (Oregon State University, USA), **G. David Johnson** (Smithsonian Institution, USA), **Ai Nonaka** (Smithsonian Institution, USA), **Cyril Gallut** (UPMC, France), and **Nalani Schnell** (MNHN, France).

Places limited to 15 participants, course registration fee 850 € per person, registration extended to 31st July 2018

For further information and registration please visit <https://sites.google.com/view/larval-fish-course/> or contact Nalani Schnell nalani.schnell@mnhn.fr



Marine Station in Concarneau, France - <http://concarneau.mnhn.fr>

Publications

Fisheries Science Series Book

“Fish Population Dynamics, Monitoring, and Management: Sustainable Fisheries in the Eternal Ocean”

Editors: Ichiro Aoki, Takashi Yamakawa, Akinori Takasuka (Japan)

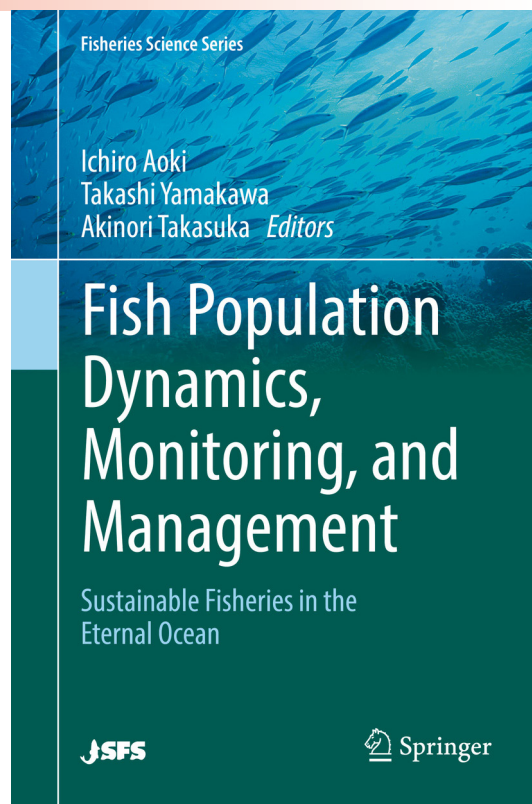
Publisher: Springer

Published: May 2018

- Presents current understanding of the theories and mechanisms of population dynamics of major fish species with different life cycles.
- Introduces new technologies and concepts for ecosystem monitoring and modeling for fisheries management.
- Provides essential perspectives on sustainable exploitation of naturally fluctuating fisheries resources.

Contents: <https://doi.org/10.1007/978-4-431-56621-2>

Purchase: <https://www.springer.com/book/9784431566199>



The 1st Brazilian Ichthyoplankton Symposium

We are pleased to invite you to the 1st Brazilian Ichthyoplankton Symposium (I Simpósio Brasileiro de Ictioplâncton), which will be held in conjunction with the 23rd Brazilian Ichthyology Meeting (XXIII Encontro Brasileiro de Ictiologia) in Belém, Pará State, Brazil.

The Organizing Committee of XXIII Brazilian Ichthyology Meeting intends to offer a diverse program to the scientific community specialized in the study of fish, which will allow a wide debate around the most diverse research subjects related to this group. There will be conferences, round tables, symposiums (as the ichthyoplankton one) and mini-courses, as well as presentations (in poster and oral form) of the results of scientific investigations.

January 27–31, 2019, the XXIII Brazilian Ichthyology Meeting will be held at the Hangar - Convention and Fair Center of the Amazon in Belém. It is a good opportunity for those who want to visit the Brazilian Amazon and learn about its rich fish diversity.



As the 1st Brazilian Ichthyoplankton Symposium is organized with the Brazilian Ichthyology Meeting, all the information will be available at the following website: <http://www.ebi2019.com.br>.

Please stay tuned to learn about the meeting's themes and scientific program. If you have any question or want to participate, please contact Dra Jana M. del Favero (delfaverojana@gmail.com).

Pres. message ...cont'd from p. 6

For starters, I see a great ExCom taking over the reins of the ELHS. I'm sure I speak for Dominique when I say that we wish the best of luck to our incoming President and Secretary, Pierre Pepin and Hannes Baumann, and we welcome our new President-Elect and Secretary-Elect, Claire Paris and Alison Deary. Serving the ELHS has been an incredibly rewarding experience for us, and we trust our new officers will enjoy the same level of support from our members as we did.

I see the next cohort of ELHS leaders starting to emerge. Much of this is thanks to the efforts of the Early Career Committee, which has organized many professional workshops and events, and has kept the ExCom informed about the needs and opinions of our early career members. Requests for student travel grants to the LFC have been on the rise, and the award committees for best student presentations have never had more of a challenging job of late. The quality of work by our student attendees, both undergraduate and graduate, is truly outstanding. As a Section, we need to continue to encourage this next generation of scientists. Established members should include student travel

in their research budgets to the best of their abilities. The result is a vibrant Larval Fish Conference where young scientists can network and present their research, and senior members can provide mentorship and recruit new graduate students and postdocs to their labs.

I see a Larval Fish Conference that remains very relevant in today's science community. As evident by the sessions and presentations at recent LFCs, it is clear that fish early life history research has a major role to play in informing the management of marine resources, promoting conservation and biodiversity, and understanding how fishes and their freshwater and marine ecosystems respond to climate change, among other needs. These are global issues, and our LFC has become a global conference, with attendees from around the world presenting their research. I think this increase in diversity is an encouraging trend, and it will serve the LFC (and hopefully the ELHS) well going forward.

And speaking of the Larval Fish Conference, I see ELHS members stepping up more and more to host our conference. I'm writing this message

from the 42nd Larval Fish Conference in Victoria, British Columbia, Canada, where our hosts Pierre Pepin, Francis Juanes and John Dower have staged a very impressive meeting. Thanks guys for this great effort; it is truly appreciated. Also, we have a date and location set for the 43rd Annual Larval Fish Conference, which will be in Palma de Mallorca, Spain (May 21-24, 2019). A big thanks to Ignacio Catalan and his colleagues for hosting what promises to be an exciting conference at a wonderful venue. I ask that ELHS members assist the organizers by responding to calls for sessions, abstracts, and registration in a timely manner.

So yes, the future looks bright, and though I am stepping down as President, I hope to be a part of that future for many years to come. Thanks to everyone for all of your support. See you in Mallorca!

Best regards,

— Frank Hernandez, (outgoing)
President

§



Two old-timers from the early Larval Fish Conferences. Jeff Marliave (right) and Lee Fuiman (left), got together in Vancouver before the 42nd annual Larval Fish Conference. Jeff chaired the 8th annual Larval Fish Conference in 1984 at the University of British Columbia, which was the first of the conferences outside the U.S. and the first attended by participants from overseas. He also edited the resulting publication: "International Symposium on the Early Life History of Fishes and Eighth Annual Larval Fish Conference" which appeared in Transactions of the American Fisheries Society 114(4):443-621. Jeff served as the ELHS Western Region representative in 1982-1983 and again 1994-1996. Photo credit: Linda Gamble.

Meeting of the ICES Working Group on Atlantic Larvae and Egg Surveys (WGALES)

Location: DTU AQUA - National Institute of Aquatic Resources, Section for Marine Living Resources, Technical University of Denmark, Kemitorvet, 2800 Kgs. Lyngby, Denmark, Meeting Centre in Building 202.

Dates and times: 14:00 22 October 2018 – 12:00 26 October 2018

The meeting will be in three sessions:

1. General Presentations concerning egg and larvae surveys

This session will cover Survey Developments and Challenges (new surveys, updates, new methodologies, refinements to survey techniques, new and old areas or research that need ichthyoplankton studies etc). A specific topic recently raised by other Working Groups is standard practices for calibration of flow meters and the implementation of regularly updated calibration factors into ongoing surveys. The objective is to provide a general forum for discussion on matters concerning Larvae and Egg Surveys.

2. Fish eggs and larval development and early life strategies in boreal and tropical regions

The theme session focuses on all aspects of early life stages of ichthyoplankton such as taxonomy, egg and larvae mortality and development, stage duration (e.g. in relation to temperature, salinity, start of spawning season etc.) and strategies of foraging larvae to cope with ambient conditions in different regions of the marine environment.

3. Advances in adult reproductive parameters focusing on spawning frequency estimations

The theme session focuses on the improvement of various methods for estimating the spawning frequency of multiple spawners in a less costly and labour-intensive manner than the standard POF method. This will also allow the application of the DEPM to boreal stocks with very low POF degeneration rates, which are otherwise assessed through the AEPM. It is foreseen that this theme session also will provide important 'spin-off' discussions on fecundity counting as such, determinacy/indeterminacy issues, and related environmental influences.

Date for submission of Abstracts (oral/poster): Friday 27th July 2018

Date for acceptance of Abstracts: Monday 3rd September 2018

Enquiries concerning the meeting location: Bastian Huwer (bhu@aqua.dtu.dk)

Enquiries concerning WGALES and the meetings: Maria Manuel Angélico mmangelico@ipma.pt or Richard Nash richard.nash@hi.no.

Background to ICES WGALES

WGALES was established in 2013. The group meets generally once every two years. WGALES meetings are in the form of workshops to exchange developments of methods and discuss quality assurance issues.

WGALES aims for the cross fertilization of ideas, methodologies, developments, and standardization of ichthyoplankton surveys in the ICES area as well as providing a platform from which to improve the assessments based on the ichthyoplankton surveys.

Several ichthyoplankton surveys are carried out within the ICES areas; these are all coordinated by their own expert group. In the past these groups worked on their own and there was little exchange of ideas, techniques, and developments between them. WGALES now provides a forum for discussion and dissemination on matters pertaining to spawning dynamics, ichthyoplankton biology, ecology, surveys, and egg and larval production methods. Each of the ichthyoplankton survey specific working groups continues with their survey planning and reporting.

Newsletter Production Team

Stages is published in February, June, and October each year. It is assembled by the Newsletter Editor with contributions from several Regional Representatives and other individuals. Please send any articles, announcements, or information of interest to Early Life History Section members or affiliates to your local Regional Representative or to the Editor.

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Join ELHS

Membership in ELHS is open to all persons or organizations interested in furthering ELHS objectives, regardless of membership in the American Fisheries Society (AFS). If you are an AFS member, simply add ELHS membership when you pay your Society dues.

Affiliate membership is open to persons or organizations who are not members of AFS. Affiliate members are encouraged to participate in Section meetings, committee work, and other activities, but they cannot vote on official Section matters, run for or hold an elected office, or chair standing committees. All members receive **STAGES**.

ELHS has a PayPal account to receive affiliate membership dues. To join ELHS as an affiliate or to renew affiliate status online, go to: <http://earlylifehistory.fisheries.org/how-to-join/> or mail your name, institutional affiliation (if appropriate), mailing address, telephone and fax numbers, e-mail address, and dues (US \$15 per year) for the current and/or upcoming year(s) to the ELHS Treasurer (see page 2).

Please specify the membership year(s) for which you are paying dues. Make checks or money orders payable to "AFS-ELHS."

Editor's Ramblings



How time flies, summer is already here and we just had our yearly Larval Fish Conference. Another well-organised meeting with many good and inspiring presentations and posters. A big thanks to John, Frances and Pierre for the organisation of the symposium. Victoria was a great place for the LFC to be held. On the evening of the last day of the LFC I treated myself to a sunset whale watching cruise around Victoria. Not surprisingly, so did many other LFC participants! This was a nice way of finishing a larval fish conference as we were treated to an impressive encounter with a pod of 5 killer whales. The killer whales came to investigate our catamaran and swam around and underneath it. This close encounter even had the crew of the catamaran jumping up and down with excitement! Makes a nice difference from our regular egg and larvae samplings.

The flag auction at this year's LFC was won by Ignacio Catalan's consortia and is thus returning to Europe again. This is actually 10 years after the first flag was flying and auctioned at the LFC in Kiel, Germany. Going through the archives the original idea was for the flag to travel around and fly at fishy meetings to promote our section. So I encourage Ignacio and others in our consortium to fly the flag and send us the pictures to publish in the next issues of STAGES!

Have a great summer!

- Audrey & Cindy §